

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MOTOROLA SOLUTIONS, INC.,

Petitioner,

v.

STA GROUP LLC,
Patent Owner.

IPR2023-01294
U.S. Patent No.: 8,831,664 B2

DECLARATION OF SYLVIA D. HALL-ELLIS, Ph.D.

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Motorola Solutions, Inc. (“Motorola”).

2. I have written this report at the request of Motorola to provide my expert opinion regarding the authenticity and public availability of a document. My report sets forth my opinions in detail and provides the basis for my opinions regarding the authenticity and public availability of this document.

3. I reserve the right to supplement or amend my opinions, and bases for them, in response to any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this report.

4. I am being compensated for my time spent working on this matter at my normal consulting rate of \$350 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this report, the substance of my opinions, or the outcome of this proceeding. I have no other interests in this proceeding or with any of the parties.

5. All of the materials that I considered and relied upon are discussed explicitly in this report.

II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University in San José, California. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library and Information Science from the University of Pittsburgh in 1985. Over the last fifty years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

7. I am a member of the American Library Association (ALA) and its Association for Library Collections & Technical Services (ALCTS) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the founding Chair of the ALCTS Division's Task Force on Competencies and Education for a Career in Cataloging. Additionally, I have served as the Chair for the ALA Office of Diversity's Committee on Diversity, as a member of the REFORMA National Board of Directors, as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, as a Co-Chair of the Membership Committee for the Library Research Round Table (LRRT) of the

American Library Association, and as a member of the LRRT Nominating Committee.

8. I have also given over one hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging (“MARC”) standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

9. My full curriculum vitae is attached as an Appendix to this report.

III. PRELIMINARIES

A. Scope of Report and Legal Standards

10. I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the documents before December 19, 2008.

11. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available such that a person interested in and ordinarily skilled in the relevant subject matter could locate it through the exercise of ordinary diligence.

12. While I understand that the determination of public accessibility under

the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered “publicly accessible” if it is cataloged and indexed by a library such that a person interested in the relevant subject matter could locate it exercising reasonable diligence (*i.e.*, I understand that cataloging and indexing by a library in a manner that permits a person of ordinary skill in the relevant subject matter to locate the publication is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

13. I understand that routine business practices, such as general library

cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

B. Persons of ordinary skill in the art.

14. I am told by counsel that the subject matter of this proceeding relates to communication systems that, when an important message arrives with an alert, elevate the message's priority by adjusting how it is provided.

15. I have been informed by counsel that a "person of ordinary skill in the art at the time of the invention" ("POSITA") is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of the inventions. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

16. I am told by counsel that persons of ordinary skill in this subject matter or art would have had at least a bachelor's degree in computer science, electrical engineering, or a similar field, and would have had approximately two years industry experience in networking or communication systems. I understand that this level of skill is approximate, and more experience would compensate for less formal education, and vice versa. I have been further informed by counsel that a person of ordinary skill in the art would have been familiar with and able to understand the information known in the art relating to these fields, including the publications discussed in this report.

17. It is my opinion that such a person would have been engaged in research, learning, study, and practice in the field, and formal instruction so that the bibliographic resources relevant to his or her research would be familiar. Before December 19, 2008, such a person would have had access to a vast array of long-established print resources in computer science, electrical engineering, and related fields, as well as to a rich set of online resources providing indexing information, abstracts, and full text services.

IV. PUBLICATION 1: *A System and Standards Definition for a Digital Land Mobile Radio System, TIA/EIA TSB69, November 1998.* EXHIBIT 1005 (“TSB69”)

18. Exhibit 1005 is a true and accurate copy of the document titled *A System and Standards Definition for a Digital Land Mobile Radio System, TIA/EIA TSB69, November 1998* (hereafter called the “TSB69”) as captured by me from the Internet by inserting the website address in Microsoft Internet Explorer and downloading the pdf.¹ Exhibit 1005 accurately reflects the contents of the above website link on the date of capture and has not been changed or altered in any way—the text of the TSB69 document in Exhibit 1005 is complete; no pages are missing; and, further, there are no visible alterations to the document. It is my opinion that the appearance, contents, substance, and distinctive characteristics of

1

https://global.ihs.com/doc_detail.cfm?document_name=TIA%2FEIA%20TSB%2069&item_s_key=00305450

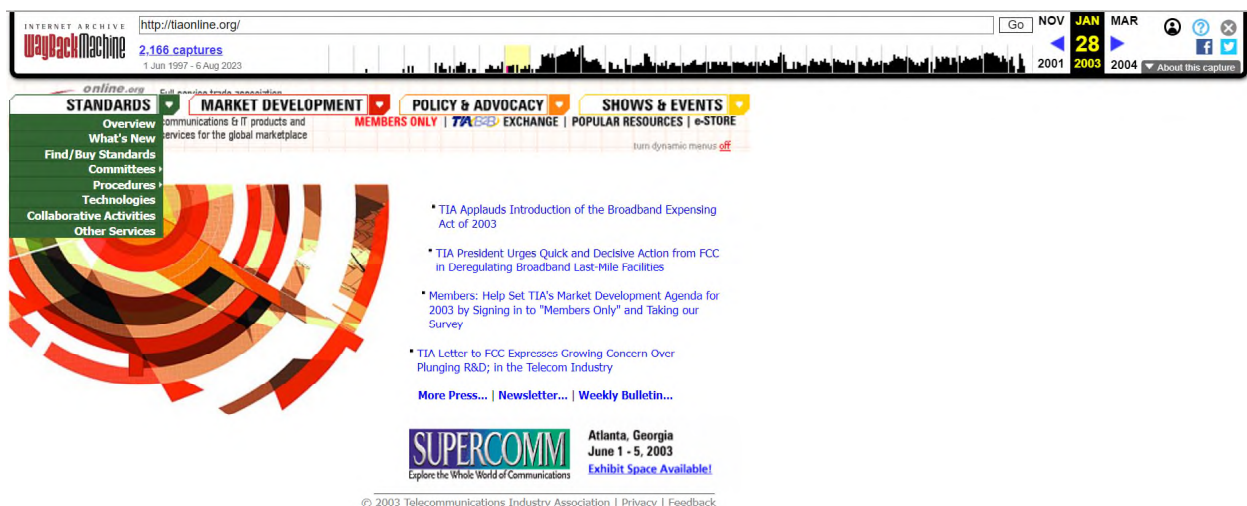
Exhibit 1005 creates no suspicion about its authenticity. As such, it is my opinion that Exhibit 1005 is authentic.

19. The TSB69 document is identified as a part of the TIA/EIA Telecommunications Systems Bulletin. Ex. 1005 at 1.² Document TSB69 was prepared as part of Project 3594 under the direction of TIA TR-8.16 EDACS Subcommittee (*Id.* at 2) and was published by the Telecommunications Industry Association (TIA) with a 1998 copyright date. *Id.* The TSB69 document indicates that “[i]t is being published because it is felt that there is a need for technical information on digital techniques for Land Mobile Radio Service.” *Id.* at 3. The TSB69 document bears a November 1998 date on its cover page. *Id.* at 1. Initially released on July 4, 1995, the document had been reviewed by a Task Group for Comments and revised through a ballot process in January and April 1998. *Id.* at 9. Revisions for default ballot comments were completed for further revision in August 1998. *Id.* The document was reaffirmed in 2003. *See* Attachment A. In my opinion, persons of at least ordinary skill in the art researching documents would rely on these dates as indications of when this document was first published, especially given that the source of this document is the Telecommunications Industry Associations, a well-established source for these types of materials, as discussed further below. In view of the November 1998 publication date and

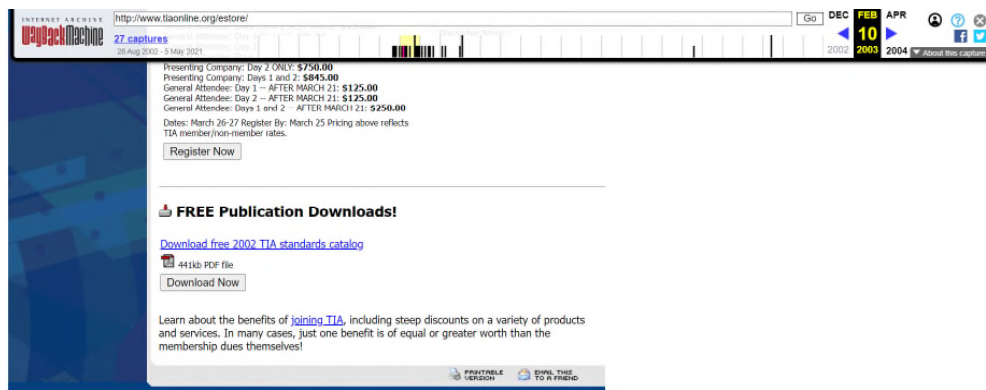
² Citations to Exhibit 1005 are to the page number added by the exhibit label.

reaffirmation in 2003, in my opinion the TSB69 document was publicly available at least as early as November 30, 1998, and certainly by January 31, 2003, which is consistent with the “Published Date” listed for TSB69 in Attachment A.

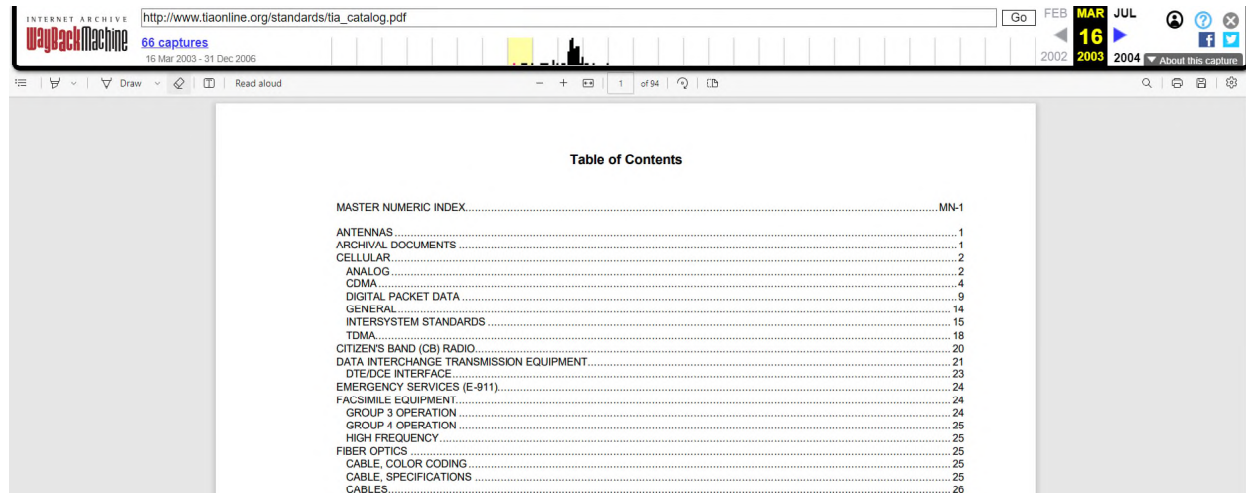
20. Additional evidence that the document was publicly available well before December 19, 2008, can be found on pages of the Telecommunications Industry Association’s website archived by the Internet Archive’s Wayback Machine. For example, as shown in archived pages from the WayBack Machine, the Telecommunications Industry Association website was available online on January 28, 2003:



See Attachment B. By clicking the “e-Store link” on this page of the Wayback Machine, the browser is redirected to an archived page of the TIA e-Store from February 10, 2003, which includes a link to the 2002 TIA standards catalog, as shown below:



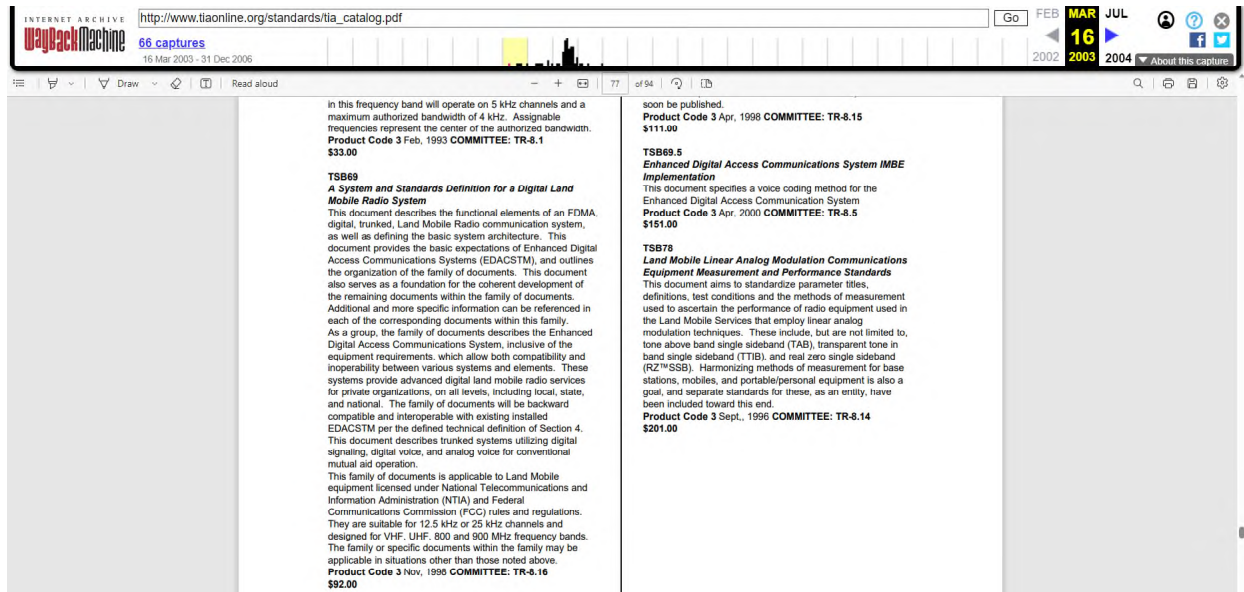
See Attachment C. Clicking the link for the catalog takes the browser to a PDF of a catalog archived on March 16, 2003:



See Attachment D. Page MN-2 of the catalog identifies TSB69, “A System and Standards Definition for a Digital Land Mobile Radio System” available for purchase for \$92.00:

TSB69 **52**
A System and Standards Definition
for a Digital Land Mobile Radio
System
\$92.00

Attachment D at MN-2. Page 52 of the catalog provides a description of the subject matter of the document that would have assisted a POSITA in locating documents of interest:



Attachment D at 52.

21. In my opinion, prior to December 19, 2008, the Telecommunications Industry Association would have been known to persons at least of ordinary skill in the art. The Telecommunications Industry Association is an independent organization of 400 global members dedicated to enable high-speed networks and accelerate next-generation Information and Communications Technology (ICT) innovation.³ As discussed above, the TIA was operating well before December 19, 2008, and been responsible for numerous standards documents and related publications, as reflected in the catalog in Attachment D. Furthermore, in my

³ <https://tiaonline.org/about/>

opinion persons of ordinary skill in the art would have reasonably considered this organization and its website – <http://www.tiaonline.org> – as a convener of industry thought leaders and brightest minds to solve common challenges and develop new ideas and approaches that bring tangible value to companies by enhancing their bottom lines.⁴ Based on the materials I have reviewed and my professional experience, in my opinion the Telecommunications Industry Association is a reliable source for information regarding the research, study, development, or design of telecommunications systems.

22. At least as early as March 16, 2003, the Telecommunications Industry Association was making copies of standards documents, including TSB69, available for purchase through its catalog that included subject matter descriptions of the various publications. See Attachment D. Additionally, the Telecommunications Industry Association provided the TIA/EIA TSB69 document through its digital repository of official documents that can be purchased. An information seeker needs to go to a web browser and enter the document number (“TIA/EIA TSB69”).⁵ The main webpage for the Standards Store by Accuris appears with the document listed. The information seeker can review an abstract in

⁴ <https://tiaonline.org/about/>

⁵

https://global.ihs.com/doc_detail.cfm?document_name=TIA%2FEIA%20TSB%2069&item_s_key=00305450

the “preview” area. To secure a copy of the TSB69 document, it is necessary to establish an account, put the document in a virtual cart, and make the appropriate payment. The document is delivered electronically with a “FileOpen” app. Downloading them enables the user to see the TSB69 document.

23. The TSB69 document can also be accessed by going to the TIA main webpage, select the “Products and Services” tab, then choose “Standards.” Scrolling down on the page brings the information seeker to the “TIA Standards Store.” Enter the number of the standard in the search bar and the document appears as the first one in a list⁶ and main webpage for the Standards Store by Accuris appears with the document listed.⁷ Based on information provided by the TIA, the TSB69 document was released in November 1998.

24. Given that, prior to December 19, 2008, the Telecommunications Industry Association was a well-known industry organization, and its website was accessible to the public and offered catalogs that prospective purchasers can use to purchase various standards-related publications, including TSB69, in my opinion

6

https://global.ihs.com/search_res.cfm?&csf=TIA&input_doc_number=EIA%20TSB%2D69&input_doc_title=&org_code=TIA

7

https://global.ihs.com/doc_detail.cfm?document_name=TIA%2FEIA%20TSB%2069&item_s_key=00305450

persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located the TSB69 document using the catalog, or the common search terms discussed above. Indeed, upon accessing the TIA website, such an interested researcher could have accessed an e-Store to obtain a catalog to use for subsequent purchase or used a search engine on the TIA website under the search link, followed by entering the document number and clicking the link.

25. The TSB69 document indicates that it could be searched using a variety of information including title, TIA/EIA number, and content. These are reliable indicators that copies of the TSB69 document were available on the TIA website on at least the dates indicated above to persons interested in searching for this information.

26. For the foregoing reasons, it is my opinion that Exhibit 1005 was publicly accessible to persons interested in and ordinarily skilled in the art exercising reasonable diligence at least as early as November 30, 1998 (if not sooner), and certainly by January 31, 2003, which corresponds to the “Published Date” listed for TSB69 in Attachment A.

V. SUMMARY OF OPINIONS

27. In view of the foregoing, it is my opinion that the publications described above were publicly available by the corresponding date listed in the

table below:

Exhibit	Publication	Publicly Available No Later Than
1005	Telecommunications Industry Association. <i>A System and Standards Definition for a Digital Land Mobile Radio System</i> , TIA/EIA TSB69, November 1998. Arlington, VA: TIA, 1998.	November 30, 1998

28. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: August 20, 2023

By: 
Sylvia D. Hall-Ellis, Ph.D.

Attachment A

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Complete Document

System and Standards Definition for a Digital Land Mobile Radio System

Includes all amendments and changes through Reaffirmation Notice , 2003

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This Enhanced Digital Access Communications System and Standards Definition describes the functional elements of an FDMA, digital, trunked, Land Mobile Radio communication system, as well as defining the basic system architecture. This document provides the basic expectations of Enhanced Digital Access Communications Systems, and outlines the organization of the family of documents. This document also serves as a foundation for the coherent development of the remaining documents within the family of documents. Additional and more specific information can be referenced in each of the corresponding documents within this family.

Scope of the Family of Documents

As a group, the family of documents describe the Enhanced Digital Access Communications System, inclusive of the equipment requirements which allow both compatibility and interoperability between various systems and elements. These systems provide advanced digital land mobile radio services for private radio communications, and services for industrial, SMR, federal, public safety and utility organizations, on all levels, including local, state and national. The family of documents will be backward compatible and interoperable with existing installed Enhanced Digital Access Communications Systems (EDACS®)¹ per the defined technical definition of section 4. This document describes trunked systems utilizing digital signaling, digital voice, and analog voice for conventional mutual aid operation.

This family of documents is applicable to Land Mobile equipment licensed under National Telecommunications And Information Administration (NTIA) and Federal Communications Commission (FCC) rules and regulations. They are suitable for 12.5 kHz or 25 kHz channels and designed for VHF, UHF, 800 and 900 MHz frequency bands. The family or specific documents within the family may be applicable in situations other than those noted above. interested parties are encouraged to use the documents as appropriate but are cautioned t'o carefully compare the documents to the specific requirements of their application or equipment.

¹ EDACSB® is a registered trademark of Ericsson

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TIA TSB-69.1-2



Product Details:

Revision: 98th Edition, 2003

Published Date: January 2003

Status: Active, Most Current

Document Language: English

Published By: [Telecommunications Industry Association \(TIA\)](#)

Page Count: 66

ANSI Approved: No

DoD Adopted: No



Document History:

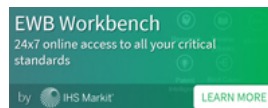
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ANTENNAS

TIA-195-C***Electrical and Mechanical Characteristics for Terrestrial Microwave Relay System Antennas and Passive Reflector***

This document covers the electrical and mechanical characteristics of antenna and passive reflector assemblies for terrestrial microwave relay systems applications. In general, the material included in this Standard applies only to such facilities operating above 890 MHz.

Product Code 3 July, 1985 **COMMITTEE: TR-14.9**
\$75.00

TIA/EIA-222-F***Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (ANSI/TIA/EIA-222-F-96)***

The objective of this document is to provide minimum criteria for specifying and designing steel antenna towers and antenna supporting structures. This Standard is not intended to supersede applicable codes. The information contained in this Standard was obtained from sources as referenced and noted herein and represents, in the judgement of the subcommittee, the accepted industry practices for minimum standards for the design of steel antenna supporting structures. This document contains a county by county listing of minimum basic wind speeds, as well as, a commentary on ice and other design criteria. It is for general information only.

Product Code 3 June, 1996 **COMMITTEE: TR-14.7**
\$104.00

TIA-329-B***Minimum Standards for Communication Antennas, Part 1: Base Station Antennas***

This document defines terms and conditions of measurement used to ascertain the performance of antennas within the scope of this document and to make possible a comparison of the results of measurements made by different observers on different equipment. TIA-329-B deals only with linearly polarized antennas for use in frequency range 25 MHz to 1 GHz.

Product Code 3 Sept, 1989 **COMMITTEE: TR-8.11**
\$Call for Pricing

TIA-329-B-1***Minimum Standards for Communication Antennas, Part II: Vehicular Antennas***

This document supplements TIA-329-B by covering vehicular antennas to the 30-1000 MHz frequency range.

Product Code 3 Sept, 1989 **COMMITTEE: TR-8.11**
\$47.00

TIA-411-A***Electrical and Mechanical Characteristics of Earth Station Antennas for Satellite Communications***

This document provides standard terms, definitions, and concepts for the mechanical and RF design of earth station antennas, and to offer a standard methodology for the verification of RF performance compatible with current technology and test equipment.

Product Code 3 Sept, 1986 **COMMITTEE: TR-34.2**
\$141.00

J-STD-781***Geo-Mobile Radio Interface Specifications: GMR-2 (Series 1-6)***

The GEO-Mobile Radio Interface Specifications (GMR-2) are a collection of individual specifications which document the requirements necessary for successful two-way communication between a Mobile Earth Station (MES), the Satellite, Gateway and the Network Control Centre(NCC). The scope of these specifications has been limited to the GMR-2 modified GSM waveform.

Product Code 3 Nov, 2001 **COMMITTEE: TR-34.1**
\$415.00

J-STD-782***Geo-Mobile Radio Interface Specifications: GRM-1 (Series 1-7)***

The GEO-Mobile Radio Interface Specifications (GMR-1) is a family of specifications which specify the requirements for implementing the GMR-1 radio interface for Mobile Earth Stations (MES) communicating using a Geosynchronous Earth Orbit satellites and interworking into a GSM core network. The GMR-1 specifications are based upon the GSM specifications. The GMR specifications define the differences (i.e., the modifications) relative to the GSM specifications that deal with the different system requirements such as the path losses and delays associated with satellite communications using a Geosynchronous Earth orbit satellite.

Product Code 3 Nov, 2001 **COMMITTEE: TR-34.1**
\$404.00

TIA-904***KA-band Satellite Systems RF Compatibility Requirements***

This document applies to earth terminals intended for non-Government use in blanket-licensed Ka-band satellite networks within the United States of America. It also applies to geostationary space station transmissions used to provide blanket-licensed services to earth terminals within the U.S.A.

Product Code 3 Dec, 2001 **COMMITTEE: TR-34.1**
\$58.00

ARCHIVAL DOCUMENTS

EIA-219***Audio Facilities for Radio Broadcasting Systems***

This document covers the overall performance of all audio facilities from the input terminals of the microphone preamplifier to the input terminals of the main transmitter, excluding S-T link, which may either be wire line radio. No pre-emphasis requirements are included in the Standard.

Product Code 3 Apr, 1959 **COMMITTEE: TR-4.10**
\$33.00

EIA-225***Rigid Coaxial Transmission Lines, 50 Ohms***

This document pertains exclusively to gas-filled rigid coaxial transmission lines and their connectors containing electrically transparent supporting structures. It is the intent of this standard to provide complete mechanical interchangeability for all lines and connectors.

Product Code 3 Aug, 1975 **COMMITTEE: TR-14.12**
\$33.00

ARCHIVAL DOCUMENTS (cont.)

EIA-258***Semi-Flexible Air Dielectric Coaxial Cables and Connectors, 50 Ohms***

This document pertains to air dielectric semi-flexible cables with their connectors. Typical cables included in this document are those having a helical or tubular dielectric supporting the inner conductor and sheathed with ductile or semi-flexible outer conductor, those having the inner conductor supported with frequency spaced beads such that forming the line will also form the inner conductor, and those having a foamed dielectric between inner and outer conductor.

Product Code 3 Mar, 1962 **COMMITTEE: TR-21.2**
\$33.00

EIA-259***Rigid Coaxial Transmission Lines and Connectors, 75 Ohms***

This document pertains exclusively to gas-filled rigid coaxial transmission lines and their connectors containing electrically transparent supporting structures. It is the intent of this document to provide complete interchangeability for all lines and connectors.

Product Code 3 Mar, 1962 **COMMITTEE: TR-14.12**
\$33.00

EIA-384***Time Division Multiplex Equipment for Nominal 4 kHz Channel Bandwidths***

This document considers two types of multiplex equipment. Class I multiplex is intended primarily for use in multiplex link (built-up) circuits and/or long-haul circuits. Class II multiplex is intended for use in those applications which do not justify Class I equipment.

Product Code 3 Dec, 1970 **COMMITTEE: TR-14.2**
\$62.00

EIA-409***Minimum Standards for Amateur Radio Antenna, Part 1: Base or Fixed Station Antenna***

This document establishes a reference antenna to which all antenna gain and/or directivity specifications can be related and to define parameters of measurement and establish standard methods of measurement of such antennas. This document will assist both the manufacturer and the user in specifying antenna performance.

Product Code 3 Dec, 1973 **COMMITTEE: TR-33**
\$33.00

TR-101-A***Electrical Performance Standards for Standard Broadcast Transmitters***

This document contains definitions of minimum standards and methods of measurement for performance characteristics of FM broadcast transmitters.

Product Code 3 Feb, 1948 **COMMITTEE: TR-4**
\$33.00

TR-107***Electrical Performance Standards for FM Broadcast Transmitters***

This document contains definitions of standards and methods of measurement for electrical performance characteristics of FM broadcast transmitters operating in the frequency range of 88-108 MHz.

Product Code 3 Mar, 1949 **COMMITTEE: TR-4**
\$62.00

TR-117***Antennas and Combinations of Antennas and Transmission Lines for FM Broadcasting Stations (88-108 MC/SEC)***

This document contains definitions of measurement and minimum standards for performance of FM broadcast antennas in the range of 88-108 MC. It discusses voltage standing wave ratio measurement on the combination transmission line and antenna system.

Product Code 3 Oct, 1949 **COMMITTEE: TR-4**
\$34.00

EIA-368***Frequency Division Multiplex Equipment Standard for Nominal 4 KHz Channel Bandwidths (Non-compandored) and Wideband Channels (Greater than 4kHz)***

This document is intended to be used as multiplex equipment performance criteria. As such, this document may find a typical application in layout of a communication system incorporating other types of equipment (such as microwave or cable equipment). An added purpose, however, is to furnish a basis for the user to evaluate and specify multiplex equipment on a terminal or a back-to-back basis.

Product Code 3 Sept, 1969 **COMMITTEE: TR-14.2**
\$35.00

CELLULAR**ANALOG****TIA/EIA-553-A*****Mobile Station - Base Station Compatibility Standard (ANSI TIA/EIA-553-A-99)***

The technical requirements contained in this document form a compatibility standard for cellular mobile telecommunication systems. Their purpose is to ensure that a mobile station can obtain service in any cellular system. These requirements do not address the quality or reliability of that service, nor do they cover equipment performance or measurement procedures.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.1**
\$151.00

TIA/EIA-690***Recommended Minimum Standards for 800 MHz Cellular Subscriber Units (ANSI/TIA/EIA-690-2000)***

This document details definitions, methods of measurement, and minimum performance characteristics for 800-MHz Cellular Subscriber Units

Product Code 3 Nov, 2000 **COMMITTEE: TR-45.1**
\$84.00

TIA/EIA-691***Mobile Station - Base Station Compatibility Standard for Enhanced 800 MHz Analog Cellular (ANSI/TIA/EIA-691-99)***

This document describes technical requirements that form a compatibility standard for cellular radio telecommunications systems.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.1**
\$243.00

CELLULAR, ANALOG (cont.)

TIA/EIA-712

Recommended Minimum Standards for 800 MHz Cellular Base Stations (ANSI/TIA/EIA-712-97)

This document details definitions, methods of measurement and minimum performance characteristics of 800 MHz cellular base stations. These standards share the purpose of the Cellular System Mobile Station-Land Station Compatibility Specification TIA/EIA-553 of assuring that cellular systems in conjunction with their base-station equipment provide service to any subscriber unit that meets the compatibility requirements of TIA/EIA-553.

Product Code 3 July, 1997 **COMMITTEE: TR-45.1**
\$64.00

TIA/EIA-789-A

Electrical Specification for the Portable Phone to Vehicle Interface

This document defines the electrical/acoustical interface between a motor vehicle ("12Volt" vehicular systems only) and a portable phone.

Product Code 3 Apr, 2000 **COMMITTEE: TR-45.1**
\$62.00

TIA/EIA/IS-89

Recommended Minimum Standard for 800 MHz Dual-Mode Narrowband Analog Cellular Land Stations

This document details definitions, methods of measurement, and minimum performance characteristics of 800 MHz cellular land stations. The purpose of this Interim Standard and IS-88 (i.e., the "compatibility specification" and subsequent revisions thereof) is to assure that cellular systems in conjunction with their land station equipment provide service to any subscriber unit that meets the compatibility requirements of the compatibility specification.

Product Code 3 Feb, 1993 **COMMITTEE: TR-45.1**
\$78.00

TIA/EIA/IS-90

Recommended Minimum Standard for 800 MHz Dual-Mode Narrowband Analog Cellular Subscriber Units

This document detail definitions, methods of measurement, and minimum performance characteristics of 800 MHz cellular subscriber units. The purpose of this Interim Standard and IS-88 is to assure that a subscriber unit can obtain service in any subscriber cellular system that meets the compatibility requirements of the compatibility specification.

Product Code 3 Feb, 1993 **COMMITTEE: TR-45.1**
\$43.00

TIA/EIA/IS-91-A

Base Station - Mobile Station Compatibility Specification for 800 MHz Cellular, Zuxiliary, and Residential Services

This document forms a compatibility standard for a cellular radio telecommunications system. Its purpose is to ensure that a mobile station can obtain service in any cellular system manufactured according to this Interim Standard.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.1**
\$78.00

TIA/EIA/IS-680

Personal Base Station - Authorization and Call Routing Equipment Compatibility Standard

This technical requirement form a compatibility standard for communication between a Personal Base (PB) and Authorization and Call Routing Equipment (ACRE). Their purpose is to ensure that a PB built according to this standard can communicate with any ACRE manufactured according to this Interim Standard.

Product Code 3 May, 1996 **COMMITTEE: TR-45.1**
\$72.00

TIA/EIA/IS-713

Narrowband Analog Air Interface Compatibility Standard for 1.9GHz Based on IS-91-A

This document details technical requirements form a compatibility standard for an analog PCS cellular radio telecommunications system.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.1**
\$165.00

TIA/EIA/IS-788

Connector Specification for the Portable Phone Vehicle Interface

This document defines the physical connector parameters between a motor vehicle and a portable phone attachment cable. Specifications for mechanical latching of phones, architectural, electrical interface or other aspects are defined separately.

Product Code 3 June, 1999 **COMMITTEE: TR-45.1**
\$47.00

TIA/EIA/IS-798

Mechanical Mounting of Phone System Envelope and Mounting Requirements

The mechanical specifications contained in this document establish the physical design parameters for the integration of cellular phones into the automotive vehicle

Product Code 3 June, 2001 **COMMITTEE: TR-45.1**
\$58.00

TIA/EIA/IS-817

A Position Determination Standard for Analog Systems

This document provides procedures, signaling, and messages used in addition to TIA/EIA-553-A as one possible way to support E-911 Postion Determination services

Product Code 3 Jan, 2001 **COMMITTEE: TR-45.1**
\$73.00

TIA/EIA/IS-817-1

A Position Determination Standard for Analog Systems - Addendum 1

This addendum provides procedures, signaling, and messages used in addition to TIA/EIA-553-A as one possible way to support E-911 position Determination services. It defines the order messages sent by the base station and the order confirmation messages sent by the mobile station, together with mobile station and base station procedures for position determination services when operating in analog mode.

Product Code 3 Feb, 2002 **COMMITTEE: TR-45.1**
\$59.00

CELLULAR, ANALOG (cont.)

TSB70-A***FSK Air Interface Common Message Protocol Cross-Reference***

Several TIA documents have been developed within TR-45 that are based upon TIA/EIA-553-A. Since these new standards will evolve independently, there will be changes made in the definition of message field assignments within the various messages. Since these standards are also dual mode (common analog), it is required that the interpretation of message fields be consistent for backward (and forward) compatibility. In order to facilitate this assessment of consistence, this document has been created. It is envisioned that this document be revised accordingly each time a new revision of the associated standards is officially published by TIA.

Product Code 3 Sept, 1999 **COMMITTEE: TR-45.1**
\$105.00

TSB71***IS-94 Enhancements and Issues***

This document describes changes to IS-94 to add control channel downloading. It also alerts manufacturers and service providers of issues with IS-94. These changes will be included in the next revision of IS-94. Equipment manufacturers should include these revisions in their IS-94 compliant equipment.

Product Code 3 Oct, 1995 **COMMITTEE: TR-45.1**
\$33.00

TSB119***Enhanced System Access Procedures for E-9-1-1 Calls for Analog Cellular***

The Federal Communication Commission has become involved in the resolution of issues concerning public safety in regards to enhanced call completion for E911 originations. As a result of the FCC 99-096 Second Report and Order, changes to the TIA/EIA-553-A specification are required. This document was created to comply with this Second Report and Order.

Product Code 3 Oct, 2000 **COMMITTEE: TR-45.1**
\$45.00

TSB121***Cellular Subscriber Unit Interface for TDD***

This document describes a possible implementation of the interface between a mobile station and a TTY.

Product Code 3 June, 2001 **COMMITTEE: TR-45.1**
\$41.00

CDMA**TIA/EIA-95-B*****Mobile Station-Base Station Compatibility Standard for Wideband Spread Spectrum Cellular Systems (ANSI/TIA/EIA-95-B-99)***

This document defines the requirements for a PCS/Cellular system and mobile and base stations using Code Division Multiple Access (CDMA) technology while also maintaining compatibility with AMPS analog technology.

Product Code 3 Feb, 1999 **COMMITTEE: TR-45.5**
\$375.00

TIA/EIA-96-C***Speech Service Option Standard for Wideband Spread Spectrum Systems (ANSI/TIA/EIA-96-C-98)***

This document provides requirements for two-way voice communications between the base station and the mobile station using the dynamically variable data rate speech codec algorithm described in this standard. The transmitting speech codec takes voice samples and generates an encoded speech packet for every traffic channel frame. The receiving station generates a speech packet from every traffic channel frame and supplies it to the speech codec for decoding into voice samples.

Product Code 3 Aug, 1998 **COMMITTEE: TR-45.5**
\$111.00

TIA/EIA-97-D***Recommended Minimum Performance Standard for Base Stations Supporting Dual-Mode Spread Spectrum Cellular Mobile Stations (ANSI/TIA/EIA-97-D-2001)***

This document details definitions, methods of measurement and minimum performance requirements for 800 MHz cellular base stations supporting wideband spread spectrum, dual-mode mobile stations. This standard shares the purpose of IS-95, "Mobile Station – Base Station Compatibility Standard for Dual-Mode Wideband Spread Spectrum Cellular System," (and subsequent revisions thereof) by ensuring that a mobile station can obtain service in any cellular system that meets the compatibility requirements of IS-95.

Product Code 3 June, 2001 **COMMITTEE: TR-45.5**
\$165.00

TIA/EIA-98-D***Recommended Minimum Performance Standards for Dual-Mode Spread Spectrum Mobile Stations (ANSI/TIA/EIA-98-D-2001)***

This document details definitions, methods of measurement and minimum performance characteristics of 800 MHz cellular mobile stations. This standard shares the purpose of IS-95 (and subsequent revisions thereof) by ensuring that a mobile station can obtain service in any cellular system that meets the capability requirements of IS-95.

Product Code 3 June, 2001 **COMMITTEE: TR-45.5**
\$283.00

TIA/EIA-125-A***Recommended Minimum Performance Standard for Digital Cellular Wideband Spread Spectrum Speech Service Option 1***

This document details definitions, methods of measurement, and minimum performance characteristics of IS-96-A and subsequent revisions thereof, variable-rate speech codecs for digital cellular wideband spread spectrum mobile stations and base stations. This standard shares the purpose of IS-98-A and IS-97-A. This is to ensure that a mobile station can obtain service in any cellular system that meets the compatibility requirements of IS-95-A. A TAR tape with software descriptions are included with this standard. Variable-rate speech codec and its analog or electro-acoustic interfaces, whether implemented at either the mobile station or the base station or elsewhere in the cellular system, are covered to ensure compatibility with IS-96-A.

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.5**
\$84.00

CELLULAR, CDMA (cont.)

TIA/EIA-126-C***Mobile Station Loopback Service Options Standard (ANSI/TIA/EIA-126-B-98)***

This document provides a loopback of primary traffic information bits through the mobile station. This service option provides the means for a base station to supply a known data stream on both the forward and reverse traffic channels so that a mobile station's receiving and transmitting performance can be measured. Also, this service option provides a convenient means of setting up calls and generating traffic for system testing. Specifically, this service option is used in some of the tests specified in TIA/EIA-97-B, TIA/EIA-98-B, ANSI/J-STD-018 and ANSI J-STD-019.

Product Code 3 May, 2001 **COMMITTEE: TR-45.5**
\$64.00

TIA/EIA-637-B***Short Message Service for Spread Spectrum Systems (TIA/EIA-637-B-2002)***

This document allows the exchange of short messages between a mobile station and the wireless system, and between the wireless system and an external device capable of transmitting and optionally receiving short messages. The external device may be a voice telephone, a data terminal or a short message entry system.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.5**
\$151.00

TIA/EIA-683-B***Over-the-Air Service Provisioning of Mobile Stations in Spread Spectrum Systems (ANSI/TIA/EIA-683-B-2001)***

This document describes Over-the-Air Service Provisioning in CDMA and analog systems. The procedures defined are intended to be extendable and flexible enough to be used with future air interface specifications. The procedures in this document do not require support for continuation of the service provisioning process following a CDMA-to-analog handoff.

Product Code 3 Dec, 2001 **COMMITTEE: TR-45.5**
\$151.00

TIA/EIA-736-A***Recommended Minimum Performance Standard for the High Rate Speech Option 17 for Wideband Spread Spectrum Communication Systems***

This document details definitions, methods of measurement, and minimum performance characteristics of IS-733 variable-rate speech codecs for digital cellular wideband spread spectrum mobile stations and base stations. This standard shares the purpose of IS-98 and IS-97. This is to ensure that a mobile station can obtain service in any cellular system that meets the compatibility requirements of IS-95. This standard consists of this document and a software distribution on CD-ROM.

This document specifies the procedures to test that implementations of IS-733 compatible variable-rate speech codecs meet recommended minimum performance requirements. This speech codec is the Service Option 17 described in IS-733. The Service Option 17 speech codec is used to digitally encode the speech signal for transmission at a variable data rate of 266, 124, 54 or 20 bits for each 20 bits for each 20 ms frame.

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.5**
\$84.00

TIA-864***Recommended Minimum Performance Standards for cdma2000 High Rate Packet Data Access Network Equipment***

This document details definitions, methods of measurement, and minimum performance requirements for access networks.

Product Code 3 Feb, 2002 **COMMITTEE: TR-45.5**
\$156.00

TIA-866***Recommended Minimum Performance Standards for cdma2000 High Rate Packet Data Access Terminal***

This document details definitions, methods of measurement, and minimum performance characteristics for access terminals.

Product Code 3 Feb, 2002 **COMMITTEE: TR-45.5**
\$187.00

TIA-898***Signaling Conformance Tests for cdma2000 Spread Spectrum Systems***

This document facilitates interoperability testing between CDMA infrastructure and CDMA mobile station manufacturers

Product Code 3 Dec, 2001 **COMMITTEE: TR-45.5**
\$295.00

TIA/EIA/IS-127***Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems***

This document describes the technical requirements for Service Option 3, an enhanced variable rate, two-way speech service option, known as Enhanced Variable Rate Codec (EVRC). Service Option 3 conforms to the general requirements for service options specified in IS-95A and ANSI J-STD-008. A mobile station operating in wideband spread spectrum (CDMA) mode conforming with IS-95A or J-STD-008 and this document can obtain speech service in any cellular system conforming with this family of standards.

This document does not address the quality or reliability of Service Option 3, nor does it cover equipment performance or measurement procedures.

Product Code 3 Jan, 1997 **COMMITTEE: TR-45.5**
\$198.00

TIA/EIA/IS-127-1***Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems - Addendum 1***

This addendum to IS-127 removes Section 6 of the document and references thereto. Section 6 was created as a placeholder for the later addition of the master bit-exact implementation of the algorithms defined in sections 4 and 5. This material is now to be found in IS-718, Minimum Performance Specification for the Enhanced Variable-Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems.

Product Code 3 Aug, 1998 **COMMITTEE: TR-45.5**
\$31.00

CELLULAR, CDMA (cont.)

TIA/EIA/IS-127-2

Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems - Addendum 2

Service Option 3 provides two-way voice communications between the base station and the mobile station using the dynamically variable data rate speech codec algorithm which is described in this document.

Product Code 3 Sept, 1999 **COMMITTEE: TR-45.5**
\$42.00

TIA/EIA/IS-127-3

Enhanced Variable Rate Codec, Speech Service Option 3 for Wideband Spread Spectrum Digital Systems, Addendum 3

This addendum provides an option for modifying the current IS-127 standard to reliably transport the TTY/TDD 45.45 bps Baudot code, making digital wireless technology accessible to TTY/TDD Users

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.5**
\$40.00

TIA/EIA/IS-658

Data Services Interworking Function Interface for Wideband Spread Spectrum Systems

This document defines procedures on the L interface for support of circuit mode and packet-mode data transmission on TIA/EIA/IS-95-A and ANSI J-STD-008 based wideband spread spectrum systems.

Product Code 3 July, 1996 **COMMITTEE: TR-45.5**
\$58.00

TIA/EIA/IS-658-1

Data Services Interworking Function Interface for Wideband Spread Spectrum Systems - Addendum 1

This addendum is being published for the purpose of extending the ability to perform interface status exchange at times other than call setup.

Product Code 3 July, 1996 **COMMITTEE: TR-45.5**
\$32.00

TIA/EIA/IS-707-A

Data Service Options for Wideband Spread Spectrum Systems

This document describes data services available on wideband spread spectrum systems. It is organized into a series of related recommendations, some of which address functions common to all code division multiple access data services, and others which describe a specific data service.

Product Code 3 Apr, 1999 **COMMITTEE: TR-45.5**
\$433.00

TIA/EIA/IS-707-A-1

Data Service Options for Wideband Spread Spectrum Systems, Addendum 1

This addendum is being published to describe additional data services that are available on the cdma2000 spread spectrum system complying with TIA/EIA/IS-2000.

Product Code 3 Dec, 1999 **COMMITTEE: TR-45.5**
\$146.00

TIA/EIA/IS-707-A-2

Data Service Options for Spread Spectrum Systems, Addendum 2

This addendum is being published to describe an additional data service that is available on a cdma2000 spread spectrum system complying with TIA/EIA/IS-2000-A.

Product Code 3 Mar, 2001 **COMMITTEE: TR-45.5**
\$146.00

TIA/EIA/IS-718

Minimum Performance Standard for the Enhanced Variable Rate Codec, Speech Service Option 3 for Spread Spectrum Digital Systems

This document details definitions, methods of measurement, verification of bit-exactness and minimum performance characteristics of IS-127 Enhanced Variable-rate Speech Codecs for Digital Cellular Spread Spectrum Mobile Stations and Base Stations. This standard shares the purpose of the most current editions of IS-98 and IS-97. This is to ensure that a mobile station can obtain service in any cellular system that meets the compatibility requirements of IS-95.

Product Code 3 July, 1998 **COMMITTEE: TR-45.5**
\$76.00

TIA/EIA/IS-733

High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems

This document provides technical requirements for Option 17, a variable rate, two-way speech service option for CDMA systems.

Product Code 3 Mar, 1998 **COMMITTEE: TR-45.5**
\$198.00

TIA/EIA/IS-733-1

High Rate Speech Service Option 17 for Wideband Spread Spectrum Communications Systems, Addendum 1

This document provides technical requires for Option 17, a variable rate, two-way speech service option.

Product Code 3 Sept, 1999 **COMMITTEE: TR-45.5**
\$42.00

TIA/EIA/IS-733-2

High Rate Speech Service Option 17 for Wideband Spread Spectrum Communication Systems, Addendum 2

This document provides an option for modifying the current IS-733 standard to reliably transport the TTY/TDD 45.45 bps baudot code, making digital wireless technology accessible to TTY/TDD users

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.5**
\$40.00

TIA/EIA/IS-801

Position Determination Service Standard for Dual Mode Spread Spectrum Systems

This document defines a set of signaling messages between the mobile station and base station to provide a position determination service.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.5**
\$301.00

CELLULAR, CDMA (cont.)

TIA/EIA/IS-801-1

Position Determination Service Standards for Dual Mode Spread Spectrum Systems, Addendum 1

This document defines a set of signaling messages between the mobile station and base station to provide a position determination service.

Product Code 3 Mar, 2001 **COMMITTEE: TR-45.5**
\$146.00

TIA/EIA/IS-820

Removable User Identity Module (R-UIM) for TIA/EIA Spread Spectrum Standards

This document contains the requirements for the Removable User Identity Module (R-UIM)

Product Code 3 May, 2000 **COMMITTEE: TR-45.5**
\$210.00

TIA/EIA/IS-820-1

Removable User Identity Module (R-UIM) for TIA/EIA Spread Spectrum Standards, Addendum 1

This addendum provides technical corrections to TIA/EIA/IS-820

Product Code 3 June, 2001 **COMMITTEE: TR-45.5**
\$79.00

TIA/EIA/IS-833

G3G CDMA-MC to GSM-MAP

This document defines changes to Multi-Carrier (MC) CDMA (1X and 3X modes) needed to support operation with a core network that uses a version of the Global System for Mobile Communications (GSM) Mobile Application Part (MAP)

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$196.00

TIA/EIA/IS-834

G3G CDMA-DS to ANSI/TIA/EIA-41

This document provides general requirements and detailed Upper Layers (Layer 3) signaling radio protocols and procedures for the DS-41 radio interface.

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$151.00

TIA/EIA/IS-856

cdma2000 High Rate Packet Data Air Interface Specification

This specification is primarily oriented toward requirements necessary for the design and implementation of access terminals

Product Code 3 Nov, 2000 **COMMITTEE: TR-45.4**
\$586.00

TIA/EIA/IS-856-1

cdma2000 High Rate Packet Data Air Interface Specification - Addendum 1

These technical requirements form a compatibility standard for cdma2000 high rate packet data systems. This addendum is provided to correct errors and omissions in IS-856-1

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.5**
\$312.00

TIA/EIA/IS-870

Test Data Service Option (TDSO) for cdma2000 Spread Spectrum Systems

This document specifies procedures for the Test Data Service Option (TDSO).

Product Code 3 Apr, 2001 **COMMITTEE: TR-45.5**
\$151.00

TIA/EIA/IS-871

Markov Service Option (MSO) for cdma2000 Spread Spectrum Systems

This document specifies procedures for the Markov Service Option (MSO)

Product Code 3 Apr, 2001 **COMMITTEE: TR-45.5**
\$111.00

TIA/EIA/IS-890

Test Application Specification (TAS) for High Rate Packet Data Air Interface

These technical requirements form a compatibility standard for test applications in cdma2000 high rate packet data systems

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$78.00

TIA/EIA/IS-2000 Series, Rev A

CDMA 2000 Series

This series, which is better known as the cdma2000 series, has been prepared to map the capabilities in TIA standards that have been developed to support cdma2000 Phase 1 operation to the major requirements upon which that development was based. The technical requirements contained in cdma2000 form a capability standard for 800 MHz cellular mobile telecommunications systems and 1.8 and 2.0 GHz Code Division Multiple Access (CDMA) Personal Communications Services (PCS) systems. They ensure that a mobile station can obtain service in a cellular or PCS system manufactured in accordance with the cdma2000 standards.

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$499.00

TIA/EIA/IS-2000.1-1

Physical Layer Standard for cdma2000 Spread Spectrum Systems

This addendum corrects an error in TIA/EIA/IS-2000.1.

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$313.00

TIA/EIA/IS-2000.1-A

Introduction to cdma2000 Standard for Spread Spectrum Systems

The technical requirements contained in cdma2000 form a compatibility standard for CDMA systems. They ensure that a mobile station can obtain service in a system manufactured in accordance with the cdma2000 standards.

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$47.00

TIA/EIA/IS-2000.2-A

Physical Layer Standard for cdma2000 Spread Spectrum Systems

This section defines the terms and numeric indications used in this document. This section also describes the time reference used in the CDMA system and the tolerance used throughout the document.

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.5**
\$274.00

CELLULAR, CDMA (cont.)

TIA/EIA/IS-2000.2-A-1

Physical Layer Standard for cdma2000 Spread Spectrum Systems, Addendum 1

This addendum makes corrections to the original document.

Product Code 3 Nov, 2000 COMMITTEE: TR-45.5

\$462.00

TIA/EIA/IS-2000.3-A

Medium Access Control (MAC) Standard for cdma2000 Spread Spectrum Systems

This standard provides the detailed definitions of all component entities within the MAC Sublayer, the service interfaces and primitives exchanged between entities within the MAC Sublayer, and the service interfaces and primitives exchanged between the MAC Sublayer and other layers in the cdma2000 family of standards. This standard also prescribes the normative procedures for the behavior of the MAC Sublayer entities.

Product Code 3 Mar, 2000 COMMITTEE: TR-45.5

\$146.00

TIA/EIA/IS-2000.3-A-1

Medium Access Control (MAC) Standard for cdma2000 Spread Spectrum Systems, Addendum 1

This addendum makes corrections to the original document.

Product Code 3 Nov, 2000 COMMITTEE: TR-45.5

\$462.00

TIA/EIA/IS-2000.4-A

Signaling Link Access Control (LAC) Standard for cdma2000 Spread Spectrum Systems

This document describes the Layer 2 Link Access Control (LAC) signaling protocol architecture and functionality used to provide the transport and delivery of Layer 3 signaling messages over cdma2000 radio channels. I

Product Code 3 Mar, 2000 COMMITTEE: TR-45.5

\$190.00

TIA/EIA/IS-2000.4-A-1

Signaling Link Access Control (LAC) Standard for cdma2000 Spread Spectrum Systems, Addendum 1

This addendum makes corrections to the original document.

Product Code 3 Nov, 2000 COMMITTEE: TR-45.5

\$462.00

TIA/EIA/IS-2000.5-A

Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems

This section defines the terms and numeric indications used in this document. This section also describes the time reference used in the CDMA system and the tolerance used throughout the document.

Product Code 3 Mar, 2000 COMMITTEE: TR-45.5

\$392.00

TIA/EIA/IS-2000.5-A-1

Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems, Addendum 1

This addendum makes corrections to the original document.

Product Code 3 Nov, 2000 COMMITTEE: TR-45.5

\$462.00

TIA/EIA/IS-2000.6-A

Analog Signaling Standard for cdma2000 Spread Spectrum Systems

This section defines the terms and numeric indications used in this document. This section describes the requirements for CDMA-analog dual-mode mobile stations operating in the analog mode.

Product Code 3 Mar, 2000 COMMITTEE: TR-45.5

\$125.00

TSB74

Support for 14.4 kbps Data Rate and PCS Interaction for Wideband Spread Spectrum Cellular Systems

This document applies to TIA/EIA/IS-95-A. It introduces support for the following new capabilities: 14.4 kbps Data Rate, Enhanced Service Negotiation, Enhanced Status Messaging, Redirection and Handoff to Personal Communications Systems (PCS), and MIN to IMSI Transition Support.

Product Code 3 Dec, 1995 COMMITTEE: TR-45.5

\$325.00

TSB79

Short Message Services for Wideband Spread Spectrum Systems

This document applies to TIA/EIA/IS-637. It introduces the following modifications: 14.4 kbps data rate support, service negotiation support, the year 2000 clarification and IS-637 layering problem correction and editorial corrections. These technical requirements form a standard for a short message service, providing delivery of text and numeric information for paging, messaging and voice mail.

Product Code 3 Feb, 1997 COMMITTEE: TR-45.5

\$64.00

TSB2000

Capabilities Requirements Mapping for cdma2000 Standards

This document has been prepared to map the capabilities in TIA standards that have been developed to support cdma2000 Phase 1 operation to the major requirements upon which that development was based. It is intended to furnish guidance to providers of cdma2000 systems in selecting the necessary features to meet their requirements as stated within the sections of TSB2000. The TIA/EIA 2000 series specifies capabilities which directly support cdma2000 Phase 1 requirements. In addition, TIA/EIA IS-707-A-1 also defines capabilities supporting a cdma2000 Phase 1 requirement.

Product Code 3 Sept, 1999 COMMITTEE: TR-45.5

\$44.00

DIGITAL PACKET DATA

TIA has published a series of documents on systems specifications for cellular digital packet data (CDPD) service. Projects within the CDPD series include:

TIA/EIA-732 Series

Cellular Digital Packet Data System Specification Series

This collection consist of 44 parts. Individual parts are available for purchase. Please call for quote

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$416.00

TIA/EIA-732-100

Cellular Digital Packet Data System Specification - Part 100 CDPD System Specification Overview (ANSI/TIA/EIA-732-100-2001)

This part provides an overview of the architecture of the CDPD Network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-300

Cellular Digital Packet Data System Specification - Part 300 Communications Architecture (ANSI/TIA/EIA-732-300-2001)

Part 301 to Part 312 specify the CDPD Network communications architecture.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-301

Cellular Digital Packet Data System Specification - Part 301 Subprofile Concepts (ANSI/TIA/EI-732-301-2001)

Part 301 to Part 312 specify the CDPD Network communications architecture.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-310

Cellular Digital Packet Data System Specification - Part 310 Application Subprofiles (ANSI/TIA/EIA-732-310-2001)

Part 301 to Part 312 specify the CDPD Network communications architecture.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-311

Cellular Digital Packet Data System Specification - Part 311 Lower Layer Subprofiles (ANSI/TIA/EIA-732-311-2001)

Part 301 to Part 312 specify the CDPD Network communications architecture.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-312

Cellular Digital Packet Data System Specification - Part 312 Subnetwork Subprofiles (ANSI/TIA/EIA-732-312-2001)

Part 301 to Part 312 specify the CDPD Network communications architecture.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-400

Cellular Digital Packet Data System Specification - Part 400 Overview of the Airlink (ANSI/TIA/EIA-732-400-2001)

This part summarizes the protocols used across the CDPD Airlink.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-401

Cellular Digital Packet Data System Specification - Part 401 Airlink Physical Layer (ANSI/TIA/EIA-732-401-2001)

This part defines the Physical Layer of the Airlink Interface between the MDBS and the M-ESSs.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-402

Cellular Digital Packet Data System Specification - Part 402 Medium Access Control (ANSI/TIA/EIA-732-402-2001)

This part defines the services, procedures and encoding required to provide the MAC layer of the Airlink Interface between MDBS and M-ESSs.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-403

Cellular Digital Packet Data System Specification - Part 403 Mobile Data Link Protocol (ANSI/TIA/EIA-732-403-20010)

This part describes the functions, features, protocol and services of the CDPD MDLP.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-404

Cellular Digital Packet Data System Specification - Part 404 Subnetwork Dependent Convergence Protocol (ANSI/TIA/EIA-732-404-2001)

This part defines a protocol fulfilling the role of a SNDPC as defined in the Internal Organization of the Network Layer (ISO-8648).

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-405

Cellular Digital Packet Data System Specification - Part 405 Radio Resource Management (ANSI/TIA/EIA-732-405-2001)

This part of the CDPD Specification defines the services, protocols, and procedures concerned with RRM.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

CELLULAR, DIGITAL PACKET DATA (cont.)

TIA/EIA-732-406

Cellular Digital Packet Data System Specification - Part 406 Airlink Security (ANSI/TIA/EIA-732-406-2001)

This part defines the security services provided by the CDPD Network across the Airlink Interface, and specifies the algorithms and protocols that are used to support those procedures.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-408

Cellular Digital Packet Data System Specification - Part 408 Minimum Performance Standards for CDPD Mobile Data Base Stations (ANSI/TIA/EIA-732-408-2001)

This part defines definitions, methods of measurement and minimum performance requirements of 800 MHz CDPD MDBS transceivers.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-409

Cellular Digital Packet Data System Specification - Part 409 Minimum Performance Standards for CDPD Mobile End Systems (ANSI/TIA/EIA-732-409-2001)

This part details definitions, methods of measurement and minimum performance requirements for 800 MHz CDPD Mobile End System transceivers.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-500

Cellular Digital Packet Data System Specification - Part 500 Mobility Management (ANSI/TIA/EIA-732-500-2001)

This part describes the architecture, services and protocols for managing mobility in a CDPD Network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-501

Cellular Digital Packet Data System Specification - Part 501 Mobile Network Location Protocol (ANSI/TIA/EIA-732-501-2001)

This part of the CDPD System Specification defines a protocol for the exchange of forwarding and routing information between home and serving MD-IS) for the support of Network Layer mobility.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-507

Cellular Digital Packet Data System Specification - Part 507 Mobile Network Registration Protocol (ANSI/TIA/EIA-732-507-2001)

This part defines a protocol for the exchange of routing and registration information between a M-ES and a serving MD-IS.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-600

Cellular Digital Packet Data System Specification - Part 600 Network Support Services (ANSI/TIA/EIA-732-600-2001)

This part is directed toward CDPD Service Providers and manufacturers intending to build equipment for use in the CDPD internal network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-620

Cellular Digital Packet Data System Specification - Part 620 Message Handling Service (ANSI/TIA/EIA-732-620-2001)

This part is directed towards CDPD Service Providers intending to build or purchase equipment for use in the CDPD internal network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-630

Cellular Digital Packet Data System Specification - Part 630 Accounting Service and Protocol (ANSI/TIA/EIA-732-630-2001)

This part is directed toward CDPD Service Providers intending to build or purchase equipment for use in the CDPD internal network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-700

Cellular Digital Packet Data System Specification - Part 700 Network Management (ANSI/TIA/EIA-732-700-2001)

This part defines management information, interfaces and protocols for the various entities making up a CDPD Service Provider Network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-731

Cellular Digital Packet Data System Specification - Part 731 MD-IS and MDBS Management Ensemble (ANSI/TIA/EIA-732-731-2001)

This part is the managed object ensemble that defines management of CDPD Network elements, specifically a MDBS and MD-IS.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

TIA/EIA-732-732

Cellular Digital Packet Data System Specification - Part 732 Inter-Domain Management Ensemble (ANSI/TIA/EIA-732-732-2001)

This part provides a managed object ensemble that defines how management information is exchanged between two CDPD Service Providers

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6
\$461.00

CELLULAR, DIGITAL PACKET DATA (cont.)

TIA/EIA-732-733

Cellular Digital Packet Data System Specification - Part 733 Accounting Management Ensemble (ANSI/TIA/EIA-732-733-2001)

This part is the managed object ensemble that defines management of CDPD Network accounting functions.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-734

Cellular Digital Packet Data System Specification - Part 734 Generic Equipment Management Ensemble (ANSI/TIA/EIA-732-734-2001)

This part defines a managed object ensemble for managing any form of telecommunications or computer physical equipment.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-750

Cellular Digital Packet Data System Specification - Part 750 Management Information Library (ANSI/TIA/EIA-732-750-2001)

This document provides definitions of managed Object Classes and supporting material (actions, attributes, attribute groups, behavior, name bindings, notifications, and parameters) used for management of a CDPD Service Provider Network.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-751

Cellular Digital Packet Data System Specification - Part 751 Managed Object Conformance Statements (MOCS) (ANSI/TIA/EIA-732-751-2001)

This part defines the management conformance summary statement by a supplier that identifies an implementation and provides information on whether the implementation claims conformance to any of the listed set of documents that specify conformance requirements to OSI management.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-800

Cellular Digital Packet Data System Specification - Part 800 Overview of Supplementary Protocol Information (ANSI/TIA/EIA-732-800-2001)

This part presents an overview of the supplementary protocol information for CDPD.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-820

Cellular Digital Packet Data System Specification - Part 820 State Transition Tables for the CDPD MAC Procedures (ANSI/TIA/EIA-732-820-2001)

This part provides the state transition tables for the user side and network side of Part 402 procedures.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-821

Cellular Digital Packet Data System Specification - Part 821 MAC PICS Proforma (ANSI/TIA/EIA-732-821-2001)

To evaluate conformance of a particular protocol implementation.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-830

Cellular Digital Packet Data System Specification - Part 830 State Transition Tables for Mobile Data Link Protocol (MDLP) (ANSI/TIA/EIA-732-830-2001)

The MDLP state transition tables are two dimensional matrices that define all possible states and events that can occur within MDLP.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-831

Cellular Digital Packet Data System Specification - Part 831 MDLP PICS Proforma (ANSI/TIA/EIA-732-831-2001)

This part is to evaluate conformance of a particular implementation.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-841

Cellular Digital Packet Data System Specification - Part 841 SMDCP PICS Proforma (ANSI/TIA/EIA-732-841-2001)

This part is to evaluate conformance of a particular implementation.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-870

Cellular Digital Packet Data System Specification - Part 870 State Transition Tables for Mobile Network Registration Protocol (MNRP) (ANSI/TIA/EIA-732-870-2001)

This part provides the state transition tables for the MNRP specified in Part 507.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-880

Cellular Digital Packet Data System Specification - Part 880 State Transition Tables for Mobile Network Location Protocol (MNLP) (ANSI/TIA/EIA-732-880-2001)

This part provides the state transition tables for MNLP specified in Part 501.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

TIA/EIA-732-881

Cellular Digital Packet Data System Specification - Part 881 MNLP PICS Proforma (ANSI/TIA/EIA-732-881-2001)

This part evaluates conformance of a particular protocol implementation.

Product Code 3 Aug, 2001 COMMITTEE: TR-45.6 \$461.00

CELLULAR, DIGITAL PACKET DATA (cont.)

TIA/EIA-732-900

Cellular Digital Packet Data System Specification - Part 900 Protocol Testing Overview (ANSI/TIA/EIA-732-900-2001)

Successful interoperation of CDPD equipment requires correct implementation of the CDPD protocols.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-920

Cellular Digital Packet Data System Specification - Part 920 MAC Abstract Test Suite (ANSI/TIA/EIA-732-920-2001)

This part specifies the MAC Abstract Test Suite.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-930

Cellular Digital Packet Data System Specification - Part 930 MDLP Abstract Test Suite (ANSI/TIA/EIA-732-930-2001)

This part specifies the MDLP Abstract Test Suite.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-1023

Cellular Digital Packet Data System Specification - Part 1023 Accounting Interoperability (ANSI/TIA/EIA-732-1023-2001)

This part describes the mechanism for exchanging summary and settlement information between Service Providers.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-1024

Cellular Digital Packet Data System Specification - Part 1024 Circuit Switched - Cellular Digital Packet Data (ANSI/TIA/EIA-732-1024-2001)

This part describes how circuit switched mobile end system can use the local AMPS system as an extension of the CDPD network if circuit switched CDPD service is provided in the cellular coverage area.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-1025

Cellular Digital Packet Data System Specification - Part 1025 CS CDPD Modem Bank Management Protocol (MBMP) (ANSI/TIA/EIA-732-1025-2001)

This part describes how a circuit switched mobile end system can use the local AMPS system as an extension of the CDPD network if circuit switched CDPD service is provided in the cellular coverage area.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA-732-1026

Cellular Digital Packet Data System Specification - Part 1026 CS CDPD Accounting Service and Protocol (ANSI/TIA/EIA-732-1026-2001)

This part describes how a circuit switched mobile end system can use the local AMPS system as an extension of the CDPD network if circuit switched CDPD service is provided in the cellular coverage area.

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.6**
\$461.00

TIA/EIA/IS-835-A

cdma2000 Wireless IP Network Standard

This document defines requirements for support for wireless packet data networking capability on a third generation wireless system based on cdma2000

Product Code 3 May, 2001 **COMMITTEE: TR-45.6**
\$84.00

TSB87-1000

Cellular Digital Packet Data System Specification - Part 1000 Overview of Implementor Guidelines

This document complements the CDPD System Specification contained in Interim Standard 732 (IS-732) and contains implementation-specific information.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$41.00

TSB87-1010

Cellular Digital Packet Data System Specification - Part 1010 Intermediate System

Intermediate Systems (ISs) are off-the-shelf elements that route Internet Protocol (IP) and ISO Connectionless Network Protocol (CLNP) datagrams between MD-ISS, and between MD-ISS and Fixed End Systems (F-ESs).

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$41.00

TSB87-1012

Cellular Digital Packet Data System Specification - Part 1012 CDPD Network Support Services

This document is directed toward CDPD Service Providers and Manufacturers intending to build equipment for use in the CDPD internal network.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$39.00

TSB87-1013

Cellular Digital Packet Data System Specification - Part 1013 Directory Services

This document describes optional general requirements for CDPD Directory Services.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$47.00

TSB87-1014

Cellular Digital Packet Data System Specification - Part 1014 Application - Entity Look-up Directory Profile

This document defines the specific requirements for Directory User Agents (DUAs) and Directory System Agents (DSAs) to be used in the CDPD Network to perform Application Entity Title-to-Presentation Address translation.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$39.00

TSB87-1015

Cellular Digital Packet Data System Specification - Part 1015 CDPD Subscriber Directory Profile

This document enumerates the specific features of Directory user Agents (DUA) and Directory System Agents (DSA) that may be used for this particular application of Directory Services.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.6**
\$45.00

CELLULAR, DIGITAL PACKET DATA (cont.)

TSB87-1018

Cellular Digital Packet Data System Specification - Part 1018 Authentication Services

This document supports authentication of an M-ES Network Entity Identifier (NEI) by the CDPD Network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$47.00

TSB87-1020

Cellular Digital Packet Data System Specification - Part 1020 CDPD Domain Name System

This document is directed toward CDPD Service Providers and Manufacturers intending to build equipment for use in the CDPD internal network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$41.00

TSB87-1021

Cellular Digital Packet Data System Specification - Part 1021 Service Provider Interoperability Test Plan Overview

The document provides guidelines for testing, and documenting what is learned, will be to ensure that all equipment suppliers, application developers and Service Providers have the same information to work from, thereby enabling subscriber devices to freely interoperate on a seamless nationwide network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$41.00

TSB87-1022

Cellular Digital Packet Data System Specification - Part 1022 Parameter Configuration Guidelines

The document recommends settings for many of the configurable parameters of CDPD.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$47.00

TSB87-2010

Cellular Digital Packet Data System Specification - Part 2010 Mobile End System

This document provides a description of the principles underlying the architecture of the Mobile End System (M-ES) and the role that the M-ES plays in the CDPD Network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$45.00

TSB87-2011

Cellular Digital Packet Data System Specification - Part 2011 Mobile Data Base Station

This document provides an architectural description of the Mobile Data Base Station (MDBS) and the role that it plays in the CDPD Network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$41.00

TSB87-2012

Cellular Digital Packet Data System Specification - Part 2010 Mobile End System

This document specifies the CDPD Mobile Data Intermediate System (MD-IS).

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$43.00

TSB87-2013

Cellular Digital Packet Data System Specification - Part 2013 CDPD External Interfaces

This document provides recommendations for the Application Program Interfaces (APIs) and CDPD Mobile End Systems (M-ESs).

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$53.00

TSB87-2015

Cellular Digital Packet Data System Specification - Part 2015 Subscriber Identity Module Functional Characteristics

This document describes the functional characteristics of the SIM, the contents of the SIM and the interface between the SIM and the SU.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$43.00

TSB87-2016

Cellular Digital Packet Data System Specification - Part 2016 Multicast Perspectives

The Multicast Perspectives is a high level view of the processes involved in rendering CDPD and IP Multicast services.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$43.00

TSB87-2018

Cellular Digital Packet Data System Specification - Part 2018 M-ES EID Assignment

This document presents a tutorial on the usage of the Equipment Identifier (EID) for manufacturers of M-ESs.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$39.00

TSB87-3010

Cellular Digital Packet Data System Specification - Part 3010 Unique Identifiers Name and Numbering Plan

This document serves as a road map for the CDPD Network Information Center (NIC) for assigning unique names and numbering standards.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$47.00

TSB87-3011

Cellular Digital Packet Data System Specification - Part 3011 Administration of Unique Identifiers Name and Numbering Plan

This document discusses the administration of assigning unique CDPD Identifiers to the CDPD Network community.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$64.00

TSB87-3012

Cellular Digital Packet Data System Specification - Part 3012 IP and CLNP Routing Architecture and Addressing Plan

This IP and CLNP Routing Architecture and Addressing Plan is intended to provide the architecture, addressing and routing strategies necessary to ensure the successful deployment of the CDPD Network.

Product Code 3 Dec, 1997 COMMITTEE: TR-45.6
\$62.00

CELLULAR, DIGITAL PACKET DATA (cont.)

TSB115

cdma2000 Wireless IP Architecture Based on IETF Protocols

This document describes the packet data system architecture for a third generation wireless system based on IMT-2000

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.6**
\$73.00

GENERAL

TIA/EIA-634-B

MSC-BS Interface for Public Wireless Communications Systems (ANSI/TIA/EIA-634-B-99)

This document describes the overall system functions, including services and features required for interfacing a Base Station (BS) with the Mobile Switching Center (MSC). This document provides an understanding of the BS-MSC interface. Establishing a standard MSC-BS Interface allows the BS and MSC equipment to evolve independently and to be provided by multiple vendors.

Product Code 3 Apr, 1999 **COMMITTEE: TR-45.4**
\$318.00

TIA-660

Uniform Dialing Procedures and Call Processing Treatment for Cellular Radio Telecommunications

This document provides the recommendations for the dialing plan and call processing treatment for use in Cellular Radio Telecommunications systems within the North American Numbering Plan (NANP). The scope of this Standard is limited to the description of dialing sequences and recommended treatment applicable to calls originated by cellular subscribers. The dialing sequences consist of the dialed digits which are carried from Mobile Station (MS) to the initial call processing point (e.g., the Mobile Switching Center). The adoption of a dialing plan is independent of a Cellular Radio telecommunications numbering plan. The development of a numbering plan is beyond the scope of this document.

Product Code 3 July, 1996 **COMMITTEE: TR-45.2**
\$84.00

TIA/EIA-828

BTS-BSC Inter-Operability (Abis Interface)

This document is the specification for the Abis Interface between the Base Transceiver System (BTS) and Base Station Controller (BSC) for the IS-2000 System. The Signaling flows and these signals are described.

Product Code 3 Dec, 2001 **COMMITTEE: TR-45.4**
\$151.00

TIA/EIA-829

Random Free Operation (TFO)

This service description document details the Inband Signaling Protocol between Transcoder/Rate Adapter Units (TRAU) for speech traffic channels for the Tandem Free Operation (TFO) of Speech Codecs, sometimes also termed "Vocoder Bypass"

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.4**
\$129.00

TIA-878

Inter-operability Specification (IOS) for High Rate Packet Data (HRPD) Network Access Interfaces

This specification provides the HRPD text and call flows for IOS scenarios

Product Code 3 Dec, 2001 **COMMITTEE: TR-45.4**
\$151.00

TIA/EIA-895

CDMA Tandem Free Operation (ANSI/TIA/EIA-895-2002)

This service description document details the Inband Signaling Protocol between Transcoder/Rate adapter Units (TRAU) for speech traffic channels for the Tandem Free Operation (TFO) of Speech Codecs, sometimes also termed "Vocoder Bypass." It is applied to the North American standard TIA/EIA/IS-2000-A

Product Code 3 Mar, 2002 **COMMITTEE: TR-45.4**
\$111.00

TIA/EIA/IS-2000.1-2

Introduction for cdma2000 Standards for Spread Spectrum Systems - Addendum 2

This document ensures that a mobile station can obtain service in a system manufactured in accordance with the cdma2000 standards

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

TIA/EIA/IS-2000.2-2

Physical Layer Standard for cdma2000 Spread Spectrum Systems - Addendum 2

This document provides the physical layer of the IMT-2000 CDMA MC air interface

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

TIA/EIA/IS-2000.3-2

Medium Access Control (MAC) Standard for cdma2000 Spread Spectrum Systems, Addendum 2

This document defines the cdma2000 Medium Access Control (MAC) sublayer

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

TIA/EIA/IS-2000.4-2

Signaling Link Access Control (LAC) Standard for cdma2000 Spread Spectrum Systems - Addendum 2

This document describes the Layer 2 Link Access Control (LAC) signaling protocol architecture and functionality used to provide the transport and delivery of Layer 3 signaling messages over cdma2000 radio channels

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

TIA/EIA/IS-2000.5-2

Upper Layer (Layer 3) Standard for cdma2000 Standard for cdma2000 Spread Spectrum Systems - Addendum 2

This document describes the requirements for CDMA-analog dual-mode mobile stations operating in the CDMA mode

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

CELLULAR, GENERAL (cont.)

TIA/EIA/IS-2000.6-2

Analog Signaling Standard for cdma2000 Spread Spectrum Systems - Addendum 2

This document describes the requirements for CDMA-analog dual-mode mobile stations operation in the analog mode

Product Code 3 July, 2001 **COMMITTEE: TR-45.5**
\$414.00

TIA/EIA/IS-2001-A

Interoperability Specifications (IOS) for cdma2000 Access Network Interfaces

This document describes the overall system functions, including services and features required for interfacing a Base Station with the Mobile Switching Center, with other Base Stations, and with the Packet Control Function (PCF) and for interfacing the PCF with the Packet Data Service Node (PDSN).

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.4**
\$363.00

TSB16-A

Assignment of Access Overload Classes in the Cellular Telecommunications Services

This document defines a method for the uniform use of Access Overload Classes. This Bulletin also provides a definition of an Authorized Emergency Mobile Station, for guidance in establishing which mobile stations should be assigned to the emergency mobile station overload class.

Product Code 3 June, 2001 **COMMITTEE: TR-45.1**
\$38.00

TSB29-D

International Implementation of Wireless Telecommunication Systems Compliant with TIA/EIA-41

This document provides the international wireless telecommunications industry with the framework permitting the coordinated implementation of Wireless Radio Telecommunication Systems in compliance with the provisions of the AMPS family of air interface standards.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$66.00

TSB35

Cellular Mobile Receiver Dynamic Range

This document addresses the problem where cellular carriers and their customers have been experiencing degraded mobile unit receiver performance when these units are operated in close proximity to certain cell sites belonging to the competitive system. Typical complaints are of dropped or noisy calls or even total loss of service. It has been suggested that the cause of these problems is noise and/or intermodulation products emanating from the nearby cell. A more likely cause is a lack of sufficient dynamic range in the mobile's receiver front end.

Product Code 3 Apr, 1992 **COMMITTEE: TR-45.1**
\$33.00

TSB39-A

Message Type Assignments for the Extended Protocol Facility of ANSI/EIA/TIA-553 and EIA/TIA/IS-54, TIA/EIA/IS-88 and TIA/EIA/IS-95

This document records registered message type codes. TSB39-A provides a single master list of the message type codes that have been registered for ANSI/EIA/TIA-553, EIA/TIA/IS-54, TIA/EIA/IS-88 and TIA/EIA/IS-95. Its purpose is to avoid confusion that may result from multiple assignments.

Product Code 3 Oct, 1994 **COMMITTEE: TR-45**
\$33.00

TSB50

User Interface for Authentication Key Entry

This document recommends a uniform approach for entry, revision and display of the A-key, while providing the maximum flexibility for carriers.

Product Code 3 Mar, 1993 **COMMITTEE: TR-45.3**
\$33.00

TSB100-A

Wireless Network Reference Model

This document recommends the basic TR-45 wireless network reference model depicting circuit-mode operations that include network entities and reference points.

Product Code 3 Mar, 2001 **COMMITTEE: TR-45**
\$53.00

INTERSYSTEM STANDARDS

TIA/EIA-41-D

Cellular Radiotelecommunications Intersystem Operations (ANSI/TIA/EIA-41-D-97)

This document identifies those cellular services that require intersystem cooperation, to present the general background against which those services are to be provided, and to summarize the principal considerations which have governed and directed the particular approaches taken in the procedural recommendations. This document replaces TIA/EIA/IS-41-D.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.2**
\$797.00

TIA/EIA-93-B

Wireless Telecommunications Ai-Di Interfaces Standard (ANSI/TIA/EIA-93-B-2001)

The purpose of this document is to enable the Cellular Carrier and an Exchange Carrier, Interexchange Carrier, International Carrier, Consolidated Carrier or other carrier to provide interconnecting equipment that operates compatibly. This document provides signaling protocol requirements for the interface located between a Cellular Carrier Network and an EC, IC, INC, Consolidated Carrier or other carrier network.

Product Code 3 July, 2001 **COMMITTEE: TR-45.2**
\$111.00

CELLULAR, INTERSYSTEM STANDARDS (cont.)

TIA/EIA-124-D***Wireless Radio Telecommunications Intersystem Non-Signaling Data Communication DMH (Data Message Handler) (ANSI/124-D-2001)***

This document describes the procedures and messages necessary to provide to wireless service providers non-signaling data communications requiring interaction between different wireless systems.

Product Code 3 Dec, 2001 **COMMITTEE: TR-45.2**
\$335.00

TIA/EIA-664***Cellular Features Description (ANSI/TIA/EIA-664-A-2000)***

This document presents a recommended plan for the implementation of Uniform Features for use in the Cellular Radiotelephone Service. Its intent is to describe services and features so that the manner in which a subscriber may place calls using such features and services may remain reasonably consistent from system to system.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$333.00

TIA-728***Intersystem Link Protocol (ISLP)***

This document specifies an Intersystem Link Protocol (ISLP) for circuit-mode data services. These data services include Asynchronous Data (ADS) and Group-3 Fax as specified in the most current editions of IS-99 and IS-135. The ISLP adapts between air-interface data rates and higher-speed intersystem rates. The ISLP may be used between a serving system and an anchor system, possibly through one or more tandem systems. This document comprises the following sections: overview, ISLP structure and processes, ISLP enabling and disabling procedures, terminology and references.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$53.00

TIA-730***Intersystem Operations Support for the IS-136 Digital Control Channel***

This document identifies the necessary Stage 1 descriptions, as well as Stage 2 and Stage 3 changes and additions to IS-41-C, in order to support basic roaming and handoff scenarios for wireless systems following the IS-136-A air interface application.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$165.00

TIA-735***Enhancements to TIA/EIA-41-D & TIA/EIA-664 for Advanced Features in Wideband Spread Spectrum Systems***

The document contains modifications and additions to TIA/EIA-41-D, "Cellular Radiotelecommunications Intersystem Operations," and TIA/EIA-664, "Cellular Features Description," that are required to support advanced features for code division multiple access. For this revision, these features include network directed system selection and subscriber confidentiality supported by temporary mobile station identity.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$196.00

TIA-737***IS-41-C Enhancements for Circuit Mode Services***

This telecommunication service allows digital wireless subscribers to send and receive asynchronous data. ADS provides functionality similar to a wireline modem in that the data is modified to make it suitable for transporting over the appropriate medium. Both wireless and wireline media are accommodated to support interworking between the two networks in a way that is transparent to the terminal equipment. The subscriber's terminal equipment interfaces to a conventional DCE data port. The far-end DCE interworks each end function as if connected to a compatible device. ADS is applicable to data telecommunication services. ADS is applicable to voice services in those cases where a voice call is made prior to a user initiated voice to data service change.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$266.00

TIA-751***TIA/EIA-41-D Modifications to Support IMSI***

This document provides modifications to support International Mobile Station Identity (IMSI) and should be used in parallel with TIA/EIA-41-D.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$92.00

TIA-756-A***TIA/EIA-41-D Enhancements for Wireless Number Portability Phase II***

This document specifies the ANSI/TIA/EIA-41-D network impacts of Number Portability, specifically service provider portability, as mandated by the Federal Communication Commission in docket No. 95-116. Service provider portability is the ability of end users to retain the same telephone numbers whenever the end users change from one service provider to another.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$111.00

TIA-764***TIA/EIA-41-D Enhancements for Wireless Calling Name Feature Descriptions***

This document describes CNAP and CNAR features, and specifies the operation of CNAP and CNAR so that a roaming wireless subscriber can use these features in a seamless manner.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.2**
\$165.00

TIA/EIA/IS-725-A***Cellular Radiotelecommunications Intersystem Operations - Over-the-Air Service Provisioning (OTASP) & Parameter Administration (OTAPA)***

This document includes a Stage-1 recommendation for Over-the-Air Service Provisioning (OTASP) subscriber feature description, provides intersystem operation recommendations for supporting the OTASP capability for the CDMA and TDMA air interfaces with Stage-2 operations, scenarios and Stage-3 operations and parameter definitions, plus Stage-3 procedures.

Product Code 3 July, 1999 **COMMITTEE: TR-45.2**
\$283.00

CELLULAR, INTERSYSTEM STANDARDS (cont.)

TIA/EIA/IS-771

Wireless Intelligent Network

This document outlines operational procedures and modifications for TIA/EIA-664.

Product Code 3 July, 1999 **COMMITTEE: TR-45.2**
\$343.00

TIA/EIA/IS-771-1

Wireless Intelligent Network - Addendum 1

This addendum corrects Section 5.1.2 Signaling Connection Control Part of the original document

Product Code 3 Aug, 2001 **COMMITTEE: TR-45.2**
\$31.00

TIA/EIA/IS-778

Wireless Authentication Enhancements Descriptions

This document is to identify the authentication enhancements which need to be standardized in wireless systems, and to specify the operation of the enhancements so that a roaming wireless subscriber will be authenticated in a seamless manner. To accomplish this, the selected subset consists of intersystem operations which are to be used when roaming.

Product Code 3 Mar, 1999 **COMMITTEE: TR-45.2**
\$129.00

TIA/EIA/IS-786

Automatic Code Gapping

This document presents a recommended plan for the implementation of Automatic Code Gapping (ACG) for use in the Wireless Radiotelephone Service.

Product Code 3 Nov, 2000 **COMMITTEE: TR-45.2**
\$92.00

TIA/EIA/IS-790

Latch Specification for the Portable Phone to Vehicle Interface

This document defines a latching system which will allow the consumer the ability to mount and remove consumer electronics products into the vehicle in an entirely convenient fashion

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.1**
\$45.00

TIA/EIA/IS-807

TIA/EIA-41-D Enhancements for Internationalization

This document specifies the ANSI/TIA/EIA-41-D chapters 1, 3, 5, and 6 enhancements that are necessary to support international intersystem operations.

Product Code 3 Aug, 1999 **COMMITTEE: TR-45.2**
\$111.00

TIA/EIA/IS-807-1

TIA/EIA-41-D Enhancements for Internationalization, Addendum 1

This addendum corrects an error in TIA/EIA/IS-807

Product Code 3 Mar, 2000 **COMMITTEE: TR-45.2**
\$33.00

TIA/EIA/IS-808

Incorporating UIM into 3G and IMT-2000 Systems

this document presents Stage-1 enhancements, Stage-2, and Stage 3 recommendations for supporting a mobile station equipped with a User Identity Module (UIM)

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$129.00

TIA/EIA/IS-812

TIA/EIA-41-D Message Segmentation

This document describes the enhancements to enable a wireless system to determine whether lower layer message segmentation is supported when communicating with another system.

Product Code 3 Aug, 1999 **COMMITTEE: TR-45.2**
\$48.00

TIA/EIA/IS-824

Generic Broadcast Teleservice Transport Capability - Network Perspective

This document describes the transfer of a message to several MSCs, and its successful delivery to MS-based SMEs via their respective Serving MSCs.

Product Code 3 Nov, 1999 **COMMITTEE: TR-45.2**
\$88.00

TIA/EIA/IS-826

WIN Pre-Paid Charging

Pre-paid charging (PPC) allows the subscriber to pay for voice telecommunication services prior to usage. This document presents a recommended plan for the implementation of Wireless Intelligent Network (WIN) capabilities that support PPC for use in the Wireless Radiotelephone Service.

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.2**
\$283.00

TIA/EIA/IS-837

TIA/EIA-41-D Based Network Enhancements for Answer Hold (AH)

This document presents Stage-1 recommendations for supporting the Answer Hold (AH) feature use in the Wireless Radiotelephone Service.

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.2**
\$68.00

TIA/EIA/IS-838

TIA/EIA-41-D Based Network Enhancements for User Selective Call Forwarding (USCF)

This document presents Stage-1 (new chapter TIA/EIA-664-B), Stage-2 (TIA/EIA-41.3-D enhancements), and Stage-3 (TIA/EIA-41.6-D enhancements) recommendations for supporting the User Selective Call Forwarding (USCF) feature in the Wireless Radiotelephone Service.

Product Code 3 July, 2000 **COMMITTEE: TR-45.2**
\$71.00

TIA/EIA/IS-841

TIA/EIA-41-D Based Network Enhancements for MDN Based Message Centers

This document is intended to identify TIA/EIA-41-D (Wireless Number Portability - Phase III) technical enhancements required to support SMS (Short Message Services) delivery to MDN (Mobile Directory Number) based MCs (Message Centers).

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.2**
\$71.00

TIA/EIA/IS-847

Roamer Database Verification

This document presents a recommended plan for the implementation of Roamer Database Verification (RDV) for use in the wireless radiotelephone service

Product Code 3 Mar, 2001 **COMMITTEE: TR-45.2**
\$56.00

CELLULAR, INTERSYSTEM STANDARDS (cont.)

TIA/EIA/IS-848***Enhanced Charging Services***

Premium Rate Charging (PRC), Freephone (FPH) and Advice of Charging (AOC) are charging related services that provide a set of advanced wireless charging capabilities.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$243.00

TIA/EIA/IS-875***Enhanced International Dialing Number Identification and Callbacks, Calling Party Category Identification***

This document describes the enhanced international dialing and calling number identification and callback network capabilities and the intersystem operations to enable a wireless system to these capabilities

Product Code 3 May, 2001 **COMMITTEE: TR-45.2**
\$56.00

TSB76***IS-41-C Enhancements for PCS Multi-Band Support***

This document presents recommendations for supporting Multi-Band Handoffs. It defines Multi-Band handoffs to include: intra-band intersystem handoffs (800 MHz Cellular to 800 MHz Cellular and 1800 MHz PCS to 1800 MHz PCS); inter-band intersystem handoffs (1800 MHz PCS to 800 MHz Cellular and 800 MHz Cellular to 1800 MHz PCS); and handoffs for Mobile Stations (MS) supporting AMPS, CDMA, NAMPS and TDMA operating modes. This document is a companion document to TIA/EIA-41-D, even though the title refers to a previous version.

Product Code 3 Sept., 1996 **COMMITTEE: TR-45.2**
\$84.00

TSB114***Wireless Network Communication for Emergency Message Broadcast (EMB)***

This document defines requirements for broadcasting an announcement of a national, state, or local emergency to the mobile stations (MSs) used for cellular or personal communication services.

Product Code 3 Dec, 1999 **COMMITTEE: TR-45.2**
\$53.00

TSB124***Support for Pre-paid***

This document introduces a difference between TIA/EIA/IS-771 and TIA/EIA/IS-827 with respect to MSC processing of the Termination List parameter.

Product Code 3 Oct, 2000 **COMMITTEE: TR-45.2**
\$38.00

TDMA**TIA/EIA-136, Rev C*****TDMA Third Generation Wireless Standards, Rev C***

This is a multi-part document that when taken in total, defines the requirements for a PCS/Cellular system and mobile and base stations using Time Division Multiple Access (TDMA) technology while also maintaining compatibility with AMPS analog technology.

Product Code 3 June, 2001 **COMMITTEE: TR-45.3**
\$750.00

TIA/EIA-136-005-A-1***TDMA Cellular PCS, Addendum 1 (ANSI/TIA/EIA-136-005-A-1-2000)***

This document provides corrections to the original document.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.3**
\$Call for Pricing

TIA/EIA-136-033-1***TDMA Third Generation Wireless - R-UM File Structure, Addendum 1 (ANSI/TIA/EIA-136-033-1-2001)***

This addendum contains the message encryption algorithms, domains, and keys associated with an MS.

Product Code 3 Oct, 2001 **COMMITTEE: TR-45.3**
\$36.00

TIA/EIA-136-123-A-1***TDMA/PCS - Digital Control Channel Layer 3, Addendum 1 (ANSI/TIA/EIA-136-123-A-1-2000)***

This document provides corrections to the original document.

Product Code 3 Aug, 2000 **COMMITTEE: TR-45.3**
\$Call for Pricing

TIA/EIA-136-133-A-1***TDMA/PCS - Digital Traffic Channel Layer 3, Addendum 1 (ANSI/TIA/EIA-136-133-A-1-2000)***

This document provides corrections to the original document.

Product Code 3 Aug, 2000 **COMMITTEE: TR-45.3**
\$Call for Pricing

TIA/EIA-136-270-C-1***TDMA Third Generation Wireless - Mobile Stations Minimum Performance - Addendum 1 (ANSI/TIA/EIA-136-270-C-1-2002)***

This document provides corrections to the original document..

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.3**
\$36.00

TIA/EIA-136-310-A-1***TDMA Third Generation Wireless - Radio Link Protocol, Addendum 1 (ANSI/TIA/EIA-136-310-A-1-2001)***

This document provides corrections to the original document.

Product Code 3 June, 2001 **COMMITTEE: TR45.3**
\$Call for Pricing

TIA/EIA-136-350-A-1***TDMA Third Generation Wireless - Data Service Control, Addendum 1 (ANSI/TIA/EIA-136-350-A-1-2001)***

This document provides corrections to the original document.

Product Code 3 June, 2001 **COMMITTEE: TR45.3**
\$Call for Pricing

TIA/EIA-136-410-1***TDMA Cellular PCS - Radio Interface - Enhanced Full-Rate Voice Codec, Addendum 1 (ANSI/TIA/EIA-136-410-1-2001)***

This addendum gives a description of the ACELP speech and channel codec for a TIA Enhanced Full Rate Codec. The codec consists of a 7.4 kbit/s ACELP speech codec and two channel codecs (Forward Error Correction): a 5.6 kbit/s channel codec and a 6.5 kbit/s channel codec.

Product Code 3 Oct, 2001 **COMMITTEE: TR-45.3**
\$43.00

CELLULAR, TDMA (cont.)

TIA/EIA-136-440-1

TDMA Third Generation Wireless - Adaptive Multi-Rate (AMR) Codec, Addendum 1 (ANSI/TIA/EIA-136-440-1-2001)
This addendum specifies changes made to TIA/EIA-136-440.

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.3**

\$Call for Pricing

TIA/EIA-136-720-A-1

TDMA/PCS - Over-the-Air Activation Teleservices (OATS), Addendum 1 (ANSI/TIA/EIA-136-720-A-1-2000)

This document provides corrections to the original document.

Product Code 3 Aug, 2000 **COMMITTEE: TR-45.3**

\$Call for Pricing

TIA/EIA-777

Telecommunications - Telephone Terminal Equipment - Type 2 Caller Identity Equipment Performance Requirements

This document addresses the technical issues associated with Type 2 Caller Identify Customer Premise Equipment (CPE) for services such as Calling Identity Delivery on Call Waiting which uses Off-Hook signaling with data frames packaged in Multiple Data Message Format (MDMF).

Product Code 3 Dec, 1999 **COMMITTEE: TR-41.3**

\$58.00

TIA/EIA/IS-727

TDMA Cellular/PCS - Radio Interface - Minimum Performance Standards for Discontinuous Transmission Operation of Mobile Stations

This document specifies the procedures to be employed to verify that implementations of VAD processing in conjunction with the IS-641 DTX/CNG feature to meet strict minimum performance requirements.

Product Code 3 June, 1998 **COMMITTEE: TR-45.3**

\$53.00

TIA/EIA/IS-823-A

TTY/TDD Extension to TIA/EIA-136-410 Enhanced Full Rate Speech Codec (must be used in conjunction with TIA/EIA/IS-840)

This document provides an option for extending the current TIA/EIA-136-410 EFR Speech Vocoder standard to reliability transport the TTY/TDD 45.45. Bps and 50 bps Baudot code, making digital wireless technology accessible to TTY/TDD users.

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.3**

\$84.00

TIA/EIA/IS-839

R-UIM Overview, Operation, and File Structure Support in TIA/EIA-136, Rev A

This document defines the requirements for the support of TIA/EIA-136 mobile stations equipped with a Removable-user Identity Module also referred to as Subscriber Identity Module (SIM).

Product Code 3 Nov, 2000 **COMMITTEE: TR-45.3**

\$111.00

TIA/EIA/IS-840-A

Minimum Performance Standards for Text Telephone Signal Detector and Text Telephone Signal Regenerator (must be used in conjunction with TIA/EIA/IS-823-A)

Text telephones enable persons with hearing issues to communicate over conventional telephone lines, using written text messages. There are two types of text telephones: TTY (TeleType) and TDD (Telecommunications Devices for the Deaf). TTYs are basically mechanical teleprinters and TDDs are their electronic counterparts.

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.3**

\$84.00

TIA/EIA/IS-842

GSM Hosted SMS Teleservice (GHOST)

This document is used to deliver GSM SMS Protocol Data Units to and from a mobile station operating in a TIA/EIA-136 network

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.3**

\$45.00

TIA/EIA/IS-853

TDMA Third Generation Wireless: Noise Suppression Minimum Performance for APR

This document specifies minimum performance requirements for noise suppression algorithms intended for an application with conjunction of TDMA-AMR speech encoder

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.3**

\$111.00

TIA/EIA/IS-869

TDMA Third Generation Wireless - Analog SAMPS Support in TIA/EIA-136-C

The System Assisted Mobile Positioning through Satellite (SAMPS) Teleservice defines the procedures and signaling for a hand-set based positioning service. SAMPS supports various location-based services

Product Code 3 Sept, 2001 **COMMITTEE: TR-45.3**

\$64.00

TSB58-E

Administration of Parameter Value Assignments for cdma2000 Spread Spectrum Standards

This document assigns values to parameters within certain cdma2000 specifications for standard and for proprietary usage.

Product Code 3 Jan, 2002 **COMMITTEE: TR-45.5**

\$68.00

TSB73

IS-136/IS-136-A Compatibility Issues

In the process of development of IS-136, several issues were raised regarding parts of the standard that would cause incorrect operation. Thus changes were proposed and accepted by the committee. However due to their very nature in correcting Revision 0 deficiencies, these changes will necessarily be non-backwards-compatible with Revision 0. In order to prevent large numbers of such forward-incompatible phones from being distributed to users, it is recommended that the following "Revision A" functionality be included (to the exclusion of some Revision 0 functionality) in all phones intended for large-scale production and general distribution.

Product Code 3 July, 1996 **COMMITTEE: TR-45.3**

\$62.00

CELLULAR, TDMA (cont.)

TSB77

Interoperable Implementation Issues in IS-641

During the process of the IS-641 enhanced full-rate codec standardization, some issues were identified which needed further research. Although they are very unlikely to occur in practical conditions, the following changes will be incorporated into a new revision of the standard. This document addresses these enhancements: instability protection, correction of code book initialization and removal of overflow flag reset from the saturate function.

Product Code 3 Dec, 1996 **COMMITTEE: TR-45.3**
\$67.00

TSB105

Clarification of Audit Order with Forced Re-Registration in Pre-TIA/EIA-136-A Implementation

A mobile station in the DCCH camping state receives a PCH message and invokes the termination procedure (see TIA/EIA-136-123, Section 3.3 and Section 4.4). The mobile station determines that the PCH message is an Audit Order addressed to it and issues an RDCCH Request primitive containing an Audit Confirmation message along with any other coincidental messages required. The text describing the procedures for the receipt of an Audit Order with the Forced Re-Registration flag set is expanded in this document.

Product Code 3 Mar, 1999 **COMMITTEE: TR-45.3**
\$36.00

TSB108

Implementation Aspects of R-DATA Encryption in TIA/EIA-136

Appendix A of TIA/EIA-136 allows for encryption of R-DATA only if the TeleService ID indicates Over-the-Air Activation. Consequently, even if message encryption is enabled, a receiver must be prepared to deal with R-DATA messages that may or may not be encrypted depending on content. This document provides a mechanism that provides for reliable identification of the teleservice contained in an R-DATA message by restricting the transmission mode used for encrypted R-DATA messages.

Product Code 3 Mar, 1999 **COMMITTEE: TR-45.3**
\$35.00

TSB117

Clarification of DTX Receive Handling in TIA/EA-136

This document supports the Discontinuous Transmission with Comfort Noise (DTX/CN) feature in TIA/EIA-136-410 and TIA/EIA-136-133-A

Product Code 3 May, 2000 **COMMITTEE: TR-45.3**
\$41.00

TSB132

TDMA Cellular PCS - Radio Interface - Elementary File Alignment Issues in TIA/EIA-136-033

This document provides an informative update on incremental updates to TIA/EIA-136-033

Product Code 3 Oct, 2001 **COMMITTEE: TR-45.3**
\$38.00

CITIZEN'S BAND (CB) RADIO

TIA/EIA-382-A

Minimum Standards: Citizens Band Radio Service Amplitude Modulated (AM) Transceivers Operating in the 27 MHz Band (ANSI/EIA/TIA-382-A-89) (R2000)

The minimum standards detailed in this document are intended to promote the capability of these transmitters and receivers with the communications systems in which they will operate through they should not be construed as a guideline for definition of a high performance product. TIA/EIA-382-A details definitions, methods of measurement, and minimum standards for characteristics of mobile and base AM transceivers, transmitters, and receivers, utilizing 6k00A3E type emissions. These devices are intended for operation in the Citizens Band (CB) Radio Service as defined in Part 95 and Part 15 of Code of Federal Regulations, Title 47 (CFR 47) which are known as the Rules and Regulations of the Federal Communications Commission.

Product Code 3 June, 2000 **COMMITTEE: TR-32**
\$64.00

EIA-424

Minimum Standards: Citizens Radio Service, SSB Transceivers Operating in the 27 MHz Band

This document details definitions and methods of measurement of characteristics of SSB transmitters and receivers or SSB/AM transmitters and receivers, operating in the SSB mode, intended for operation in the class "D" Citizen Radio Service as defined in Part 95 of the FCC Rules and Regulations.

Product Code 3 Mar, 1981 **COMMITTEE: TR-32**
\$33.00

EIA-442

Channel Numbering System, Class-D Citizens Radio Service

Frequencies (MHz) for Channel 1 through 40 are listed in accordance with FCC Second Report and Order on Docket 20120.

Product Code 3 Nov, 1976 **COMMITTEE: TR-32**
\$33.00

IEB13

Citizens Band Radio Service Format for Submission of FCC type Acceptance Technical Data

This document establishes a uniform format for submission of technical data in conjunction with FCC type acceptance of Citizens Band radios.

Product Code 3 July, 1979 **COMMITTEE: TR-32**
\$47.00

DATA INTERCHANGE TRANSMISSION EQUIPMENT
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TIA-404-B***Standard for Start-Stop Signal Quality for Non-Synchronous Data Terminal Equipment (ANSI/TIA/EIA-404-B-96) (R2002)***

This document specifies the quality of serial binary data signals employing start-stop (i.e. asynchronous) format at a data terminal equipment interface. The scope of this document is limited to signals as defined in TIA/EIA-422-B Electrical Characteristics of Balanced Voltage Digital Interface Circuits, TIA/EIA-423-B Electrical Characteristics of Unbalanced Voltage Digital Interface Circuits, EIA-485 Electrical Characteristics of Generators and Receivers for Use in Balanced Digital Multipoint Systems, TIA/EIA-562 Electrical Characteristics for An Unbalanced Digital Interface and the electrical characteristic portion of TIA/EIA-232-E Interface Between Data Terminal Equipment and Data Communication Equipment Employing Serial Binary Data Interchange.

Product Code 3 Dec, 2001 **COMMITTEE: TR-30.2**
\$62.00

TIA/EIA-422-B***Electrical Characteristics of Balanced Voltage Digital Interface Circuits (ANSI/TIA/EIA-422-B-94) (R2000)***

This document specifies the electrical characteristics of the balanced voltage digital interface circuit normally implemented in integrated circuit technology.

Product Code 3 Jan, 2000 **COMMITTEE: TR-30.2**
\$58.00

TIA/EIA-423-B***Electrical Characteristics of Unbalanced Voltage Digital Interface Circuits (ANSI/TIA/EIA-423-B-96) (R-2001)***

This document specifies the electrical characteristics of the unbalanced voltage digital interface circuit, normally implemented in integrated circuit technology, that may be employed when specified for the interchange of serial binary signals between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) or in any point-to-point interconnection of serial binary signals between digital equipment.

Product Code 3 Nov, 2001 **COMMITTEE: TR-30.2**
\$67.00

TIA/EIA-485-A***Electrical Characteristics of Generators and Receivers for Use in Balanced Digital Multipoint Systems (ANSI/TIA/EIA-485-A-98)***

This document specifies the electrical characteristics of generators and receivers that may be employed when specified for the interchange of binary signals in multipoint interconnection of digital equipment. When implemented within the guidelines of this document, multiple generators and receivers may be attached to a common interconnecting cable.

Product Code 3 Mar, 1998 **COMMITTEE: TR-30.2**
\$56.01

TIA/EIA-530-A***High Speed 25-Position Interface for Data Terminal Equipment and Data Circuit-Terminating Equipment, Including Alternative 26-Position Connector (ANSI/TIA/EIA-530-A-92) (R98)***

This document is applicable to the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing serial binary data interchange with control information exchanged on Septet control circuits. It defines signal characteristics; interface mechanical characteristics; and, functional description of interchange circuits.

Product Code 3 Dec, 1998 **COMMITTEE: TR-30.2**
\$62.00

TIA/EIA-561***Simple 8-Position Non-Synchronous Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange (ANSI/TIA/EIA-561-90) (R98)***

This document was developed in recognition of a need for physically smaller interfaces consistent with modern technology. When used in conjunction with TIA-562, this Standard provides a complete interface specification suitable for non-synchronous applications where full functionality is not required. TIA-561 is applicable to the interconnection of Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) employing serial binary data interchange where a minimal number of control and information circuits are required. Scope, interface mechanical characteristics, and functional description of the interchange circuits are defined in TIA-561.

Product Code 3 Dec, 1998 **COMMITTEE: TR-30.2**
\$61.00

TIA/EIA-562***Electrical Characteristics for an Unbalanced Digital Interface (ANSI/TIA/EIA-562-90) (R98)***

This document was developed in response to the demand from the data communications community for physically smaller, lower power interfaces more consistent with today's technology. This Standard specifies the electrical characteristics of the unbalanced voltage digital interface circuit normally implemented in integrated circuit technology that may be employed when specified for the interchange of serial binary signals between Data Terminal Equipment (DTE) and Data Circuit Terminating Equipment (DCE) or in any interconnection of binary signals between voice or data equipment. The electrical characteristics specified in EIA/TIA-562 also allow for electrical interoperability with equipment designed to conform to TIA-232-D interfaces.

Product Code 3 Dec, 1998 **COMMITTEE: TR-30.2**
\$64.00

DATA INTERCHANGE TRANSMISSION EQUIPMENT (cont.)

TIA/EIA-574

9-Position Non-Synchronous Interface between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange (ANSI/TIA/EIA-574-90) (R98)

This document provides the flexibility of a new interface which specifies TIA/EIA-562 Electrical Characteristics which, although they are interworkable with TIA-232-D Electrical Characteristics, are capable of higher data signaling rates and being driven from a +/-5 volt supply. EIA/TIA-574 is applicable to the interconnection of DTE and DCE employing serial binary data interchange where a minimal number of control and information circuits are required. This Standard also provides a solution to the problem of incorrect referencing. (This Standard was developed in recognition of the fact that a defacto interface had appeared in industry which, although it used the Circuit Definitions and Electrical Characteristics of TIA-232-D, was implemented on a 9-pin connector instead of the 25-pin connector specified in the Standard. As no Standard existed for this interface, many manufacturers incorrectly labeled this defacto interface "RS-232" causing confusion to the user community. TIA-574 resolves this dilemma.

Product Code 3 Dec, 1998 **COMMITTEE: TR-30.2**
\$54.00

TIA/EIA-602-A

Data Transmission Systems and Equipment, Serial Asynchronous Automatic Dialing and Control (ANSI/TIA/EIA-602-92) (R2000)

The document is applicable to the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing serial binary data operation via the 100-series interchange circuits. This Standard identifies the protocol elements, procedures, and behaviors that were found to be held in common among a large portion of DCE manufacturers. It is intended, as much as possible, to preserve compatibility between DCEs and DTEs. Most DCEs implement a number of extensions and behavioral differences beyond the descriptions of this Standard; such extensions and differences are explicitly permitted by this Standard.

Product Code 3 Sept, 2000 **COMMITTEE: TR-30.4**
\$38.00

TIA/EIA-612

Electrical Characteristics for an Interface at Data Signaling Rates Up to 52 Mbit/s (ANSI/TIA/EIA-612-93) (R99)

This document specifies the electrical characteristics of the balanced digital interface circuit, normally implemented in integrated circuit technology, that may be employed when specified for the interchange of serial binary signals between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) or in any point-to-point interconnection of serial binary signals between data equipment.

Product Code 3 Sept, 1999 **COMMITTEE: TR-30.2**
\$56.00

TIA/EIA-613

High Speed Serial Interface for Data Terminal Equipment and Data Circuit-Terminating Equipment (ANSI/TIA/EIA-613-93)(R99)

This document is applicable to the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing serial binary data interchange with control information exchanged on separate control circuits. This standard applies where equipment on one side of the DTE/DCE interface is intended for connection directly to equipment on the other side without additional technical considerations. Applications where cable termination, signal waveshaping, interconnection cable distance, and mechanical configurations of the interface must be tailored to meet specific user needs are not precluded but are beyond the scope of this standard.

Product Code 3 Sept, 1999 **COMMITTEE: TR-30.2**
\$49.00

TIA-615

Data Transmission Systems and Equipment - Serial Asynchronous Automatic Dialing and Control-Extended Command Syntax

This document specifies extensions to the protocol elements, procedures, and behaviors described in ANSI/TIA/EIA-602-1992. These extensions are based on the "+" command prefix that is reserved by TIA-602 for standardized extensions. The reader is presumed to be familiar with the text of TIA/EIA-602.

This document is not intended, by itself, to be implemented in equipment. Rather, this standard is intended to serve as a basis for, and be referenced by, other standards that define actual commands (actions and parameters) to perform particular functions.

Product Code 3 Dec, 1993 **COMMITTEE: TR-30.4**
\$44.00

TIA-617

Data Transmission Systems and Equipment In-Band DCE Control

This document describes the procedures for a DTE and DCE to exchange control and status using only the data transfer path. There is need for In-Band mechanism for DCE control, because Out-of-band mechanisms are not available on all DTE, due to interface restrictions or DTE system.

Product Code 3 Jan, 1996 **COMMITTEE: TR-30.4**
\$53.00

TIA/EIA-644-A

Electrical Characteristics of Low Voltage Differential Signaling (LVDS) Interface Circuits (ANSI/TIA/EIA-644-A-2001)

This document specifies low voltage differential signaling (LVDS) generators and receivers capable of operating at data signaling rates up to 655 Mbit/s, devices may be designed for data signaling rates less than 655 Mbit/s, 100 Mbit/s for example, when economically required for that application.

Product Code 3 Feb, 2001 **COMMITTEE: TR-30.2**
\$64.00

DATA INTERCHANGE TRANSMISSION EQUIPMENT (cont.)

TIA/EIA-678

Data Transmission Systems and Equipment - Serial Asynchronous Automatic Dialing and Control for Character Mode DCE on Wireless Data Services (ANSI/TIA/EIA-678-99)

This document: specifies extensions to the protocol elements, procedures and behaviors described in TIA/EIA-602; generalizes the protocol elements, procedures and behaviors described in TIA-602, making them applicable to DCE which operate over arbitrary data networks; defines the commands that the DTE may issue to interrogate the capabilities of the DCE, select among supported data network types for subsequent DCE processing of automatic calling and automatic call answering functions, and select among support DTE-DCE interface protocols; defines the responses the DCE shall issue to those commands; establishes required mappings between manufacturer-specific data network services and the DCE; establishes conventions for interworking of network-specific AP command sets in DCE which support multiple data network types; and establishes a minimal DCE Common AT Command Set.

Product Code 3 May, 1999 **COMMITTEE: TR-30.2**
\$105.00

TIA/EIA-678-1

Data Transmission Systems and Equipment - Serial Asynchronous Automatic Dialing and Control for Character Mode DCE on Wireless Data Services , Addendum 1 (ANSI/TIA/EIA-678-1-2000)

This addendum adds 10 additional code points to the +WS46 command, WDS-Side Stack Selection

Product Code 3 Oct, 2000 **COMMITTEE: TR-30.2**
\$31.00

TIA/EIA-688

DTE/DCE Interface for Digital Cellular Equipment (ANSI/TIA/EIA-688-98)

This document applies when equipment on one side of the data terminal equipment (DTE)/data circuit-terminating equipment (DCE) interface is intended for connection directly to equipment on the other side without additional technical considerations.

Product Code 3 Jan, 1998 **COMMITTEE: TR-30.2**
\$46.00

TIA/EIA-899

Electrical Characteristics of Multipoint-Low-Voltage Differential Signaling (M-LVDS) Interface Circuits for Multipoint Data Interchange (ANSI/TIA/EIA-899-2002)

This document specifies the electrical characteristics of low-voltage differential signaling interface circuits that may be employed when specified for the interchange of binary signals between equipment sharing a common data interchange circuit.

Product Code 3 Mar, 2002 **COMMITTEE: TR-30.2**
\$68.00

TSB18-A

The Mechanical/Functional Characteristics of the Interface between DCEs and Voiceband Analog Channels

This document describes the eight-position plug and jack mechanical configuration, along with the interchange circuits and associated pin-pair relationships.

Product Code 3 Feb, 1988 **COMMITTEE: TR-30.3**
\$33.00

TSB89

Application Guidelines for TIA/EIA-485-A

This document provides guidelines for applying circuits complying with TIA/EIA-485-A to form a balanced multi-point data bus. The versatility of the 485 electrical standard covers a wide variety of data interchange applications that cannot all be covered in this application. The intent is to provide basic design guidelines of the physical layer.

Product Code 3 June, 1998 **COMMITTEE: TR-30.2**
\$58.00

TIA/EIA-825

A Frequency Shift Keyed Modem for Use on the Public Switched Telephone Network

This document specifies a FSK modem which operates at nominal data signaling rates of 50 or 45.45 symbols per second over the switched telephone network

Product Code 3 Oct, 2000 **COMMITTEE: TR-30.1**
\$39.00

DTE/DCE INTERFACE

TIA/EIA-232-F

Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange (ANSI/TIA/EIA-232-F-1997)

This document is applicable to the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing binary data interchange.

Product Code 3 Oct, 1997 **COMMITTEE: TR-30.2**
\$68.00

TIA/EIA-687

Medium Speed Interface for Data Terminal Equipment and Data Circuit Terminating Equipment (ANSI/TIA/EIA-687-97) (R-2001)

This document applies where equipment on one side of the data terminal equipment (DTE) and data circuit-terminating equipment (DCE) interface is intended for connection directly to equipment on the other side without additional technical considerations.

Product Code 3 Oct, 1997 **COMMITTEE: TR-30.2**
\$60.00

TIA/EIA-694

Electrical Characteristics for an Unbalanced Digital Interface for Data Signaling Rates Up to 512 kbit/s (ANSI/TIA/EIA-694-97) (R2002)

This document specifies the electrical characteristics of the unbalanced voltage digital interface circuit, normally implemented in integrated circuit technology, that may be employed when specified for the interchange of serial binary signals between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) or in any point-to-point interconnection of serial binary signals between digital equipment.

Product Code 3 Aug, 1997 **COMMITTEE: TR-30.2**
\$45.00

DATA INTERCHANGE TRANSMISSION EQUIPMENT, DTE/DCE INTERFACE (cont.)

TIA/EIA-723***High Speed 232 Type DTE/DCE Interface (ANSI/TIA/EIA-723-98)***

This document is applicable to the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing serial binary data interchange with control information exchanged on separate control circuits.

Product Code 3 Sept, 1998 **COMMITTEE: TR-30.2**
\$62.00

TSB54-A***DTE/DCE Interface Selection Guide***

This document has been prepared to assist in the choice of the proper interface standard for use between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE). The Bulletin provides two tables which show the available TIA interface standards.

Product Code 3 June, 1998 **COMMITTEE: TR-30.2**
\$39.00

EMERGENCY SERVICES (E-911)**J-STD-034*****Wireless Enhanced Emergency Services***

This document is one in a series of recommendations that provides a solution for the limited capabilities of wireless enhanced emergency services. These capabilities include provision of base station, cell site or sector identification information; subscriber identification; callback and reconnect features.

Product Code 3 Dec, 1997 **COMMITTEE: TR-45.2**
\$135.00

J-STD-036***Emergency Services Data Communications***

This document defines the messaging required to support information transfer to identify and locate wireless emergency service callers.

Product Code 3 Sept, 2000 **COMMITTEE: TR-45.2**
\$271.00

J-STD-036-1***Emergency Services Data Communications, Addendum 1***

This addendum makes corrections to the original document.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$87.00

FACSIMILE EQUIPMENT**GROUP 3 OPERATION****TIA-465-A*****Group 3 Facsimile Apparatus for Document Transmission***

This document describes the basic and optional characteristics of a Group 3 facsimile machine. Group 3 equipment reduces the redundancy in the message information prior to the modulation process and, thus, achieves a nominal transmission time of one minute for a typical full-page typescript document. Replaces EIA-328, EIA-357, and EIA-373. This standard was adopted and approved for DoD use on April 3, 1981. This standard was adopted as Federal Standard 1062.

Product Code 3 June, 1995 **COMMITTEE: TR-30.5**
\$116.00

TIA/EIA-466-A***Procedures for Document Facsimile Transmission (ANSI/TIA/EIA-466-A-97)***

This document describes the procedures necessary for document transmission between two facsimile stations operating on voice band analog circuits. These procedures essentially comprise the following: call establishment and call release, compatibility checking, status and control command, checking and supervision of line conditions and control functions, and facsimile operator recall. Only the procedures with their corresponding signals are specified in this document.

Product Code 3 May, 1997 **COMMITTEE: TR-30.5**
\$171.00

TIA-497***Facsimile Glossary***

This document is the result of cooperation on an industry-wide basis to establish a glossary of commonly used terms related to the transmission, reception and utilization of the facsimile medium. The terms contained in TIA-497 reflect the current usage within the facsimile industry. TIA-497 is a companion document to TIA-465 and TIA-466.

Product Code 3 Sept, 1982 **COMMITTEE: TR-30.5**
\$33.00

TIA-614***Binary File Transfer Format for Group 3 Facsimile***

This document defines the Binary File Transfer format which is intended for the transfer of data in Group 3 Facsimile, Message Handling and similar computer applications.

Product Code 3 Aug, 1996 **COMMITTEE: TR-30.5**
\$48.00

TSB85***TIA/EIA-465 AND TIA/EIA-466 Conformity Test Standard***

This document defines a set of Conformity Test Procedures for the Group 3 facsimile devices operating according to the TIA/EIA 465-A and TIA/EIA 466-A. Applies only to the facsimile message coding and facsimile message exchange protocol. This TSB does not suggest mandatory testing.

Product Code 3 July, 1997 **COMMITTEE: TR-30.5**
\$129.00

FACSIMILE EQUIPMENT (cont.)

GROUP 4 OPERATION

TIA-538

Facsimile Coding Schemes and Coding Control Functions for Group 4 Facsimile Equipment

This document defines the facsimile coding schemes, and their control functions to be used in the Group 4 facsimile.

Product Code 3 Aug, 1988 **COMMITTEE: TR-30.5**
\$47.00

HIGH FREQUENCY

TIA/EIA-668-A

High Frequency Radio Facsimile (ANSI/TIA/EIA-668-A-98)

This document defines the image format, line format, synchronization method, and modulation method suitable for the transmission of images over noisy, low-bandwidth audio channels, especially HF radio links. This standard builds upon the current de facto standard in use in HF radios in the Amateur Radio Service using analog transmission techniques.

Product Code 3 Dec, 1998 **COMMITTEE: TR-30.5**
\$41.00

FIBER OPTICS

CABLE, COLOR CODING

TIA/EIA-598-B

Optical Fiber Cable Color Coding (ANSI/TIA/EIA-598-B-2001)

This document defines the recommended identification scheme or system for individual fibers, fiber units, or a group of fiber units within a cable structure. May be used to identify appropriate fibers for the purpose of connecting and terminating within a communications system or topography of long haul, feeder routs, subscriber, or distribution applications for on premises and outside plant use.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.7**
\$53.00

CABLE, SPECIFICATIONS

TIA/EIA-4720000-A

Generic Specification for Fiber Optic Cable (ANSI/TIA/EIA-4720000-A-93)

This Generic Specification is the umbrella document for all fiber optic cables. It delineates minimum requirements that are common to all optical cable types, as well as providing a "shopping list" of test requirements and test methods that may be applied to families of cables targeted toward various applications, and to specific groups of cable designs.

Product Code 3 Nov, 1993 **COMMITTEE: FO-6.7**
\$82.00

TIA/EIA-472C000-A

Sectional Specification for Fiber Optic Communications Cable for Indoor Use (ANSI/TIA/EIA-472C000-A-93)

This Sectional Specification is intended for use only in conjunction with Basic Specification EIA/TIA-455-A, Generic Specification TIA/EIA-4720000-A, and with appropriate Detail Specification(s). It covers fiber optic cables intended for use in communications systems and in other systems employing similar technologies.

This Sectional Specification covers the requirements for optical cables containing multimode or single-mode optical fibers, or both. Such cables may include electrical conductors. It is intended that the optical fibers meet the requirements of the TIA/EIA-472 Series Specifications.

This Sectional Specification covers the requirements for optical cables that are designed for indoor use.

Product Code 3 Nov, 1993 **COMMITTEE: FO-6.7**
\$60.00

TIA/EIA-472D000-A

Sectional Specification for Fiber Optic Communications Cable for Outside Plant Use (ANSI/TIA/EIA-472D000-A-93)

This Sectional Specification is intended for use only in conjunction with Basic Specification TIA/EIA-455-B, Generic Specification TIA/EIA-4720000-A, and with appropriate Detail Specification(s). It covers fiber optic cables intended for use in communications systems and in other systems employing similar technologies.

This Sectional Specification covers the requirements for optical cables containing multimode or single-mode optical fibers, or both. Such cables may include electrical conductors. It is intended that the optical fibers meet the requirements of the EIA/TIA-472-Series Specifications.

This Sectional Specification covers the requirements for optical cables that are designed for outside plant use.

Product Code 3 Nov, 1993 **COMMITTEE: FO-6.7**
\$60.00

TIA-590-A

Standard for Physical Location and Protection of Below-Ground Fiber Optic Cable Plant

The purpose of this document is to establish a national standard that defines the location of installed outside fiber optic cable plant relative to its physical environment, including related protective measures necessary to reduce the probability of cable damage.

Product Code 3 Jan, 1997 **COMMITTEE: FO-2.5**
\$48.00

FIBER OPTICS (cont.)

CABLES

TSB107

Guideline for the Statistical Specification of Polarization Mode Dispersion on Optical Fiber Cables

This document provides information on: the statistical nature of polarization mode dispersion (PMD), why its necessary to use statistical specification/characterization methods, how to calculate the parameters, and the implications for system functionality. This document is also intended to clarify the proposals for statistical specification of PMD that are being developed in the IEC.

Product Code 3 Nov, 1999 **COMMITTEE: FO-6.7**
\$33.00

CLEAVING, SPECIFICATIONS

TIA/EIA-5430000

Generic Specification, Field Portable Electronic Instruments for Optical Fiber System Measurements (ANSI/TIA/EIA-5430000-89) (R98)

This document sets forth engineering and use requirements as necessary for optimum use of field portable electronic instruments for optical fiber system measurements. Intended to eliminate misunderstandings or confusion between the supplier and user with respect to product performance requirements and test procedures.

Product Code 3 Mar, 1998 **COMMITTEE: FO-6.1**
\$64.00

CONNECTORS, SPECIFICATIONS

TIA-4750000-C

Generic Specification for Fiber Optic Connectors

This Specification applies to connector sets for optical fibers and cables. It establishes uniform requirements for connector set requirements and measurement and test procedures for quality assessment.

Product Code 3 May, 1996 **COMMITTEE: FO-6.3**
\$72.00

TIA-475C000

Sectional Specification for Type FSMA Connectors

This Specification covers Type FSMA fiber optic connector sets. The specification defines the requirements for Type FSMA connector sets and is intended for use in conjunction with the Blank Detail Specification(s) for Type FSMA connector sets.

Product Code 3 Aug, 1989 **COMMITTEE: FO-6.3**
\$76.00

TIA-475CA00

Blank Detail Specification for Optical Fibers and Cable Type FSMA: Environmental Category I

This Blank Detail Specification is part of EIA/TIA-475C000: Sectional Specification for Type FSMA Fiber Optic Connector Sets. It applies to Environmental Category I. The objectives are: 1). to specify minimum mandatory test schedules and performance requirements and, 2). to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 Aug, 1989 **COMMITTEE: FO-6.3**
\$64.00

TIA-475CB00

Blank Detail Specification Connector Set for Optical Fibers and Cables Type FSMA: Environmental Category II

This Blank Detail Specification is part of TIA-475C000: Sectional Specification for Type FSMA Fiber Optic Connector Sets. It applies to Environmental Category II. The objectives are: 1). to specify minimum mandatory test schedules and performance requirements and, 2). to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 Aug, 1989 **COMMITTEE: FO-6.3**
\$64.00

TIA-475CC00

Blank Detail Specification Connector Set for Optical Fibers and Cables Type FSMA: Environmental Category III

This Blank Detail Specification is part of TIA-475C000: Sectional Specification for Type FSMA Fiber Optic Connector Sets. It applies to Environmental Category III. The objectives are: 1). to specify minimum mandatory test schedules and performance requirements and, 2). to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 Aug, 1989 **COMMITTEE: FO-6.3**
\$76.00

TIA/EIA-475E000

Sectional Specification for Fiber Optic Connectors - Type BFOC/2.5 (ANSI/TIA/EIA-475E000-92)

This Specification is part of Four Level TIA/EIA specification system defined in TIA-4750000-C. It covers a family of single-terminus fiber optic connector sets classified as Type BFOC/2.5. Type BFOC/2.5 is characterized by a bayonet coupling mechanism and a cylindrical ferrule of 2.5 mm nominal diameter. The term bayonet refers to the latching pin(s) feature of the adapter. It includes plug-adapter-plug and plug-socket configurations.

Product Code 3 June, 1992 **COMMITTEE: FO-6.3**
\$43.00

TIA/EIA-475EA00

Blank Detail Specification for Connector Set for Optical Fibers and Cables - Type BFOC/2.5: Environmental Category I (ANSI/TIA/EIA-475EA00-92)

This Blank Detail Specification is intended to: (1) to specify minimum mandatory test schedules and performance requirements, and (2) to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 June, 1992 **COMMITTEE: FO-6.3**
\$46.00

TIA/EIA-475EB00

Blank Detail Specification for Connector Set for Optical Fibers and Cables - Type BFOC/2.5: Environmental Category II (ANSI/TIA/EIA-475EB00-92)

This Blank Detail Specification is intended to: (1) to specify minimum mandatory test schedules and performance, and (2) to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 June, 1992 **COMMITTEE: FO-6.3**
\$48.00

FIBER OPTICS, CONNECTORS, SPECIFICATIONS (cont.)

TIA/EIA-475EC00**Blank Detail Specification for Connector Set for Optical Fibers and Cables - Type BFOC/2.5: Environmental Category III (ANSI/TIA/EIA-475EC00-92)**

This Blank Detail Specification is intended to: (1) to specify minimum mandatory test schedules and performance requirements, and (2) to define the format for stating essential information relating to or affecting operational parameters and quality assessment requirements.

Product Code 3 June, 1992 **COMMITTEE: FO-6.3**
\$48.00

TIA/EIA-604**Fiber Optic Connector Intermateability Standards (ANSI/TIA/EIA-604-93)(R2000)**

This document, together with its addenda, provides standards for the intermateability of fiber optic connectors. Each addendum to this document is a Fiber Optic Connector Intermateability Standard (FOCIS) for a particular type or design of fiber optic connector.

The intermateability requirements in a FOCIS apply to mating optical components such as connector plugs, adaptors, and receptacles. The intermateability requirements in a FOCIS are to be for completed product. For example, for a connector plug the requirements are to be the requirements for the plug mounted with the fiber installed and ready for use.

Product Code 3 Sept, 2000 **COMMITTEE: FO-6.3**
\$37.00

TIA-604-1**FOCIS 1 - Fiber Optic Connector Intermateability Standard**

This document covers those features that are required to insure that biconic connectors conforming to the requirements of this standard are intermateable and that physical contact will be established between the plugs including the polished glass surfaces of the intermated connector assemblies.

Product Code 3 Apr, 1996 **COMMITTEE: FO-6.3**
\$44.00

TIA/EIA-604-2**FOCIS 2 - Fiber Optic Connector Intermateability Standard (Fiber Jack Connector) (ANSI/TIA/EIA-604-2-97)**

This document presents the intermateability standard for simplex and duplex bayonet fiber optic connectors, and is issued as an addendum to TIA/EIA-604. The requirements in FOCIS 2 have been selected with the objective of ensuring that any combination of plugs and sockets conforming to the requirements will mechanically intermate, and that intermated connector assemblies will meet their common level of performance.

Product Code 3 Nov, 1997 **COMMITTEE: FO-6.3**
\$47.00

TIA/EIA-604-3**Fiber Optic Connector Intermateability Standard (ANSI/TIA/EIA-604-3-97)**

This document is part of the series of test standards included within TIA/EIA-604, "Fiber Optic Connector Intermateability Standards (FOCIS)." FOCIS 3 presents the intermateability standard for connectors with the commercial designation SC.

Product Code 3 Aug, 1997 **COMMITTEE: FO-6.3**
\$53.00

TIA/EIA-604-4-A**FOCIS 4 - Fiber Optic Connector Intermateability Standard Type FC and FC-APC (ANSI/TIA/EIA-604-4-2000)**

This document is part of the series of test standards included within TIA/EIA-604, "Fiber Optic Connector Intermateability Standards (FOCIS)." FOCIS 4 presents the intermateability standard for connectors with the commercial designation FC.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.3**
\$53.00

TIA/EIA-604-5-A**FOCIS 5 - Fiber Optic Connector Intermateability Standard - Type MPO (ANSI/TIA/EIA-604-5-A-01)**

This document presents the intermateability standard for connectors with the commercial designation of MPO.

Product Code 3 Sept, 2001 **COMMITTEE: FO-6.3**
\$53.00

TIA/EIA-604-6**FOCIS 6 - Fiber Optic Connector Intermateability Standard (Fiber Jack Connector) (ANSI/TIA/EIA-604-6-99)**

This document presented the intermateability standard for connectors with the commercial designation FIBER JACK, and is issued as an addendum to TIA/EIA-604. The requirements in FOCIS 6 have been selected with the objective of ensuring that any combination of plugs and sockets conforming to the requirements will mechanically intermate, and that intermated connector assemblies will meet their common level of performance.

Product Code 3 Mar, 1999 **COMMITTEE: FO-6.3**
\$53.00

TIA/EIA-604-7**FOCIS 7 - Fiber Optic Connector Intermateability Standard (ANSI/TIA/EIA-604-7-1999)**

This document presents the intermateability standard for connectors designated Type SG, and is issued as an addendum to TIA/EIA-604. The requirements in FOCIS 7 have been selected with the objective of ensuring that any combination of plugs and sockets conforming to the requirements will mechanically intermate, and that intermated connector assemblies will meet their common level of performance.

Product Code 3 Jan, 1999 **COMMITTEE: FO-6.3**
\$47.00

TIA/EIA-604-10-A**FOCIS 10 - Fiber Optic Intermateability Standard (ANSI/TIA/EIA-604-10-A-2002)**

This document is part of the series of test standards included with TIA/EIA-604, Fiber Optic Connector Intermateability Standards (FOCIS)." FOCIS 10 present the intermateability standard for simplex and duplex connectors with the commercial designation LC.

Product Code 3 Mar, 2002 **COMMITTEE: FO-6.3**
\$62.00

TIA/EIA-604-12**FOCIS 12 - Fiber Optic Connector Intermateability Standard, Type MT-RJ (ANSI/TIA/EIA-604-12-2000)**

This document presents the intermateability standard for connectors with the commercial designation of MT-RJ, and is used as an addendum to TIA/EIA-604. The provisions of TIA/EIA-604 apply to this standard.

Product Code 3 Sept, 2000 **COMMITTEE: FO-6.3**
\$55.00

FIBER OPTICS (cont.)

GENERAL

TIA-458-B

Standard Optical Fiber Material Classes and Preferred Sizes

The development of fiber-optic communications systems and the associated components (such as cables, connectors, couplers, attenuators, isolators, and wavelength-division multiplexing/demultiplexing devices, as well as light sources and detectors) will be facilitated if optical fiber types are standardized, and if the number of fiber types is minimized. The selection of fiber type (single-mode and multimode) is governed by the number of factors that impact system performance, reliability, and cost. This document specifies optical fiber core and cladding material classes, plus preferred sizes, for optical communication applications.

Product Code 3 Apr, 1990 **COMMITTEE: FO-6.6**
\$37.00

OPTICAL FIBER SYSTEMS DESIGN

TIA-559

Single-Mode Fiber Optic System Transmission Design

The intent of this document is to describe a methodology that is recommended for engineering a single-mode fiber optic transmission system. The methods address the design of a regenerator section in which the transmitter and receiver come from the same vendor. As an initial step, only laser systems operating in the 1300 nm region over a class IVa (refers to dispersion non-shifted single-mode fibers, this definition is contained in TIA/EIA-492) dispersion unshifted fiber are being considered. As engineering technology improves, this document will be revised to include systems operating in the 1550 nm region. For systems using multilongitudinal mode lasers above approximately 0.5 Gb/s. The calculated dispersion limited lengths may be conservatively low.

Product Code 3 Mar, 1989 **COMMITTEE: FO-6.6.4**
\$76.00

TIA-559-1

Single-Mode Fiber Optic System Transmission Design

This is an addendum to EIA/TIA-559. In some applications, the immediate requirements for transmission capacity in terms of length and bandwidth may be modest, and operation at short wavelengths may be advantageous, for economic or other reasons. Nevertheless, high-capacity single-mode fiber may need to be deployed in anticipation of future upgrading to broadband transmission. Such a scenario may lead to short-wavelength transmission over Class IVa fiber. The system engineering methodology outlined in this document can be applied to such a system, subject to certain modifications outlined in the Appendix of this document.

Product Code 3 Oct, 1992 **COMMITTEE: FO-2**
\$33.00

TIA-626

Multimode Fiber Optic Link Transmission Design

This document describes a methodology for designing a multimode digital fiber optic transmission link. The methods address the types of transmitters, fiber, and receivers used in a link as well as the performance characteristics of any passive components within a link.

Product Code 3 Dec, 1995 **COMMITTEE: FO-2.2**
\$89.00

TIA/EIA-785

100 Mb/s Physical Layer Medium Dependent Sublayer and 10 Mb/s Auto-Negotiation on 850 nm Fiber Optics

This document specifies the 100BASE-X-PMD (including MDI) and fiber optic medium for a short wavelength, multimode fiber, 100BASE-SX.

Product Code 3 May, 2001 **COMMITTEE: FO-2.2**
\$68.00

OPTICAL FIBER SYSTEMS TESTING

TIA/EIA-526

Standard Test Procedures for Fiber Optic Systems (ANSI/TIA/EIA-526-92)

This document, together with its addenda, provides uniform test procedures for testing all or part of fiber optic systems or subsystems intended for optical communications and data transmission use. In testing an installed system, the testing organization will usually have little or no control over the environment which each component of the system will be experiencing; consequently, when the procedures covered by this document and its addenda are used for acceptance testing of a particular system, the results shall be evaluated with the understanding that all system components might not be at the standard conditions at which they were originally tested and accepted. When a system is being tested as a representative of other systems not yet built, environmental conditions shall, however, be as close to the standard ambient conditions listed in Section 6 as is practicable.

Product Code 3 Sept, 1992 **COMMITTEE: FO-2.4**
\$45.00

TIA-526-2

OFSTP-2 - Effective Transmitter Output Power Coupled into Single-Mode Fiber Optic Cable

The intent of this test procedure is to measure the effective optical power coupled from the output of the transmitter of the single-mode fiber optic terminal equipment under test, into a single-mode fiber optic cable containing Class IVa dispersion unshifted fiber of Class IVb dispersion shifted fibers.

Product Code 3 Oct, 1989 **COMMITTEE: FO-2.1**
\$37.00

TIA-526-3

OFSTP-3 - Fiber Optic Terminal Equipment Receiver Sensitivity and Maximum Receiver Input

The intent of this test procedure is to measure the minimum optical power required at the input of the single-mode fiber optic system receiver connector (on the line side) to operate at specified Bit Error Ratios (BERs), and to verify that the guaranteed error performance is obtained at the minimum and the maximum optical input power specified by the terminal equipment manufacturer.

Product Code 3 Oct, 1989 **COMMITTEE: FO-2.1**
\$37.00

FIBER OPTICS, OPTICAL FIBER SYSTEMS TESTING (cont.)

TIA/EIA-526-4-A**OFSTP-4 - Optical Eye Pattern Measurement Procedure (ANSI/TIA/EIA-526-4-A-97)**

The intent of this test procedure is to describe a method of measuring the repetitive temporal characteristics of a two-level, intensity-modulated optical waveform (eye pattern), at an optical interface point. From the measured eye pattern, waveform parameters such as rise time, fall time, overshoot, and extinction ratio can be extracted. Alternatively, the waveform can be tested for compliance with a predetermined waveform mask. The primary components of the measurement system are a photodetector, a low-pass filter, and an oscilloscope.

Product Code 3 Nov, 1997 **COMMITTEE: FO-2.1**
\$56.00

TIA/EIA-526-7**OFSTP-7 - Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant (ANSI/TIA/EIA-526-7-98)**

The intent of this test procedure is to ensure that meaningful data describing the optical loss performance of installed single-mode cable plant can be obtained. It is not intended for component testing, nor does it define those elements of an installation that must be measured. The document that invokes this procedure shall establish the requirements for installation, maintenance, repair and conformance testing.

Product Code 3 Aug, 1998 **COMMITTEE: FO-2.1**
\$49.00

TIA/EIA-526-10**OFSTP-10 - Measurement of Dispersion Power Penalty in Digital Single-Mode Systems (ANSI/TIA/EIA-526-10-93) (R98)**

The intent of this test procedure is to measure the dispersion (ps/nm) the system is designed to accommodate as specified by the manufacturer. The power penalty is measured at the manufacturer-specified Bit-Error-Ratio (BER) performance level (typically 10). NOTE: To achieve large amounts of dispersion with relatively short lengths of fiber, the measurement technique described in this document may involve the use of a fiber having a zero-dispersion wavelength at some wavelength region (e.g., 1310 nm) not provide an accurate measurement of the dispersion power penalty resulting from a long length of fiber which has zero dispersion in the same region as the system wavelength.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.1**
\$44.00

TIA/EIA-526-11**OFSTP-11 - Measurement of Single-Reflection Power Penalty for Fiber Optic Terminal Equipment (ANSI/EIA/TIA-526-11-91) (R98)**

The intent of this test procedure is to measure the power penalty due to a single-reflection point reflecting optical power back into the laser transmitter of the single-mode digital fiber optical terminal equipment under test.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.1**
\$44.00

TIA/EIA-526-14-A**OFSTP-14 - Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant (ANSI/TIA/EIA-526-14A-98)**

The intent of this document is to establish preferred measurement principles and practices to assure that meaningful data describing the optical loss performance of installed cable plant can be obtained. It is not intended for component testing, nor does it define those elements of an installation that must be measured. Establishment of requirements for installation, maintenance, repair or conformance testing is left to the specifier of this test method.

Product Code 3 Aug, 1998 **COMMITTEE: FO-2.2**
\$53.00

TIA/EIA-526-15**OFSTP-15 - Jitter Tolerance Measurement (ANSI/TIA/EIA-526-15-93) (R98)**

The intent of this test procedure is to measure jitter tolerance (also known as jitter accommodation) in terms of the sinusoidal jitter amplitude that, when applied to an equipment input, causes a designated degradation of error performance. Jitter tolerance is a function of the amplitude and frequency of the applied jitter.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.3**
\$43.00

TIA/EIA-526-16**OFSTP-16 - Jitter Transfer Function Measurement (ANSI/TIA/EIA-526-16-93) (R98)**

The intent of this test procedure is to measure the jitter transfer characteristic of an individual digital equipment as the ratio of the output jitter to the applied input jitter as a function of frequency.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.3**
\$43.00

TIA/EIA-526-17**OFSTP-17 - Output Jitter Measurement (ANSI/TIA/EIA-526-17-93) (R98)**

The intent of this test procedure is to measure (1) output jitter at hierarchical interfaces, and (2) intrinsic jitter generated by individual digital equipment. Measurements of output jitter may be in terms of rms and peak-to-peak amplitudes over designated frequency ranges and may require statistical characterization.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.3**
\$41.00

TIA/EIA-526-18**OFSTP-18 - Systematic Jitter Generation Measurement (ANSI/TIA/EIA-526-18-93) (R98)**

The intent of this test procedure is to measure systematic jitter on a digital signal at the output port of an individual digital equipment, including pattern dependent sources such as intersymbol interference, finite pulse width, pattern effects, and clock threshold offsets.

Product Code 3 Nov, 1998 **COMMITTEE: FO-2.3**
\$41.00

FIBER OPTICS, OPTICAL FIBER SYSTEMS TESTING (cont.)

TIA/EIA-526-19

OFSTP-19 - Optical Signal-to-Noise Ratio Measurement Procedures for Dense Wavelength-Division Multiplexed Systems (ANSI/TIA/EIA-526-19-2000)

The intent of this test procedures is to provide a parameter definition and a test method for obtaining optical signal-to-noise ratio (OSNR) using apparatus that measures the optical spectrum at a multi-channel interface.

Product Code 3 June, 2000 **COMMITTEE: FO-2.1**
\$53.00

TIA/EIA-526-27

OFSTP-27 - Procedure for System-Level Temperature Cycle Endurance Test (ANSI/TIA/EIA-526-27-98)

The intent of this test procedure is to detail a temperature cycle endurance test that is meant to demonstrate the capability of fiber optic telecommunications equipment to operate reliably in uncontrolled environments.

Product Code 3 July, 1998 **COMMITTEE: FO-2.6,6.10**
\$53.00

TSB19

Optical Fiber Digital Transmission Systems: Considerations for Users and Suppliers

This document provides engineering, operational, and maintenance guidance to users and suppliers of Optical Fiber Digital Transmission Systems for telecommunications applications. The information presented applies to optical fiber systems using multimode graded or step index fibers. Single-mode systems are under consideration and will be incorporated in a future issue of this document.

Product Code 3 Mar, 1986 **COMMITTEE: FO-6.6.4**
\$76.00

PASSIVE OPTICAL BRANCHING DEVICES, SPECIFICATIONS

TIA-6200000

Generic Specification for Passive Optical Branching Devices

This document applies to passive optical branching devices intended for use in communications systems and in other systems employing similar technologies. This Generic Specification used in conjunction with a Sectional Specification and corresponding Blank Detail Specification describes the branching device, dimensional, mechanically, optically, environmentally, and electrically, and defines specific values for the performance requirements as allowed by the relevant Sectional Specification and Blank Detail Specification.

Product Code 3 May, 1995 **COMMITTEE: FO-6.3**
\$60.00

SINGLE-MALE FIBER OPTIC BRANCHING DEVICES, SPECIFICATIONS

TIA-620A000

Sectional Specification for Single-Mode Fiber Optic Branching Devices for Outside Plant Applications

This document describes the Sectional Specification for the purpose of setting forth engineering and use requirements as necessary for purchase of single-mode passive branching devices for outside plant applications. Use of this document is intended to be in conjunction with the associated Blank Detail Specifications, the Generic Specification TIA/EIA 620000, and EIA/TIA-455-A.

Product Code 3 May, 1995 **COMMITTEE: FO-6.3**
\$46.00

TIA-620AA00

Blank Detail Specification for Single-Mode Fiber Optic Branching Devices for Outside Plant Applications

This document is a supplementary document to Sectional Specification TIA/EIA-620A000 and contains requirements for style, layout, and minimum content of Detail Specifications for fiber optic branching devices. This document can be used to prepare Detail Specifications for Single-Mode Fiber Optic Branching Devices for outside plant applications. The scope of this specification applies to uniform single-mode passive branching devices.

Product Code 3 May, 1995 **COMMITTEE: FO-6.3.5**
\$45.00

SPLICES

TIA-6090000

Generic Specification for Optical Fiber Splice

This specification applies to optical fiber splices used in fiber optic telecommunications. This document describes the general method to classify splice types, evaluate mechanical and optical performance, and establish the quality assessment provisions for optical fiber splices.

Product Code 3 July, 2000 **COMMITTEE: FO-6.3**
\$62.00

TIA-609A000

Sectional Specification for Conventional, Permanent, Optical Fiber Splice

This Sectional Specification covers conventional, permanent, optical fiber splice modules. Reusable and unconventional splice modules that meet the requirements of the Detail Specification may also be said to meet this Sectional Specification. Optimization of the splice (i.e., tuning or repositioning of the fibers) does not constitute reuse. This specification, in conjunction with the related Generic, Blank Detail, and Detail Specifications, defines the requirements for this splice type.

Product Code 3 July, 2000 **COMMITTEE: FO-6.3**
\$45.00

FIBER OPTICS, SPLICES (cont.)

TIA-609AA00

Blank Detail Specification for Conventional, Permanent, Optical Fiber Splice

This Blank Detail Specification covers the quality assessment of conventional, permanent optical fiber splices to be used for telecommunications

Product Code 3 July, 2000 **COMMITTEE: FO-6.3**

\$58.00

SPLICES, SPECIFICATIONS

TIA-5150000

Generic Specification for Optical Fiber and Cable Splices

This Generic Specification describes the mechanical and optical performance of optical fiber and optical cable splices used in optical waveguide communications. Excluded are splices unique to the fiber and cable manufacturing process.

Product Code 3 Oct, 1986 **COMMITTEE: FO-6.3**

\$33.00

TIA-515B000

Sectional Specification for Splice Closures for Pressurized Aerial, Buried, and Underground Fiber Optic Cables

This specification is to prescribe preferred ratings and characteristics for pressurized aerial, buried or underground fiber optic splice closures; to select from TIA-5150000, "Generic Specification for Optical Fiber and Cable Splices," the appropriate quality assessment procedures, tests, and measuring methods; and to give general performance requirements for this type splice closure.

Product Code 3 Oct, 1987 **COMMITTEE: FO-6.5**

\$33.00

SYMBOLS, TERMINOLOGY

EIA-440-A

Fiber Optic Terminology

The increased usage of fiber optic technology has created the need to standardize on the terms used. This document establishes the applicable terms and to reference a definition for each.

Product Code 3 Jan, 1989 **COMMITTEE: FO-6.2**

\$91.00

TIA-587

Fiber Optic Graphic Symbols

The increased usage of fiber optic graphic symbols to depict system and test setup configurations has created the need to standardize on the graphic symbols used. It is the purpose of this standard to establish the applicable symbols and to reference a term or definition for each. Those terms or definitions referenced by the graphic symbols in this document can be found covered in detail in the glossary, TIA-440-A "Fiber Optic Terminology" or its addendum.

Product Code 3 Oct, 1996 **COMMITTEE: FO-2.4**

\$43.00

TERMINAL DEVICES, SPECIFICATIONS

TIA-5090000

Generic Specification for Fiber Optic Terminal Devices

This document specifies electrical input/output parameters for fiber optic terminal devices and establishes uniform requirements with respect to classification by device type and function, electrical and optical measurement methods, environmental and mechanical tests, and safety, where applicable.

Product Code 3 Sept, 1984 **COMMITTEE: FO-6.5**

\$35.00

TEST PROCEDURES (FOTPs)

TIA/EIA-455 Series

Fiber Optic Test Procedures

These Fiber Optic Test Procedures (FOTPs) were developed to provide uniform procedures for testing Fiber Optic system components for optical communications and data transmission systems. The procedures standardize the method of establishing the light losses and junction efficiency for conformance to individual component requirements. The procedures are applicable for both single fiber and multiple fiber (Bundle) devices.

(Note: All test procedures previously published in TIA/EIA-455 and its Addenda have been revised and published as separate documents. Fiber Optic Test Procedures are identified by TIA/EIA-455 followed by the FOTP number.

Product Code 3

\$4,333.00

TIA/EIA-455-B

Standard Test Procedure for Fiber Optic Fibers, Cables, Transducers, Sensors, Connecting and Terminating Devices, and other Fiber Optic Components (ANSI/TIA/EIA-455-B-98)

The intent of this test procedure is to provide uniform procedures for testing Fiber Optic system components for optical communications and data transmission systems. The procedures standardize the method for establishing the light losses and junction efficiency for conformance to individual component requirements. The procedures are applicable for both single fiber and multiple fiber (bundle) devices.

Product Code 3 Oct, 1998 **COMMITTEE: FO-6.6**

\$4,330.00

TIA/EIA-455-1-B

FOTP-1 - Cable Flexing for Fiber Optic Interconnecting Devices (ANSI/TIA/EIA-455-1B-98)

The intent of this test procedure is to determine the ability of fiber optic interconnecting devices, device interfaces, and strain reliefs to withstand bending and flexing stresses resulting from loads as might be experienced during installation and service conditions.

Product Code 3 Oct, 1998 **COMMITTEE: FO-6.3**

\$47.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-2-C**FOTP-2 - Impact Test Measurements for Fiber Optic Devices (ANSI/TIA/EIA-455-2C-98)**

The intent of this test procedure is to determine the ability of fiber optic component or assembly (device) to withstand impacts of the type that might be encountered in normal service.

Product Code 3 July, 1998 **COMMITTEE: FO-6.3**
\$53.00

TIA-455-3-A**FOTP-3 - Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components**

The intent of this test procedure is to describe a method for the determination of temperature cycling effects or the temperature dependence of attenuation on optical fibers, cables, cable assemblies, connectors, and/or other passive fiber optic devices.

Product Code 3 May, 1989 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-455-4-B**FOTP-4 - Fiber Optic Component Temperature Life Test (ANSI/EIA-455-4B-93)**

The intent of this test procedure is to determine the effects on the optical and mechanical characteristics of fiber optic components resulting from exposure to an evaluated temperature for a specific length of time. (This method is similar to Method 1005.1 of MIL-STD-1344A, except that this procedure includes supplementary measurements.) The procedure is applicable to all types of fiber optic devices including connectors, splices, passive branching devices (couplers), etc.

Product Code 3 Sept., 1993 **COMMITTEE: FO-6.3**
\$41.00

TIA/EIA-455-5-B**FOTP-5 - Humidity Test Procedure for Fiber Optic Components (ANSI/TIA/EIA-455-5B-94)**

The intent of this test procedure is to evaluate the optical and material properties of fiber optic components as they are influenced or deteriorated by the effects of high humidity and heat conditions. The procedure is applicable to all types of fiber optic devices including connectors (or composite fiber optic and electrical interconnecting devices), splices, passive branching devices (couplers), etc. This is an accelerated environmental test, accomplished by the continuous exposure of the specimen to high relative humidity at various temperatures. Measurements made under high humidity conditions may reflect only the peculiar conditions under which the readings were made; as such, they should be compared to initial readings only when careful analysis indicates that such a comparison is valid and applicable.

Product Code 3 July, 1994 **COMMITTEE: FO-6.3**
\$56.00

EIA/TIA-455-6-B**FOTP-6 - Cable Retention Test Procedure for Fiber Optic Cable Interconnecting Devices (ANSI/EIA/TIA-455-6B-92)**

The intent of this test procedure is to determine the mechanical stress of the interconnecting-device-to-fiber-optic-cable-joint in tension. The results of this test provide an indication as to the relative strength of the cable-to-interconnecting device joint and may also indicate degradation resulting from prior environmental exposure.

Product Code 3 Mar, 1992 **COMMITTEE: FO-6.3,6.4**
\$46.00

TIA/EIA-455-7**FOTP-7 - Numerical Aperture of Step-Index Multimode Optical Fibers by Output Far-Field Radiation Pattern Measurement (ANSI/TIA/EIA-455-7-92)**

The intent of this test procedure is to describe a procedure to determine the numerical aperture of step-index, glass core, glass clad and plastic clad optical fibers (Fiber material class Ic, IIa, and IIb as listed in EIA-4920000-A) from the fiber far-field radiation pattern. It also describes three methods by which the angular radiant intensity (far-field) distribution from an optical fiber can be measured.

Product Code 3 Dec, 1992 **COMMITTEE: FO-6.6**
\$43.00

TIA/EIA-455-8**FOTP-8 - Measurement of Splice or Connector Loss and Reflectance Using an OTDR (ANSI/TIA/EIA-455-8-2000)**

The intent of this test procedure is to describe the use of an optical time-domain reflectometer (OTDR) to indirectly measure the loss and reflectance of a splice or connector

Product Code 3 May, 2000 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-455-11-B**FOTP-11 - Vibration Test Procedure for Fiber Optic Components and Cables (ANSI/TIA/EIA-455-11B-94)**

The intent of this test procedure is to determine the effects of vibration within the sinusoidal and random vibration environments that may be encountered during the life of the fiber optic component. The procedure is applicable to all types of fiber, cable or cable assemblies, and fiber optic devices including connectors, splices, passive branching devices (couplers), etc.

Product Code 3 July, 1994 **COMMITTEE: FO-6.3,6.7**
\$51.00

TIA-455-12-A**FOTP-12 - Fluid Immersion Test for Fiber Optic Components**

The intent of this test procedure is to establish the ability of a fiber optic component (cable, connecting device, etc.) to resist degradation when exposed to specific fluids with which the component may come into contact during its service life. (Note: For fluid immersion testing of optical fiber, refer to FOTP-75.)

Product Code 3 Oct, 1989 **COMMITTEE: FO-6.3,4,7**
\$33.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA-455-13-A**FOTP-13 - Visual and Mechanical Inspection of Fiber Optic Components, Devices, and Assemblies**

The intent of this test procedure is to provide the basic criteria for visual and mechanical inspection of fiber optic component parts and assemblies. Additionally, it provides the infrastructure for use with other FOTPs and associated Generic, Sectional, or Detail Specifications that may detail explicit requirements for reported information and acceptance criteria. This test method may be used at any stage, or at event milestones, of the qualification or quality conformance inspection test sequence as a "stand alone" test or for pre/post exposure examinations.

Product Code 3 Aug, 1996 **COMMITTEE: FO-6.3**
\$45.00

EIA/TIA-455-14-A**FOTP-14 - Fiber Optic Shock Test (Specified Pulse) (ANSI/EIA/TIA-455-14A-92)**

The intent of this test procedure is to determine the ability of fiber optic components (such as interconnecting devices) to withstand shocks such as those expected from rough handling, transportation, and military operations.

Product Code 3 Mar, 1992 **COMMITTEE: FO-6.3**
\$48.00

EIA/TIA-455-15-A**FOTP-15 - Altitude Immersion (ANSI/EIA/TIA-455-15A-92)**

The intent of this test procedure is to demonstrate the ability of a fiber optic component device-to-cable attachment(s), and any interface area of mated component device seals, to perform satisfactorily during, and subsequent to, simulated rapid descents from high altitude, with attendant moisture condensation. Typically, fiber optic interconnecting devices are most commonly tested by this method, but the methodology can be applied to various other types of fiber optic components.

Product Code 3 Mar, 1992 **COMMITTEE: FO-6.3,6.4**
\$44.00

TIA/EIA-455-16-A**FOTP-16 - Salt Spray (Corrosion) Test for Fiber Optic Components (ANSI/EIA/TIA-455-16A-91) (R2000)**

The intent of this test procedure is to determine the effects of a controlled salt-laden atmosphere on Fiber Optic device components, finishes and mechanisms. Typical effects of this test include, but are not limited to: exposure of base metals, pitting and porosity of finishes; cracking and delamination of components or finishes, or both; abnormal nicks, cracks or scratches on finished surfaces that indicate the removal of the normal protective coating; change of optical transmittance or insertion loss values, or change of electrical properties.

Product Code 3 May, 2000 **COMMITTEE: FO-6.3,6.4**
\$47.00

TIA/EIA-455-20-A**FOTP-20 - Measurement of Change in Optical Transmittance (ANSI/TIA/EIA-455-20A-96) (R2001)**

The intent of this test procedure is to provide uniform methods for monitoring and measuring the change in optical transmittance of fiber optic circuits or paths of various configurations. This FOTP may be referenced by a Detail Specification or similar document, but the procedure is usually applied to a passive optical device undergoing other testing as described in another procedure, hereafter called "the primary FOTP," which may invoke its use. Typical applications include evaluating effects of environmental or mechanical stresses on interconnecting devices, fiber or cable.

Product Code 3 Aug, 2001 **COMMITTEE: FO-6.4**
\$46.00

TIA-455-21-A**FOTP-21 - Mating Durability for Fiber Optic Interconnecting Devices**

The intent of this test procedure is to determine the effects of repeated matings and unmatings on the optical and mechanical characteristics of fiber optic connectors and other interconnecting devices. The number of mating/unmating cycles should be selected to simulate the expected life of the connectors under test.

Product Code 3 Nov, 1988 **COMMITTEE: FO-6.3,6.4**
\$33.00

TIA-455-22-B**FOTP-22 - Ambient Light Susceptibility of Fiber Optic Components**

The intent of this test procedure is to describe a method to establish the susceptibility of components such as cabled fibers, interconnecting devices, splices, or couplers to ambient light. Test conditions simulate expected conditions of use and is unlikely to produce failing results for any fiber optic cable with a black or other opaque-colored jacket. Cable failures may occur with transparent or translucent jackets.

Product Code 3 Mar, 1993 **COMMITTEE: FO-6.3,4,7**
\$45.00

TIA-455-23-A**FOTP-23 - Air Leakage Testing of Fiber Optic Components Seals**

The intent of this test procedure is to establish integrity of the seal of the interfaces in a fiber optics device (component or assembly, such as a connector).

Product Code 3 Sept, 1996 **COMMITTEE: FO-6.3**
\$43.00

TIA/EIA-455-24**FOTP-24 - Water Peak Attenuation Measurement of Single-Mode Fibers (ANSI/TIA/EIA-455-24-91) (R2000)**

The intent of this test procedure is to determine the attenuation of single-mode optical fibers in the vicinity of the hydroxyl ion (OH⁻) absorption peak (water peak) near 1385 nm.

Product Code 3 Sept, 2000 **COMMITTEE: FO-6.6**
\$45.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-25-C

FOTP-25 - Impact Testing of Optical Fiber Cables (ANSI/TIA/EIA-455-25C-2002)

The intent of this test procedure is to provide a method to determine the ability of optical fiber cables to withstand impact loads. The following parameters may be measured or observed: (a) the number of broken fibers caused by impacting the cable, (b) damage to the outer sheath, and (c) changes in optical transmittance.

Product Code 3 Jan, 2002 COMMITTEE: FO-6.7
\$42.00

TIA/EIA-455-26-A

FOTP-26 - Crush Resistance of Fiber Optic Interconnecting Devices (ANSI/EIA-455-26A-85) (R91) (R96)

The intent of this test procedure is to determine the ability of a fiber optic interconnecting device to withstand a load that might be encountered when a wheeled vehicle is driven over the device.

Product Code 3 Sept, 1996 COMMITTEE: FO-6.3
\$38.00

TIA/EIA-455-28-C

FOTP-28 - Method for Measuring Dynamic Tensile Strength and Fatigue Parameters of Optical Fibers by Tension (ANSI/EIA-455-28C-99)

The intent of this test procedure is to measure the tensile strength of optical fiber at a specified constant rate of loading and environment is designed for determining fiber strength. Since this method is 100% destructive, it shall not be a substitute for any proof testing which may be done additionally. This method is to be applied only to optical fibers. It shall not be used for cables or bundles of fiber. This test may be applied to fibers as manufactured or to fibers that are exposed to alternative environments.

Product Code 3 Apr, 1999 COMMITTEE: FO-6.6
\$57.00

TIA-455-30-B

FOTP-30 - Frequency Domain Measurement of Multimode Optical Fiber Information Transmission Capacity

The intent of this test procedure is to describe the method of determining the information transmission capacity of multimode optical fibers having glass cores. The baseband frequency response is measured directly in the frequency domain by determining the fiber response to a sinusoidally modulated light source. Another TIA test procedure, OFSTP-1, describes a field version of this measurement.

Product Code 3 Oct, 1991 COMMITTEE: FO-6.6
\$46.00

TIA/EIA-455-31-C

FOTP-31 - Proof Testing Optical Fibers by Tension (ANSI/TIA/EIA-455-31C-95) (R99)

The intent of this test procedure is to describe procedures for briefly applying a specified tensile load to continuous lengths of all Class I and Class IV, glass/glass optical fibers. This FOTP should not be applied to Class II (glass/plastic) and Class III (all-plastic) fibers. This method is intended to ensure a minimum strength for fiber that survives proof testing. The minimum strength is a key parameter for determining the minimum survival time at loads less than the minimum strength.

Product Code 3 Feb, 1999 COMMITTEE: FO-6.6
\$48.00

TIA/EIA-455-32-A

FOTP-32 - Fiber Optic Circuit Discontinuities (ANSI/EIA/TIA-455-32A-90) (R95) (R99)

The intent of this test procedure is to provide a method of testing a broad variety of passive or active fiber optic components or subsystems for susceptibility to discontinuities (transient output or transmittance fluctuations) during the application of an external stimulus, such as vibration or physical shock.

Product Code 3 Oct, 1999 COMMITTEE: FO-6.3
\$47.00

TIA-455-33-A

FOTP-33 - Fiber Optic Cable Tensile Loading and Bending Test

The intent of this test procedure is intended to verify the ability of a fiber optic cable to satisfactorily perform as required by Detail Specifications (a) while undergoing tensile and bending forces and (b) after undergoing tensile and bending forces.

Product Code 3 Mar, 1988 COMMITTEE: FO-6.7
\$47.00

TIA/EIA-455-34-A

FOTP-34 - Interconnection Device Insertion Loss Test (ANSI/TIA/EIA-455-34A-95)

The intent of this test procedure is to define methods by which the optical insertion loss of a complete fiber optic interconnection can be measured.

Product Code 3 Nov, 1995 COMMITTEE: FO-6.3
\$47.00

TIA/EIA-455-35-A

FOTP-35 - Fiber Optic Component Dust (Fine Sand) Test (ANSI/EIA/TIA-455-35A-90) (R95) (R99)

The intent of this test procedure is to describe a dust test used to ascertain the ability of fiber optic components to resist the effects of a dry dust (fine sand) laden atmosphere. This test simulates the effect of sharp edged dust (fine sand) particles, up to 150 mm in size, which may penetrate into cracks, crevices and joints. This test is applicable to all optical devices and to combinations of optical devices and mechanical, electrical, electronic, electrochemical, or electromechanical devices for which exposure to the effects of a dry dust (fine sand) laden atmosphere is anticipated.

Product Code 3 Oct, 1999 COMMITTEE: FO-6.3
\$33.00

TIA-455-36-A

FOTP-36 - Twist Test for Fiber Optic Connecting Devices

The intent of this test procedure is to determine the ability of connectors, connector interfaces and strain reliefs to withstand tension and twisting forces as might be experienced by lead assemblies during installation and service conditions.

Product Code 3 Dec, 1986 COMMITTEE: FO-6.4
\$33.00

TIA/EIA-455-37-A

FOTP-37 - Low or High Temperature Bend Test for Fiber Optic Cable (ANSI/TIA/EIA-455-37A-93) (R-2000)

The intent of this test procedure is to describe a procedure for determining the ability of a fiber optic cable to withstand bending at low or high temperatures. Evaluation of this ability is made by visual examination and by either measuring the change in optical transmittance or monitoring fiber continuity.

Product Code 3 Dec, 2000 COMMITTEE: FO-6.7
\$46.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-38**FOTP-38 - Measurement of Fiber Strain in Cables Under Tensile Load (ANSI/TIA/EIA-455-38-95)**

The intent of this test procedure is to provide an accurate method for measuring changes in the average longitudinal strain on a cabled optical fiber. It is not the purpose of this document to outline a method to statically measure absolute strain, but instead to actively measure changes in strain from one loading condition to another.

Product Code 3 Nov, 1995 **COMMITTEE: FO-6.7**
\$45.00

TIA/EIA-455-39-B**FOTP-39 - Fiber Optic Cable Water Wicking Test (ANSI/TIA/EIA-455-39B-99)**

The intent of this test procedure is to describe the method of measuring the water wicking characteristics of all types of fiber optic cables.

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.7**
\$43.00

TIA/EIA-455-41-A**FOTP-41 - Compressive Loading Resistance of Fiber Optic Cables (ANSI/TIA/EIA-455-41A-93) (R2001)**

The intent of this test procedure is to determine the ability of a fiber cable to mechanically and optically withstand, or recover from (or both), the effects of a slowly-applied compressive force. The following parameters may be measured or observed: the number of fibers broken during compressive loading; the changes in optical transmittance or attenuation during or after the loading; any change in the outer covering.

Product Code 3 Dec, 2000 **COMMITTEE: FO-6.7**
\$41.00

TIA/EIA-455-42-A**FOTP-42 - Optical Crosstalk in Fiber Optic Components (ANSI/TIA/EIA-455-42-A-1989) (R2001)**

The intent of this test procedure is to determine the crosstalk ratio between any two optical paths in a cable, connectorized cable, slice or similar device. In addition, the device's contribution to the crosstalk in a system may be determined. The effectiveness of the material surrounding the optical conducting device in restricting light paths to other elements may also be measured. However, note that the test methods of FOTP-180 should be used to measure crosstalk in fiber optic couplers (branching devices) and in similar devices of this class.

Product Code 3 May, 2001 **COMMITTEE: FO-6.4**
\$33.00

TIA/EIA-455-43-A**FOTP-43 - Output Near-Field Radiation Pattern Measurement of Optical Waveguide Fibers (ANSI/TIA/EIA-455-43A-99)**

The intent of this test procedure is to describe a useful working method for the measurement of near-field radiation patterns, primarily for the purpose of measuring the core diameter of multimode optical fibers.

Product Code 3 Oct, 1999 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-455-44-B**FOTP-44 - Refractive Index Profile, Refracted Ray Method (ANSI/TIA/EIA-455-44B-92)**

The intent of this test procedure is to describe a method for measuring the refractive index profile, including core, cladding, and barrier layers of single-mode and class Ia multimode fibers. It is destructive in the sense that a freshly cleaved end is required. Scans are generally taken along a diameter of the fiber end, and data are displayed as relative incidence of refraction as a function of radius.

Product Code 3 Sept, 1992 **COMMITTEE: FO-6.6**
\$46.00

TIA-455-46-A**FOTP-46 - Spectral Attenuation Measurement for Long-Length, Graded-Index Optical Fibers**

The intent of this test procedure is to describe a procedure for measuring the spectral attenuation of long-length (³ 1 km), graded-index, multimode optical fibers.

Product Code 3 Oct, 1990 **COMMITTEE: FO-6.6**
\$44.00

TIA/EIA-455-47-B**FOTP-47 - Output Far-Field Radiation Pattern Measurement (ANSI/EIA/TIA-455-47B-92)**

The intent of this test procedure is to describe three methods by which the angular radiant intensity (far field) distribution from an optical fiber can be measured. Methods A and B are angular scans of the far field pattern; Method C is a scan of the spatial transform of the angular intensity pattern.

Product Code 3 Dec, 1992 **COMMITTEE: FO-6.6**
\$44.00

TIA/EIA-455-48-B**FOTP-48 - Measurement of Optical Fiber Cladding Diameter Using Laser-Based Instruments (ANSI/TIA/EIA-455-48B-90) (R2000)**

The intent of this test procedure is to measure the cladding (outside) diameter of an optical fiber drawing process prior to the application of the protective buffer coating(s). It is also used off-line as a quality inspection method. In this application, it is normally used instead of FOTP-45. Control of the cladding diameter is required to assure the performance of the fiber in cabling, connectorization and splicing. Uniformity of the cladding diameter along the length is also required.

Product Code 3 Sept, 2000 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-455-50-B**FOTP-50 - Light Launch Conditions of Long-Length Graded-Index Optical Fiber Spectral Attenuation Measurements (ANSI/TIA/EIA-455-50B-98) (R2001)**

The intent of this test procedure is to establish the light launch conditions for Class Ia fiber attenuation measurements. Primary uses include FOTP46, FOT53, and FOT61. Either of two methods is allowed. Method A uses overfilled launch conditions along with a mandrel wrap mode filter. Method B uses restricted launch conditions created by beam optics. Values obtained by Methods A and B may not exactly agree, and care must be used when comparing them.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6,2.2**
\$53.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA-455-51-A**FOTP-51 - Pulse Distortion Measurement of Multimode Glass Optical Fiber Information Capacity**

The intent of this test procedure is to define the time domain method for measuring the information transmission capacity of EIA-4920000-A Class I (glass core, glass clad) optical fibers. Various methods of reporting the results are described in the appendices, but the results shall be expressed in terms of the -3 dB (optical power) frequency unless otherwise specified by the Detail Specification. Note: This test method is commonly used in factories. It generally requires the use of extensive computational equipment. However, commercial equipment employing this technique exists. Refer to FOTP-30 for a comparable field test method.

Product Code 3 May, 1991 COMMITTEE: FO-6.6
\$47.00

TIA-455-53-A**FOTP-53 - Attenuation by Substitution Measurement for Multimode Graded-Index Optical Fibers or Fiber Assemblies Used in Long-Length Communications Systems**

The intent of this test procedure is to describe a procedure for measuring the attenuation of graded-index, multimode optical fibers or fiber assemblies by the substitution technique. This test is intended to produce a value for fiber loss representative of its performance in a typical long length (³ 1 km) communications system.

Product Code 3 Sept, 1990 COMMITTEE: FO-6.6
\$44.00

TIA/EIA-455-54-B**FOTP-54 - Mode Scrambler Requirements for Overfilled Launching Conditions to Multimode Fibers (ANSI/TIA/EIA-455-54B-98) (R2001)**

The intent of this test procedure is to describe light launch conditions to the test fiber for the purpose of achieving a uniform overfilled launch with a laser diode or other light source. While FOTP54 can be used to establish overfilled launching conditions for the measurement of various fiber parameters, it is principally used in conjunction with FOTP30 or FOTP51 for measuring information-carrying capacity. Light launch conditions are established through the use of a mode scrambler. The mode scrambler is positioned between the light source and test fiber to produce a radiation distribution overfilling the test fiber core and numerical aperture, irrespective of the spatial radiation properties of the light source.

Product Code 3 Dec, 2001 COMMITTEE: FO-6.6
\$47.00

TIA/EIA-455-56-B**FOTP-56 - Test Method for Evaluating Fungus Resistance of Optical Fiber and Cable (ANSI/TIA/EIA-455-56B-95) (R99)**

The intent of this test procedure is to evaluate the adequacy of optical fibers and cables to retain their structural integrity and performance level under environmental conditions favorable for the development of fungal growth. These conditions are: high humidity, a warm atmosphere, and the presence of inorganic salts.

Product Code 3 Feb, 1999 COMMITTEE: FO-6.6
\$38.00

TIA/EIA-455-57-B**FOTP-57 - Preparation and Examination of Optical Fiber Endface for Testing Purposes (ANSI/TIA/EIA-455-57B-96) (R2000)**

The intent of this test procedure is to provide guidelines for acceptable optical fiber endface appearance and defines the techniques which are commonly employed to obtain such appearance. This procedure is intended to promote uniformity in fiber end preparation quality for testing and for optical signal transmission. This FOTP is not intended to require examination of every fiber end, nor is it intended to establish firm requirements (which are normally established by Detail Specifications), and is made available only to provide guidelines for various levels of end quality that may be called out in Detail Specifications or in other FOTPs. Lastly, the intent of this method shall not be confused with the intent of FOTP-179, which is concerned primarily with the comparison of relative results.

Product Code 3 Feb, 1996 COMMITTEE: FO-6.6
\$56.00

TIA/EIA-455-58-B**FOTP-58 - Core Diameter Measurement of Graded-Index Optical Fibers (ANSI/TIA/EIA-455-58-B-01)**

The intent of this test procedure is to give three methods for determining the core diameter of graded-index optical fibers having near-parabolic index profiles. At present, there are no recommendations as to preference among the three test methods. A desired method may emerge as practical experience accumulates. Note: FOTP-58 applies only to multimode, graded-index, glass core, glass clad fibers (fiber material class Ia, as listed in EIA-4920000-A)

Product Code 3 Mar, 2001 COMMITTEE: FO-6.6
\$47.00

TIA/EIA-455-59-A**FOTP-59 - Measurement of Fiber Point Defects Using an OTDR (ANSI/EIA/TIA-455-59-A-90) (R2000)**

The intent of this test procedure is to describe the use of an optical time-domain reflectometer (OTDR) to measure the positions, losses, and character of point defects along an optical fiber or fiber cable. It is intended for quality control and acceptance testing. This procedure may not be necessary or appropriate for installation and maintenance purposes.

Product Code 3 Jan, 2000 COMMITTEE: FO-6.6
\$49.00

TIA-455-60-A**FOTP-60 - Measurement of Fiber or Cable Length Using an OTDR (ANSI/TIA/EIA-455-60-A-2000)**

The intent of this test procedure is to describe the use of an optical time-domain reflectometer (OTDR) to measure the length of an optical fiber or fiber cable. It is intended for quality control and acceptance testing. The procedure may not be necessary or appropriate for installation and maintenance purposes.

Product Code 3 Jan, 2000 COMMITTEE: FO-6.6
\$49.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-61-A**FOTP-61 - Measurement of Fiber or Cable Attenuation (ANSI/TIA/EIA-455-61-2000)**

The intent of this test procedure is to describe the use of an optical time-domain reflectometer (OTDR) to indirectly measure the attenuation or the attenuation coefficient of a partial or full length of optical fiber or fiber cable

Product Code 3 Apr, 2000 **COMMITTEE: FO-6.6**
\$47.00

EIA/TIA-455-62-A**FOTP-62 - Measurement of Optical Fiber Macrobend Attenuation (ANSI/EIA/TIA-455-62A-92)**

The intent of this test procedures is to describe procedures to determine the bending loss of uncabled graded-index multimode or single-mode fiber. The test can be used to compare the bend performance of different fibers at various wavelengths. Helps characterize fiber performance in bend configurations such as in fiber routing within equipment racks or bending of excess fiber within splice housings. May also indicate relative fiber performance affected by cabling curvature lays and in cable routings.

Product Code 3 Oct, 1992 **COMMITTEE: FO-6.6**
\$39.00

TIA/EIA-455-64**FOTP-64 - Procedure for Measuring Radiation-Induced Attenuation in Optical Fibers and Optical Cables (ANSI/TIA/EIA-455-64-97)**

The intent of this test procedure is to outlines methods for measuring both the steady state response of optical fibers and cables exposed to continuous radiation and the transient response of optical fibers and cables exposed to a pulse of radiation. It can be used to determine the level of radiation-induced attenuation produced in single-mode or multimode optical fibers, in either cabled or uncabled form. This test procedure is not intended to test the non-optical components of a fiber-optical cable. Other test methods may be required to evaluate the degradation of cable materials resulting from radiation exposure.

Product Code 3 Mar, 1997 **COMMITTEE: FO-6.6**
\$62.00

TIA/EIA-455-67**FOTP-67 - Procedure for Assessing High Temperature Exposure Effects on Optical Characteristics of Optical Fibers (ANSI/TIA/EIA-455-67-96) (R2000)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature on the optical characteristics of optical fibers. It is intended to assess the ability of an optical fiber to withstand prolonged exposure to elevated temperature. The performance of the fiber during and after exposure may be evaluated by performing specific optical tests.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.6**
\$46.00

EIA/TIA-455-69-A**FOTP-69 - Test Procedure for Evaluating the Effect of Minimum and Maximum Exposure Temperature on the Optical Performance of Optical Fibers (ANSI/EIA/TIA-455-69A-91) (R2000)**

The intent of this test procedure is to determine the ability of an optical fiber to maintain optical performance (attenuation and temperature dependence of attenuation) over an extended period of time after having been exposed to a specified range of high and low temperatures. This procedure is one of several FOTPs that, when selected on the basis of a proposed application, assist in establishing a particular specification for minimum and maximum use temperature. This procedure has been shown to be applicable to all-glass optical fibers.

Product Code 3 Sept, 2000 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-455-70**FOTP-70 - Procedure for Assessing High Temperature Exposure Effects on Mechanical Characteristics of Optical Fibers (ANSI/TIA/EIA-455-70-96)(R-2000)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature on mechanical characteristics of optical fibers. It is intended to assess the ability of an optical fiber to withstand prolonged exposure to elevated temperature. The performance of the fiber during and after exposures may be evaluated by performing specific mechanical tests.

Product Code 3 Dec, 2000 **COMMITTEE: FO-6.6**
\$44.00

TIA/EIA-455-71-A**FOTP-71 - Procedure to Measure Temperature-Shock Effects on Fiber Optic Components (ANSI/EIA/TIA-455-71-89)(R99)**

The intent of this test procedure is to defines the exposure conditions for testing the resistance of fiber optic components to temperature shock. It also outlines the general approach used for measuring and evaluating the ability of a fiber optic component to withstand sudden changes in ambient temperature that could arise during shipment, storage, or use.

Product Code 3 Oct, 1999 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-455-72**FOTP-72 - Procedure for Measuring Temperature and Humidity Cycling Aging Effects on Optical Characteristics of Optical Fibers (ANSI/TIA/EIA-455-72-97) (R2001)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature and humidity cycling on the optical characteristics of optical fibers.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$45.00

TIA/EIA-455-73**FOTP-73 - Procedure for Measuring Temperature and Humidity Cycling Aging Effects on Mechanical Characteristics of Optical Fibers. (ANSI/TIA/EIA-455-73-97) (R-2001)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature and humidity cycling on the mechanical characteristics of optical fibers.

Product Code 3 Oct, 1997 **COMMITTEE: FO-6.6**
\$45.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-74**FOTP-74 - Fluid Immersion Aging Procedure for Optical Fiber Optical Properties (ANSI/TIA/EIA-455-74-96) (R2001)**

The intent of this test procedure is to define the exposure conditions for testing the resistance of optical fibers to optical degradation when exposed solely to aqueous or non-aqueous liquid media.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$48.00

TIA/EIA-455-75-A**FOTP-75 - Fluid Immersion Test for Optical Waveguide Fibers (ANSI/TIA/EIA-455-75-99)**

The intent of this test procedure is to define the exposure conditions for testing the resistance of optical fibers to mechanical degradation when exposed solely to aqueous or non-aqueous liquid media.

Product Code 3 Jan, 2000 **COMMITTEE: FO-6.6**
\$51.00

TIA-455-77**FOTP-77 - Procedures to Qualify a Higher-Order Mode Filter for Measurements on Single-Mode Fiber**

The intent of this test procedure is to describe a method for the qualification of a higher-order mode filter to be used for making measurements on a single-mode fiber. This type of mode filter is required when effectively single-moded operations of short lengths of single-mode fiber is needed at wavelengths near the cutoff wavelength of the first higher-order mode (see also TIA-455-80). It is not meant to be used in the 800 nm region. Effectively single-moded operation is necessary when making a cutback measurements of spectral attenuation (see TIA/EIA-455-78); when making mode field diameter measurements (see EIA/TIA-455-164, TIA/EIA-455-167, or TIA/EIA-455-174); or whenever short lengths of fiber are used.

Product Code 3 Oct, 1991 **COMMITTEE: FO-6.6**
\$44.00

EIA/TIA-455-78-A**FOTP-78 - Spectral Attenuation Cutback Measurement for Single-Mode Optical Fibers (ANSI/EIA/TIA-455-78A-98)**

The intent of this test procedure is to describe a procedure for measuring the spectral attenuation of single-mode optical fibers. The procedure is restricted to nonpolarization-sensitive fibers at wavelengths greater than or equal to that at which the fiber is effectively single-mode. The effective cutoff wavelength is determined by the high order mode filter (see 3.4). The effective cutoff determined by FOTP-77 may be a shorter wavelength than the fiber cutoff wavelength, ICF, determined by FOTP-80.

Product Code 3 Feb, 1998 **COMMITTEE: FO-6.6.5**
\$44.00

TIA/EIA-455-80-B**FOTP-80 - Measurement of Cut-Off Wavelength of Single-Mode Fiber by Transmitted Power (ANSI/TIA/EIA-455-80B-98)**

The intent of this test procedure is to measure the cut-off wavelength of single-mode fiber by determining the wavelength at which the fiber transmission abruptly changes. The value is affected by the fiber length and bend conditions. These conditions are specified in this test procedure for three types of cut-off wavelength.

Product Code 3 Sept, 1998 **COMMITTEE: FO-6.6**
\$64.00

TIA/EIA-455-81-B**FOTP-81 - Compound Flow (Drip) Test for Filled Fiber Optic Cable (ANSI/EIA/TIA-455-81A-91) (R2000)**

The intent of this test procedure is to verify that filling and flooding compounds will not flow from a filled fiber optic cable at stated temperatures (for a similar test for other than fiber optic filled telecommunications cable, refer to Compound Flow Test of ASTM D 4565.) Note: Filling and flooding compounds minimize water penetration and assist in isolating fibers from outside environmental concerns.

Product Code 3 Jan, 2000 **COMMITTEE: FO-6.4,6.7**
\$45.00

EIA/TIA-455-82-B**FOTP-82 - Fluid Penetration Test for Fluid-Blocked Fiber Optic Cable (ANSI/EIA/TIA-455-82B-92)**

The intent of this test procedure is to assure that a fluid-blocked fiber optic cable is filled and flooded (or otherwise appropriately fluid-blocked with, for example, super-adsorbents) sufficiently to restrict or otherwise prohibit the penetration and flow of water or other fluid within the core or along the cable sheath interfaces or both.

Product Code 3 Feb, 1992 **COMMITTEE: FO-6.4,6.7**
\$41.00

TIA/EIA-455-84-B**FOTP-84 - Jacket Self-Adhesion (Blocking) Test for Fiber Optic Cable (ANSI/TIA/EIA-455-84B-98)**

The intent of this test procedure is to investigate the ability of the jacket, insulation or other outer covering of fiber optic cable on a reel, drum, or spool, to withstand elevated temperature for prolonged periods of time without sticking to itself on adjacent turns or layers.

Product Code 3 Apr, 1998 **COMMITTEE: FO-6.7**
\$47.00

TIA/EIA-455-85-A**FOTP-85 - Fiber Optic Cable Twist Test (ANSI/TIA/EIA-455-85A-92) (R99)**

The intent of this test procedure is to establish the ability of a fiber optic cable (or fiber optic cable component, when appropriate) to mechanically withstand twisting.

Product Code 3 May, 1999 **COMMITTEE: FO-6.7**
\$46.00

TIA/EIA-455-86**FOTP-86 - Fiber Optic Cable Jacket Shrinkage (ANSI/TIA/EIA-455-86-83) (R 90) (R99)**

The intent of this test procedure is to describe a procedure for determining the linear dimensional changes in extruded plastic cable jackets at elevated temperatures.

Product Code 3 May, 1999 **COMMITTEE: FO-6.7**
\$36.00

TIA/EIA-455-87-B**FOTP-87 - Fiber Optic Cable Knot Test (ANSI/TIA/EIA-455-87B-93) (R99)**

The intent of this test procedure is to evaluate the effect of a sever bend in a fiber optic cable due to a knot using appropriate test procedures and parameters. Used to test any type of fiber optic cable.

Product Code 3 May, 1999 **COMMITTEE: FO-6.7**
\$43.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-88**FOTP-88 - Fiber Optic Cable Bend Test (ANSI/TIA/EIA-455-88-2001)**

The intent of this test procedure is to determine the degree of cable degradation that will occur if the cable is statically bent around a corner of a given radius.

Product Code 3 June, 2001 **COMMITTEE: FO-6.7**
\$47.00

TIA/EIA-455-89-B**FOTP-89 - Optical Fiber Cable Jacket Elongation and Tensile Strength (ANSI/TIA/EIA-455-89B-98)**

The intent of this test procedure is to describe a method for determining the elongation and tensile strength of optical fiber cable jackets.

Product Code 3 July, 1998 **COMMITTEE: FO-6.7**
\$45.00

TIA-455-91**FOTP-91 - Fiber Optic Cable Twist-Bend Test**

The intent of this test procedure is to describe a procedure for determining the ability of a fiber optic cable to withstand simultaneous bending and twisting

Product Code 3 June, 1996 **COMMITTEE: FO-6.7**
\$33.00

TIA/EIA-455-95-A**FOTP-95 - Absolute Optical Power Test for Optical Fibers and Cables (ANSI/TIA/EIA-455-95-A-2000)**

The intent of this test procedure describes a method for determining the total optical power emanating from an optical fiber. This procedure may be used for, but is not limited to, measuring the attenuation of the fiber or cable, the loss of terminating devices or methods, the amount of optical power coupled into the fiber by a source, or the optical power at the system receiver.

Product Code 3 Apr, 2000 **COMMITTEE: FO-6.7**
\$45.00

TIA/EIA-455-98-A**FOTP-98 - Fiber Optic Cable External Freezing Test (ANSI/EIA/TIA-455-98A-90) (R2000)**

The intent of this test procedure is to simulate the effect of ice (Method A) or the crush force caused by ice (Method B) on Fiber Optic Cables. The primary purpose of this procedure is to measure any variation in optical power transmittance of a fiber optic cable when the cable is subjected to the potentially destructive forces of frozen water (ice) external to the cable jacket. A secondary purpose is to evaluate the possibility of physical damage that may occur as a result of such exposure.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.7**
\$47.00

TIA/EIA-455-100-A**FOTP-100 - Gas Leakage Test for Gas-Blocked Fiber Optic Cables (ANSI/TIA/EIA-455-100A-89) (R99)**

The intent of this test procedures is to describe a method for the determination of how well a cable opposes the migration of gas down the cable's length. The migration is forced by applying a gas pressure, of specified value, to one end of the sample.

Product Code 3 May, 1999 **COMMITTEE: FO-6.7**
\$33.00

TIA/EIA-455-104-A**FOTP-104 - Fiber Optic Cable Cyclic Flexing Test (ANSI/TIA/EIA-455-104A-93)(R2000)**

The intent of this test procedure is to determine the effects of repeated flexions on a fiber optic cable. Measures permanent and/or transient optical transmittance hangs and requires the assessment of any damage occurring to other cable components.

Product Code 3 July, 2000 **COMMITTEE: FO-6.4,6.7**
\$46.00

TIA/EIA-455-106**FOTP-106 - Procedure for Measuring the Near-Infrared Absorbance of Fiber Optic Coating Materials (ANSI/TIA/EIA-455-106-92)**

The intent of this test procedures is to determine the wavelength range from 600 nanometers to 1700 nanometers using a spectrophotometer capable of generating visible and near-infrared light. Covers primary, secondary, and single coatings (e.g., acrylate, polyamide, and silicone), as well as pigmented coatings that can be prepared in film specimens.

Product Code 3 Nov, 1992 **COMMITTEE: FO-6.6**
\$41.00

TIA/EIA-455-107-A**FOTP-107 - Determination of Component Reflectance or Link/System Return Loss Using a Loss Test Set (ANSI/TIA/EIA-455-107A-99)**

The intent of this test procedure is to determine the ratio of optical power reflected by a component or an assembly to the optical power incident upon a port of a component when that component or assembly is introduced into a link or system. This ratio is termed "Return Loss."

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.3**
\$56.00

TIA/EIA-455-111**FOTP-111 - Procedure for the Measurement of Optical Fiber Curl (ANSI/TIA/EIA-455-111-2000)**

The intent of this test procedure is to describe a procedure for the measurement of radius of curvature, or curl, in uncoated optical fibers.

Product Code 3 July, 2000 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-455-113**FOTP-113 - Polarization-Mode Dispersion Measurement of Single-Mode Optical Fibers by the Fixed Analyzer Method (ANSI/TIA/EIA-455-113-96) (R2001)**

The intent of this test procedure is to describe a test method for measuring the polarization-mode dispersion (PMD) of single-mode optical fibers.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$67.00

TIA/EIA-455-115**FOTP-115 - Spectral Attenuation of Step-Index Multimode Optical Fibers (ANSI/TIA/EIA-455-115-96) (R2001)**

The intent of this test procedure is to describe a method to measure the attenuation of step index fibers and defines a default launch condition. This method is used to determine the attenuation of step-index, glass core, glass clad and plastic clad optical fibers. The results obtained are useful for comparative and specification purposes.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$43.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-120

FOTP-120 - Modeling Spectral Attenuation on Optical Fiber (ANSI/TIA/EIA-455-120-96) (R2001)

The intent of this test procedure is to determine requirements for modeling the attenuation coefficient of optical fiber as a function of wavelength. A model derived from this procedure is applicable to a given population of fiber. This population may be specified by categories such as product, manufacturer, or range of environmental conditions.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-455-122

FOTP-122 - Polarization-Mode Dispersion Measurement for Single-Mode Optical Fibers by Jones Matrix Eigenanalysis (ANSI/TIA/EIA-455-122-96)

The intent of this test procedure is to describe a procedure for measuring the polarization-mode dispersion (PMD) of single-mode optical fibers, applicable to both short and long fibers. PMD causes an optical pulse dispersion that can adversely affect the performance of a telecommunications system. This test method is useful for determining how much of an effect PMD has on a system.

Product Code 3 Oct, 1996 **COMMITTEE: FO-6.6**
\$62.00

TIA/EIA-455-123

FOTP-123 - Measurement of Optical Fiber Ribbon Dimensions (ANSI/TIA/EIA-455-123-2000)

The intent of this test procedure is to provide methods to measure or verify key optical fiber ribbon dimensional parameters. These parameters may affect the ability to join or connectorize optical fiber ribbon due to either misalignment of optical fibers or dimensional compatibility of the ribbon structure with associated ribbon hardware and termination equipment such as ribbon holders, or chucks, used with mass fusion splicers, or mass mechanical splices and connectors.

Product Code 3 June, 2000 **COMMITTEE: FO-6.7**
\$53.00

TIA/EIA-455-124

FOTP-124 - Polarization-Mode Dispersion Measurement for Single-Mode Optical Fibers by Interferometry (ANSI/TIA/EIA-455-124-99)

The intent of this test procedure describes a procedure for measuring the average PMD of single-mode optical fibers and cable assemblies. It provides a single measurement value that represents the average PMD over the measurement wavelength range of the selected source in the 1210 nm and/or the 1550 nm region. The method can be applied to both short and long fibers.

Product Code 3 Apr, 1999 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-455-126

FOTP-126 - Spectral Characterization of LEDs (ANSI/TIA/EIA-455-126-2000)

The intent of this test procedure is to measure the central wavelength, peak wavelength, and the spectral width (RMS and FWHM) of a semiconductor light-emitting diode (LED) using a dispersive spectrophotometric method (that is, using a revolving diffraction grating) or other suitable methods.

Product Code 3 Feb, 2000 **COMMITTEE: FO-6.7**
\$53.00

TIA-455-127

FOTP-127 - Spectral Characterization of Multimode Laser Diodes, Performance of Optical Fibers

The intent of this test procedure is to measure the central wavelength, peak wavelength, and the spectral width [Root Mean Square, Maximum Skew Tenth Maximum (10 dB down), and Full Width Half Maximum (3 dB down)] of a Multilongitudinal Mode semiconductor laser diode, using a dispersive spectrophotometric (using a revolving diffraction grating) method or other suitable methods.

Product Code 3 Nov, 1991 **COMMITTEE: FO-6.5**
\$45.00

TIA-455-128

FOTP-128 - Procedures for Determining Threshold Current of Semiconductor Lasers

The intent of this test procedure covers the measurement of the threshold current of semiconductor lasers either as a laser chip placed on a submount to facilitate handling or as an assembled package.

Product Code 3 July, 1996 **COMMITTEE: FO-6.5**
\$47.00

TIA-455-129

FOTP-129 - Procedures for Applying Human Body Model Electrostatic Discharge Stress to Package Optoelectronic Components

The intent of this test is to apply simulated electrostatic discharge (ESD) stress to packaged optoelectronic components for the purpose of measuring the degree of vulnerability of these components to static discharge that naturally occurs in the environment. Such components currently contain structures fabricated with state of the art manufacturing techniques in order to maximize the performance characteristics. The dimensions of these structures are comparable to those on the latest integrated circuit devices. As a result, packaged optoelectronic components have in some cases been found to be highly susceptible to long or short term degradation from ESD. ESD testing is normally utilized by the components industry for device qualification and is to be regarded as destructive.

Product Code 3 July, 1996 **COMMITTEE: FO-6.5**
\$53.00

TIA/EIA-455-130

FOTP-130 - Elevated Temperature Life Test for Laser Diodes (ANSI/TIA/EIA-455-130-2001)

The intent of this test procedure is intended to characterize the gradual degradation mode present in telecommunication laser diodes.

Product Code 3 Mar, 2001 **COMMITTEE: FO-2.6**
\$43.00

TIA/EIA-455-131

FOTP-131 - Measurement of Optical Fiber Ribbon Residual Twist (ANSI/TIA/EIA-455-131-97) (R2000)

The intent of this test procedure is to provide a method of measuring residual twist in optical fiber ribbons, and highlights critical aspects of this measurement. Optical fiber ribbon residual twist is a measure of how much a ribbon rotates, or twists, along a given length. Residual twist can result from the ribbon manufacturing process, or from changes in the dimensions of a ribbon due to heat and humidity aging.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.7**
\$47.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-132-A**FOTP-132 - Measurement of the Effective Area of Single-Mode Optical Fiber (ANSI/TIA/EIA-455-132-2001)**

The intent of this test procedure is intended to document the methods for measuring the effective area (A_{eff}) of single-mode fiber.

Product Code 3 June, 2001 **COMMITTEE: FO-6.6**
\$71.00

TIA/EIA-455-133**FOTP-133 - Length Measurement of an Optical Fiber or Cable by the Phase-Shift Method (ANSI/TIA/EIA-455-133-98)**

The intent of this test procedure describes a procedure for measuring the length of an optical fiber or cable. It may be applied to fiber lengths typically in the range of less than 1 m to several km for multimode fiber and to several hundreds of km for single-mode fiber.

Product Code 3 Nov, 1998 **COMMITTEE: FO-6.6**
\$53.00

TIA-455-134**FOTP-134 - Measurement of Connector Ferrule Hole Inside Diameter**

The intent of this test procedure is to determine the inside diameter of the ferrule hole in an optical fiber connector ferrule.

Product Code 3 Jan, 1997 **COMMITTEE: FO-6.3**
\$43.00

TIA-455-135**FOTP-135 - Measurement of Connector Ferrule Inside and Outside Diameter Circular Runout**

The intent of this test procedure is to determine the circular runout of the ferrule hole in the end of an optical fiber connector ferrule relative to the ferrule outer surface.

Product Code 3 Jan, 1997 **COMMITTEE: FO-6.3**
\$46.00

TIA/EIA-455-141**FOTP-141 - Twist Test for Optical Fiber Ribbons (ANSI/TIA/EIA-455-141-1999)**

The intent of this test procedure is to determine an optical fiber ribbon's mechanical ability to withstand dynamic twisting.

Product Code 3 Oct, 1999 **COMMITTEE: FO-6.7**
\$47.00

TIA/EIA-455-157**FOTP-157 - Measurement of Polarization Dependent (PDL) of Single-mode Fiber Optic Components (ANSI/TIA/EIA-455-157-1995) (R2000)**

The intent of this test procedures is to apply to any single-mode passive component, including connectors, splices, couplers, attenuators, isolators, and switches. It is used to measure the total range of insertion loss. (triangle α), due to changes in polarization of the launch state. This procedure can also be used to measure the polarization dependence of isolated ports. For branching devices, it can also be used to measure the total range of coupling ratio, (triangleCR9i). It cannot be used to measure the polarization dependence of return loss.

Product Code 3 July, 2000 **COMMITTEE: FO-6.3**
\$46.00

TIA/EIA-455-158**FOTP-158 - Measurement of Breakaway Frictional Force in Fiber Optic Connector Alignment Sleeves (ANSI/TIA/EIA-455-158-97) (R2001)**

The intent of this test procedure is to describe measurement of the breakaway frictional force between the ferrule and the sleeve in fiber optic connectors. The contact force between the mating ferrules in an optical connector is the difference between the friction force between the ferrule and the sleeve, and the spring force of the connector. To maintain contact the friction force must remain below the spring force. The procedures have been selected to estimate the maximum breakaway frictional force that will exist between the ferrule and sleeve.

Product Code 3 Oct, 2001 **COMMITTEE: FO-6.3**
\$43.00

TIA/EIA-455-160**FOTP-160 - Procedure for Assessing Temperature and Humidity Exposure Effects on Optical Characteristics of Optical Fibers (ANSI/TIA/EIA-455-160-96) (R-2000)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature and humidity on the optical characteristics of optical fibers. It is intended to assess the ability of an optical fiber to withstand prolonged exposure to elevated temperature and humidity in the surrounding atmosphere. The performance of the fiber during and after exposure may be evaluated by performing specific optical tests.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.6**
\$46.00

TIA/EIA-455-161**FOTP-161 - Procedure for Assessing Temperature and Humidity Exposure Effects on Mechanical Characteristics of Optical Fibers (ANSI/TIA/EIA-455-161-96) (R2000)**

The intent of this test procedure is to describe a method for the determination, in an accelerated manner, of the effects of temperature and humidity on the mechanical characteristics of optical fibers. It is intended to assess the ability of an optical fiber to withstand prolonged exposure to elevated temperature and humidity in the surrounding atmosphere. The performance of the fiber during and after exposure may be evaluated by performing specific mechanical tests.

Product Code 3 Oct, 2000 **COMMITTEE: FO-6.6**
\$46.00

TIA/EIA-455-162-A**FOTP-162 - Fiber Optic Cable Temperature-Humidity Cycling (ANSI/TIA/EIA-455-162A-99)**

The intent of this test procedure is to describe a method for evaluating materials and properties of fiber optic cables when they are subjected to the cyclic effects of temperature and humidity. This is an accelerated environmental test designed to expose the cable to controlled high humidity at elevated temperatures and to frozen moisture. The intent of this test method is to: A) detect changes in the transmission performance of the fibers and, B) detect damage to the cable materials and components such as cracks or blisters.

Product Code 3 Aug, 1999 **COMMITTEE: FO-6.7**
\$47.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA-455-164-A**FOTP-164 - Single-Mode Fiber, Measurement of Mode Field Diameter by Far-Field Scanning**

The intent of this test procedure is to describe the far-field method for measuring the mode field diameter, $2w_0$, of a single-mode fiber. This test procedure applies to both Class IVa and Class IVb types of single-mode fiber operating near 1300 nm or 1550 nm.

Product Code 3 May, 1991 **COMMITTEE: FO-6.6**
\$43.00

EIA/TIA-455-167-A**FOTP-167 - Mode Field Diameter Measurement, Variable Aperture Method in the Far-Field (ANSI/EIA/TIA-455-167A-92)**

The intent of this test procedure is to define the method for determining the mode field diameter, $2w_0$, of a single-mode fiber by measuring the far field output distribution through a series of transmitting apertures of various size. This test applies to single-mode fibers, Classes IVa and IVb (in accordance with EIA-4920000-A), for both the 1300 and 1550 nm wavelength ranges.

Product Code 3 Mar, 1992 **COMMITTEE: FO-6.4**
\$38.00

TIA/EIA-455-168-A**FOTP-168 - Chromatic Dispersion Measurement of Multimode Graded-Index and Single-Mode Optical Fibers by Spectral Group Delay Measurement in the Time Domain (ANSI/TIA/EIA-455-168A-92) (R99)**

The intent of this test procedure is to describe a procedure for determining the chromatic dispersion of EIA-4920000-A Class Ia and Ib multimode, and Class IVa and IVb single-mode, fibers and cables greater than 1 kilometer in length. The method employs multiple laser sources, or a wavelength-selectable laser, such as an Nd:YAG fiber Raman laser, and time-domain measurement techniques. It requires a fitting function appropriate for the test sample fiber type for the determination of dispersion.

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.6**
\$38.00

TIA/EIA-455-169-A**FOTP-169 - Chromatic Dispersion Measurement of Single-Mode Optical Fibers by the Phase-Shift Method (ANSI/TIA/EIA-455-169A-92) (R99)**

The intent of this test procedure is to determine the chromatic dispersion of Class IVa and Class IVb single-mode fibers over a specified wave-length range using the relative phase shifts among sinusoidally modulated optical sources of different wavelengths. Sources are typically laser diodes or filtered light emitting diodes.

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.6**
\$45.00

TIA/EIA-455-171-A**FOTP-171 - Attenuation by Substitution Measurement for Short-Length Multimode Graded-Index and Single-Mode Optical Fiber Cable Assemblies (ANSI/TIA/EIA-455-171-A-2001)**

The intent of this test procedure is to describe procedures for measuring the attenuation by substitution of short-length multimode graded-index and single-mode optical fiber cable assemblies. The cable assemblies have one or more fiber paths, with a connector on only one end with a pigtail on the other, or connectors on both ends of the cable that may be identical or different from each other. For multimode, the cables are usually less than 100 meters in length, but for single-mode, the length is unlimited. These tests are primarily evaluations of the connector loss since the fiber loss is usually only a small portion of the total loss. For those assemblies which are long enough for the fiber loss to be a significant portion of the total loss, the fiber loss will have to be taken into account when specifying limits for the measured loss.

Product Code 3 June, 2001 **COMMITTEE: FO-6.3**
\$71.00

TIA/EIA-455-172**FOTP-172 - Flame Resistance of Firewall Connector (ANSI/EIA-455-172-86) (R91) (R99)**

The intent of this test procedure provides for a test to determine the ability of a cabled and mated connector (plug and receptacle) to resist firewall environments, such as flame or ignition of gasses. Optical operation is required for 5 minutes and physical integrity for 20 minutes.

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.3**
\$33.00

TIA/EIA-455-175-A**FOTP-175 - Chromatic Dispersion Measurement of Single-Mode Optical Fibers by the Differential Phase-Shift Method (ANSI/TIA/EIA-455-175A-92)**

The intent of this test procedure is to measurement of chromatic dispersion of single-mode optical fibers over the 1.0 to 1.7 micrometer wavelength range. Determines the dispersion coefficient at a particular wavelength from the differential group delay between two closely-spaced wavelengths.

Product Code 3 Nov, 1992 **COMMITTEE: FO-6.6**
\$46.00

TIA/EIA-455-176**FOTP-176 - Method for Measuring Optical Fiber Cross-Sectional Geometry by Automated Grey-Scale Analysis (ANSI/TIA/EIA-455-176-93) (R99)**

The intent of this test procedure is to measure all key parameters of optical fiber cross-sectional geometry, with the exception of core diameter. Designed primarily for high-volume throughput, such as that required for manufacturing control, with highly accurate and precise results. Accuracy and precision are better than obtainable by visually using a standard microscope.

Product Code 3 Feb, 1999 **COMMITTEE: FO-6.6**
\$60.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-177-A**FOTP-177 - Numerical Aperture Measurement of Graded-Index Optical Fibers (ANSI/TIA/EIA-455-177A-92)**

The intent of this test procedure is to describe procedures to determine the numerical aperture of near-parabolic profile, graded-index, glass core and glass clad optical fibers. Numerical aperture is determined from either the fiber far-field radiation pattern (Method A) or the fiber refractive index profile (Method B).

Product Code 3 Aug, 1992 **COMMITTEE: FO-6.6**
\$41.00

TIA-455-178-A**FOTP-178 - Measurements of Strip Force for Mechanically Removing Coatings from Optical Fibers**

The intent of this test procedure is to qualify the force required to remove the protective coating(s) from optical fibers along the longitudinal axis. The purpose of this standard is to test fibers both as produced by a fiber manufacturer or as subsequently overcoated (tight buffered) using various polymers. The standard can be performed on fibers during production or after exposure to various environments.

"Measurements of Strip Force for Mechanically Removing Coatings from Optical Fibers" is designed for standard glass core, glass clad optical fibers (as defined in EIA-4920000-A as Class Ia, Ib and Ic and Class IVa, IVb, and IVc) and optical fibers having polymeric coatings with normal outer diameters in the range of 250 and 900 micrometers. The use of the test on fibers with outer coating diameters outside the range of 250 to 930 micrometers is not recommended.

Product Code 3 Apr, 1996 **COMMITTEE: FO-6.6**
\$47.00

TIA-455-179**FOTP-179 - Inspection of Cleaved Fiber End Faces by Interferometry**

The intent of this test procedure is to delineate one means of comparing cleaved optical fiber end faces with an ideal surface that is smooth, flat and perpendicular to the fiber axis. Comparative measurements of cleaved fiber end faces are useful in the qualitative analysis of cleaving tool performance but are not intended for assessing the potential suitability of a cleaved surface; the intent of this method shall not be confused with the intent of FOTP-57 (EIA-455-57), "Optical Fiber End Preparation and Examination", which is more concerned with the absolute results on particular fiber end(s) than with a comparison or relative results. The device used for this method of comparison is an incident-light interference device (Interferometer).

Product Code 3 May, 1988 **COMMITTEE: FO-6.1**
\$71.00

TIA/EIA-455-180-A**FOTP-180 - 'Measurement of the Optical Transfer Coefficients of a Passive Branching Device (Coupler) (ANSI/TIA/EIA-455-180-A-99)**

The intent of this test procedure is to measure the pertinent coefficients of the logarithmic transfer matrix of a branching device in order to determine the ability of the device to carry out its design function.

Product Code 3 Dec, 1999 **COMMITTEE: FO-6.3**
\$58.00

TIA/EIA-455-181**FOTP-181 - Lightning Damage Susceptibility Test for Fiber Optic Cables with Metallic Components (ANSI/TIA/EIA-455-181-92) (R2001)**

The intent of this test procedure is to determine a method for evaluating lightning currents from nearby strokes to earth, trees, or grounded structures that can arc to metallic members of a directly buried optical fiber cable. In high-resistivity soils, or where there is a conductive path (such as a tree root), a strike more than a hundred meters away from the cable can still arc to it. Serious damage to the cable can occur from the thermal and mechanical stresses produced by such events.

The intent of this test procedure is to provide a method for electrical-impulse testing of fiber optic cable using specified current waveforms and peak-current levels. The purpose of the method is to simulate the effects of the lightning arc at the point where it attaches to the cable and to establish the relative susceptibility of fiber optic cables to damage from such arcing.

Product Code 3 July, 2001 **COMMITTEE: FO-6.7**
\$43.00

TIA/EIA-455-183**FOTP-183 - Hydrogen Effects on Optical Fiber Cable (ANSI/TIA/EIA-455-183-2000)**

The intent of this test procedure is to provide a type test which characterizes the effect on fiber attenuation due to hydrogen generated by the cable components only. The data must be used cautiously since such data does not account for potential generation of hydrogen from other sources in the installed environment.

Product Code 3 July, 2000 **COMMITTEE: FO-6.7**
\$53.00

TIA/EIA-455-184**FOTP-184 - Coupling Proof Overload Test for Fiber Optic Interconnecting Devices (ANSI/TIA/EIA-455-184-91) (R95) (R99)**

The intent of this test procedure is to apply an overload torque to twist-type coupling mechanisms. The procedure is applicable to threaded or bayonet twist-type coupling mechanisms. The purpose of the procedure is to establish a safety factor or minimum level of reliability for the overload torque capabilities of twist-type and threaded coupling mechanisms.

Product Code 3 Oct, 1999 **COMMITTEE: FO-6.3**
\$41.00

TIA/EIA-455-185**FOTP-185 - Strength of Coupling Mechanism for Fiber Optic Interconnecting Devices (ANSI/TIA/EIA-455-185-91) (R95) (R99)**

The intent of this test procedure is to assure that the coupling mechanism of a connector set or connector-device combination will withstand the axial loads likely to be applied during normal service.

Product Code 3 Oct, 1999 **COMMITTEE: FO-6.3**
\$41.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-186

FOTP-186 - Gauge Retention Force Measurement for Fiber Optic Components (ANSI/TIA/EIA-455-186-91) (R99)

The intent of this test procedure is used to measure the retention characteristics of the resilient member of a fiber optic component (most commonly a connector). It is specifically intended for use when it is impracticable to define acceptance/rejection criteria for resilient members by the use of size dimensions. This method is applicable to either male or female resilient members. For the case of a male member, a ring gauge is forced over the member and the minimum frictional force to pull it off is assessed by its ability to pick up a weight. This procedure is identical for a female resilient member except that a gauge pin is substituted for the ring gauge.

Product Code 3 Feb, 1999 COMMITTEE: FO-6.3
\$38.00

TIA/EIA-455-187

FOTP-187 - Engagement and Separation Force Measurement of Fiber Optic Connector Sets (ANSI/TIA/EIA-455-187-91) (R99)

The intent of this test procedure is to measure the forces or torques that are required to fully couple or uncouple a connector set. The connector set components are held in a fixture so that a controlled coupling force or torque can be applied. The force or torque is measured during the entire coupling and/or uncoupling cycle. The procedure is applicable to either twist type or push-pull type coupling mechanisms.

Product Code 3 Feb, 1999 COMMITTEE: FO-6.3
\$38.00

TIA/EIA-455-188

FOTP-188 - Low-Temperature Testing of Fiber Optic Components (ANSI/TIA/EIA-455-188-92) (R2001)

The intent of this test procedure is to expose a specimen to the environmental condition of extended low temperature (cold). It is not intended for exposing a specimen to the environmental condition of high temperature or of temperature variation. When high temperature is of interest, use FOTP-4. When temperature variations are of interest, use FOTP-3.

Product Code 3 Dec, 2001 COMMITTEE: FO-6.3,6.4
\$39.00

EIA/TIA-455-189

FOTP-189 - Ozone Exposure Test for Fiber Optic Components (ANSI/EIA/TIA-455-189-92)

The intent of this test procedure is to determine the ability of fiber optic components to withstand the effects of controlled amounts of ozone. Although intended primarily for the evaluation of parts such as interconnecting devices, the method may be applied to other components when applicable and when required by a Detail Specification.

Product Code 3 Jan, 1992 COMMITTEE: FO-6.3,6.4
\$39.00

EIA/TIA-455-190

FOTP-190 - Low Air Pressure (High Altitude) Testing of Fiber Optic Components (ANSI/EIA/TIA-455-190-92)

The intent of this test procedure is to provide a means of evaluating the effects of low barometric pressure (high altitude) on fiber optic components. Although intended primarily for the evaluation of devices such as interconnecting devices, the method may be applied to other components when applicable and when required by a Detail Specification.

Product Code 3 Mar, 1992 COMMITTEE: FO-6.3,6.4
\$41.00

TIA/EIA-455-191-A

FOTP-191 - Measurement of Mode Field Diameter of Single-Mode Optical Fiber (ANSI/TIA/EIA-455-191-A-2001)

The intent of this test procedure is to document the methods of measuring the mode field diameter (MFD) of single-mode fiber. The MFD represents a measure of the transverse extent of the electromagnetic field intensity of the mode in a fiber cross section and it is defined from the far-field intensity distribution, as a ratio of integrals known as the Petermann II definition.

Product Code 3 June, 2001 COMMITTEE: FO-6.6
\$64.00

TIA/EIA-455-192

FOTP-192 - H-Parameter Test Method for Polarization-Maintaining Optical Fiber (ANSI/TIA/EIA-455-192-99)

The intent of this test procedure is to specify a method of measuring the h-parameter of single-mode, highly linearly birefringent optical fiber (commonly called polarization-maintaining fibers).

Product Code 3 May, 1999 COMMITTEE: FO-6.9
\$48.00

TIA/EIA-455-193

FOTP-193 - Polarization Crosstalk Method for Polarization-Maintaining Optical Fiber and Components (ANSI/TIA/EIA-455-193-99)

The intent of this test procedure is to specify a method of measuring the polarization crosstalk of single-mode, highly linearly birefringent (commonly called polarization-maintaining or PM) optical fiber and components. This standard is applicable to fibers and components having connectors attached to one or both ends, and to two or more.

Product Code 3 May, 1999 COMMITTEE: FO-6.9
\$49.00

TIA/EIA-455-194

FOTP-194 - Measurement of Fiber Pushback in Optical Connectors (ANSI/TIA/EIA-455-194-2000)

The intent of this test procedure is to determine the ability of an adhesive to adequately lock the optical fiber into a stable, fixed position in an optical connector when the connector is mated under load. The test may be used to measure fiber pushback under simulated loading conditions, or to compare the performance of different adhesive formulations and/or connector assembly procedures.

Product Code 3 Jan, 2000 COMMITTEE: FO-6.3
\$49.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-195

FOTP-195 - Coating Geometry Measurement for Optical Fiber (ANSI/TIA/EIA-455-195-2000)

The intent of this test procedure is to outline two methods to determine coating geometry measurement and the specific techniques associated with each. Both methods are intended for the off-line measurement of optical fiber coating diameter, and cladding concentricity error. Information common to all approaches is found in the body of the document. Information specific to each method is found in normative annexes. The two methods are side-view method and end-view method.

Product Code 3 July, 2000 **COMMITTEE: FO-6.6**
\$68.00

TIA/EIA-455-196

FOTP-196 - Guideline for Polarization-Mode Measurement in Single-Mode Fiber Optic Components and Devices (ANSI/TIA/EIA-455-196-99)

The intent of this test procedure is to describe the measurement of Polarization-mode Dispersion (PMD) and Differential Group Delay (DGD) in fiber optic devices or components.

Product Code 3 Nov, 1999 **COMMITTEE: FO-6.3**
\$53.00

TIA/EIA-455-197

FOTP-197 - Differential Group Delay Measurement of Single-mode Components and Devices by the Differential Phase Shift Method (ANSI/TIA/EIA-455-197-2000)

The intent of this test procedure is to describe the measurement of polarization-sensitive Differential Group delay (DGD) of one or two port single-mode fiber components over the 1.0 to 1.7 micrometer wavelength range.

Product Code 3 July, 2000 **COMMITTEE: FO-6.3**
\$60.00

TIA/EIA-455-200

FOTP-200 - Insertion Loss of Connectorized Polarization-Maintaining Fiber or Polarizing Fiber Pigtailed Devices and Cable Assemblies (ANSI/TIA/EIA-455-200-01)

The intent of this test procedure is to specify a procedure for the measurement of the insertion loss of a fiber optic interconnection on single mode, highly linearly birefringent optical fiber, i.e., either polarization-maintaining fiber (PMF) or polarizing fiber (PZF).

Product Code 3 Sept, 2001 **COMMITTEE: FO-6.9**
\$56.00

TIA/EIA-455-201

FOTP-201 - Return Loss of Commercial Polarization - Maintaining Fiber or Polarizing Fiber Pigtailed Devices and Cable Assemblies

The intent of this test procedure is to specify a procedure for the measurement of the return loss of a fiber optic interconnection on single-mode, highly linear birefringent optical fiber, either polarization-maintaining (PM) fiber or polarizing (PZ) fiber.

Product Code 3 Aug, 2001 **COMMITTEE: FO-6.9**
\$53.00

TIA/EIA-455-203

FOTP-203 - Launched Power Distribution Measurement Procedure for Graded-Index Multimode Fiber Transmitters (ANSI/TIA/EIA-455-203-2001)

The intent of this test procedure is to set a standard procedure for the collection of two-dimensional fiber optic nearfield grayscale data and subsequent reduction to one-dimensional data expressed as a set of three sampled parametric functions of radius from the fiber's optical center.

Product Code 3 June, 2001 **COMMITTEE: FO-2.3**
\$62.00

TIA/EIA-455-204

FOTP-204 - Measurement of Bandwidth on Multimode Fiber (ANSI/TIA/EIA-455-204-2000)

The intent of this test procedure is to describe two methods for determining and measuring the information transmission capacity of TIA/EIA-4920000-B Class I (glass-core) multi-mode optical fibers.

Product Code 3 Dec, 2000 **COMMITTEE: FO-6.6**
\$62.00

TIA/EIA-455-206

FOTP-206 - IEC 61290-1-1 Optical Fibre Amplifiers - Basic Specification Part 1-1: Test Methods for Gain Parameters - Optical Spectrum Analyzer (ANSI/TIA/EIA-455-206-2000)

The intent of this test procedure is to establish uniform requirements for accurate and reliable measurements, by means of the optical spectrum analyzer test method

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$47.00

TIA/EIA-455-207

FOTP-207 - IEC 61290-1-2 Optical Fibre Amplifiers - Basic Specification Part 102: Test Methods for Gain Parameters - Electrical Spectrum Analyzer (ANSI/TIA/EIA-455-207-2000)

The intent of this test procedure is to establish uniform requirements for accurate and reliable measurements, by means of the electrical spectrum analyzer test method.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$53.00

TIA/EIA-455-208

FOTP-208 - IEC 61290-1-3 Optical Fibre Amplifiers - Basic Specification Part 1-3: Test Methods for Gain Parameters - Optical Power Meter (ANSI/TIA/EIA-455-208-2000)

The intent of this test procedure is to establish uniform requirements for accurate and reliable measurements, by means of the optical power meter test method.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$47.00

TIA/EIA-455-209

FOTP-209 - IEC 61290-2-1 Optical Fibre Amplifiers - Basic Specification Part 2-1: Test Methods for Optical Power Parameters - Optical Spectrum Analyzer (ANSI/TIA/EIA-455-209-2000)

The intent of this test procedure is to establish optical fibre amplifiers (OFAs) using active fibres, containing rare-earth dopants, presently commercially available.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$45.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TIA/EIA-455-210

FOTP-210 - IEC 61290-2-2 Optical Fibre Amplifiers - Basic Specification Part 2-2: Test Methods for Optical Power Parameters - Electrical Spectrum Analyzer (ANSI/TIA/EIA-455-210-2000)

The intent of this test procedure is to establish uniform requirements for accurate and reliable measurements, by means of the electrical spectrum analyzer test method.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$46.00

TIA/EIA-455-211

FOTP-211 - IEC 61290-2-3 Optical Fibre Amplifiers - Basic Specification Part 2-3: Test Methods for Optical Power Parameters - Optical Power Meter (ANSI/TIA/EIA-455-211-2000)

The intent of this test procedure is to establish uniform requirements for accurate and reliable measurements, by means of the optical power meter test method.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$46.00

TIA/EIA-455-212

FOTP-212 - IEC 61290-6-1 Optical Fibre Amplifiers - Basic Specification Part 6-1: Test methods for Pump Leakage Parameters - Optical Demultiplexer (ANSI/TIA/EIA-455-212-2000)

The intent of this test procedure is to describe a standard that applies to optical fibre amplifiers (OFAs) using active fibres, containing rare earth dopants, presently commercially available.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$46.00

TIA/EIA-455-213

FOTP-213 - IEC 61290-7-1: Optical Fibre Amplifiers - Basic Specification Part 7-1: Test Methods for Out-of-Band Insertion Losses - Filtered Optical Power Meter (ANSI/TIA/EIA-455-213-2000)

The intent of this test procedure is to define applications to the optical fibre amplifiers (OFAs) using active fibres, containing rare earth dopants, presently commercially available.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$45.00

TIA/EIA-455-214

FOTP-214 - IEC 61290-1 Optical Fibre Amplifiers - Part 1: Generic Specification (ANSI TIA/EIA-455-214-2000)

The intent of this test procedure applies to optical fibre amplifiers (OFAs) and optically amplified, elementary subsystems. It applies only to OFAs using active Fibres, containing rare earth dopants, presently commercially available.

Product Code 3 Oct, 2000 **COMMITTEE: FO-2.1**
\$58.00

TIA-455-220

FOTP-220 - Differential Mode Delay Measurement of Multimode Fiber in the Time Domain

The intent of this test procedure is to describe a method for characterizing the modal structure of a graded index multimode fiber.

Product Code 3 Dec, 2001 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-455-221

FOTP-221 - IEC61290-5-1 - Optical Fibre Amplifiers - Basic Specification - Part 5-1: Test Method for Reflectance Parameters - Optical Spectrum Analyzer (ANSI/TIA/EIA-455-221-2001)

This International Standard applies to optical fibre amplifiers (OFAs) using active fibres, containing rare-earth dopants, presently commercially available. The object of this standard is to establish uniform requirements for accurate and reliable measurements, by means of the optical spectrum analyzer test method, of the following OFA parameters: a) maximum input reflectance; b) minimum input reflectance; c) output reflectance.

Product Code 3 Dec, 2001 **COMMITTEE: FO-2.7**
\$46.00

TIA/EIA-455-222

FOTP-222 - IEC61290-3 - Optical Fibre Amplifiers - Basic Specification - Part 3: Test Methods for Noise Figure Parameters (ANSI/TIA/EIA-455-222-2001)

The intent of this test procedure is to provide the general background for OFA noise figure parameters measurements and to indicate those IEC standard test methods for accurate and reliable measurements of the following OFA parameters: a) noise figure (NF); b) noise factor (F); c) multiple path interference (MPI) figure of merit; d) signal-spontaneous noise figure; e) (equivalent) spontaneous-spontaneous optical bandwidth (Bsp-sp); f) forward amplified spontaneous emission (ASE) power level; g) reverse ASE power level; h) ASE bandwidth.

Product Code 3 Dec, 2001 **COMMITTEE: FO-2.7**
\$46.00

TIA/EIA-455-223

FOTP-223 - IEC61291-2 - Optical Fibre Amplifiers - Part 2: Digital Applications - Performance Specification Template (ANSI/TIA/EIA-455-223-2001)

The intent of this test procedure is to determine performance specification template applies to optical fibre amplifier (OFA) devices and subsystems to be used in digital applications. The object of this performance specification template is to provide a frame for the preparation of detail specifications on the performance of OFA devices and subsystems to be used in digital applications.

Product Code 3 Dec, 2001 **COMMITTEE: FO-2.7**
\$46.00

TIA-455-228

FOTP-228 - Relative Group Delay and Chromatic Dispersion Measurement of Single-Mode Components and Devices by the Phase Shift Method

The intent of this test procedure is to describe the measurement of Relative Group Delay (RGD) and chromatic dispersion (cd) of one or two port single-mode fiber components over the 1.0 to 1.7 micrometer wavelength range. In this procedure, a modulated light source at a given wavelength is coupled into the component under test, and the phase shift of the modulated signal exiting the fiber at that wavelength is recorded with respect to the original modulation signal.

Product Code 3 Feb, 2002 **COMMITTEE: FO-6.3**
\$73.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TSB62

Informative Test Methods (ITMs) for Fiber-Optic Fibers, Cables, Opto-Electronic Sources and Detectors, Sensors, Connecting and Terminating Devices, and Other Fiber-Optic Components

This Informative Test Method (ITM) together with its addenda, provides uniform test methods for testing the fiber optic components intended for, or forming a part of, optical communications and data transmission systems.

This document is an "umbrella" for only those (informative) test methods that apply to non-specifiable parameters. For specifiable parameters, which require standard test procedures, refer to the series under the umbrella of TIA/EIA-455-A.

Product Code 3 Dec, 1993 **COMMITTEE: FO-6**
\$46.00

TSB62-1

ITM-1 - Characterization of Large Flaws in Optical Fibers by Dynamic Tensile Testing with Sensoring

This Informative Test Method (ITM) describes a method for characterizing the lower portion of the distribution of dynamic tensile failure stresses of a population of glass optical fiber. The result is a probability curve that can be used as a guide in reliability design. The curve can also be used to validate assumptions relative to the proof test and other fiber handling procedures.

Product Code 3 Nov, 1994 **COMMITTEE: FO-6.6**
\$54.00

TSB62-2

ITM-2 - Method for Measurement of Hydrogen Evolved from Coated Optical Fiber

This Information Test Method (ITM) will allow the quantitative determination of the hydrogen generated from optical fiber coatings as a result of heating for 96 hours at 100 °C. It is limited to use with 250 mm coated fiber and buffered fiber. Fiber coatings are not the only hydrogen source in an optical cable and account for a small percentage of the total amount of hydrogen evolved by all of the components typically present in an optical cable. This test could be modified to apply to other organic materials. This method subjects coated optical fiber to accelerated aging at an elevated temperature and may subject some coatings to thermal oxidative degradation which may cause an increased generation of hydrogen.

Product Code 3 June, 1994 **COMMITTEE: FO-6.6**
\$45.00

TSB62-3

ITM-3 - Mode Power Distribution and Mode Transfer Function Measurement

This Informative Test Method (ITM) describes a method for allowing the quantitative determination of the hydrogen generated from optical fiber coatings as a result of heating for 96 hours at 100 degrees C. It is limited to use with 250 nm coated fiber and buffered fiber. Fiber coatings are not the only hydrogen source in an optical cable and account for a small percentage of the total amount of hydrogen evolved by all of the components typically present in an optical cable. This test could be modified to apply to other organic materials. This method subjects coated optical fiber to accelerated aging at an elevated temperature and may subject some coatings to thermal oxidative degradation which may cause an increased generation of hydrogen.

Product Code 3 Aug, 1995 **COMMITTEE: FO-6.6**
\$45.00

TSB62-5

ITM-5 - Characterization of Attenuation Uniformity of Optical Fiber (R2001)

This Informative Test Method (ITM) extends the use of OTDRs to quantitatively characterize the uniformity of the attenuation coefficient of optical fibers (See 455-59, 455-60, 455-61). Several methods are defined in the document. Each has particular utility under certain circumstances but none can be considered as universally optimal. The choice of a particular method will depend on details of the agreement between the buyer and seller.

Product Code 3 Aug, 1995 **COMMITTEE: FO-6.6**
\$60.00

TSB62-7

ITM-7 - Characterization of Fiber Strip Damage by Dynamic Tensile Testing

This document characterizes the tensile strength of stripped optical fiber. The results of this test provide an indication of the mechanical damage that is attributable to the stripping operation.

Product Code 3 Apr, 2000 **COMMITTEE: FO-6.6**
\$47.00

TSB62-10

ITM-10 - Procedure for Applying Loads Directly to the Fiber in Optical Connectors or Fiber/Ferrule Assemblies

The Informative Test Method (ITM) determines the ability of an adhesive to adequately lock the optical fiber into a stable, fixed position in an optical connector when the connector is mated under load.

Product Code 3 Dec, 1999 **COMMITTEE: FO-6.3**
\$48.00

TSB62-12

ITM-12 - Microbend Sensitivity Test Methods

This Informative Test Method (ITM) is intended to characterize the microbend sensitivity of optical fibers, thereby guiding fiber and cable manufacturers regarding the design of various coatings and basic fibers as they apply to the design and performance of cable

Product Code 3 Oct, 2001 **COMMITTEE: FO-6.6**
\$53.00

FIBER OPTICS, TEST PROCEDURES (FOTPs) (cont.)

TSB62-13

ITM-13 - Measuring Dynamic Strength and Fatigue Parameters of Optical Fibers by Two-Point Bending

This Informative Test Method (ITM) provides a method for measuring the strength and dynamic fatigue of optical fiber in two-point bending in a specified environment

Product Code 3 May, 2000 **COMMITTEE: FO-6.3**
\$53.00

TSB62-20

ITM-20 - Enhanced Bandwidth Performance over Laser-based, Multi-mode Fiber Local Area Networks

This document describes and gives background information for the laser source and fiber selection criteria required to achieve enhanced bandwidth performance over local area networks (LANs)

Product Code 3 Feb, 2001 **COMMITTEE: FO-2.2**
\$60.00

TSB62-22

ITM-22 - Continuous Wave Method for Measuring the Raman Gain Efficiency of Single-mode Fibers

This Informative Test Method (ITM) describes a continuous wave method for measuring the Raman gain efficiency of a single-mode transmission optical fiber

Product Code 3 July, 2001 **COMMITTEE: FO-6.6**
\$47.00

TSB62-23

IMT-23 - Measurement of the Nonlinear Coefficient of Single-Mode Fibers

This Informative Test Method (ITM) describes two methods for uniform measurement of the nonlinear coefficient of single-mode fibers in the 1550 nm region

Product Code 3 Sept, 2001 **COMMITTEE: FO-6.6**
\$58.00

TSB63

Reference Guide for Fiber Optic Test Procedures

This document assists the users of TIA/EIA Fiber Optic Test Procedures (FOTPs) to identify appropriate test procedure references in the most expeditious manner. It also serves to identify the publication status of the various documents as of the publication date of TSB63.

Product Code 3 Aug, 1993 **COMMITTEE: FO-6.4**
\$151.00

TOOLS, TESTING, SPECIFICATIONS

TIA/EIA-573 Series

Fiber Optics, Specifications for Tools, Testing

This series is a combination of generic specifications, sectional specifications, and blank detail specifications necessary for optimum use of field portable fiber optic tools.

Product Code 3 **COMMITTEE: FO-2**
\$420.00

TIA/EIA-5730000-A

Generic Specification for Field-Portable Fiber Optic Tools (ANSI/TIA/EIA-5730000-A-99)

This specification was formulated for the purpose of providing a document setting forth engineering and use requirements as necessary for optimum use of field-portable fiber-optic tools. Utilization of this document is intended to eliminate misunderstandings or confusion between the supplier and user with respect to product performance requirements and test procedures.

This specification applies to fiber-optic tools intended for use in optical communications systems.

Product Code 3 May, 1999 **COMMITTEE: FO-6.1**
\$60.00

TIA/EIA-573A000-A

Sectional Specification for Field-Portable Optical-Fiber Cleaving Tools (ANSI/TIA/EIA-573A000-A-99)

This Sectional Specification is intended for use with Generic Specification TIA/EIA-5730000 for Field-Portable Fiber-Optic Tools. It describes the mechanical and environmental performance of optical-fiber cleaving tools and defines the tests and inspections that are used to evaluate the resultant cleaved fiber ends. This Sectional Specification shall apply to hand-held and bench tools that are designed to cleave and fiber perpendicular to the fiber axis and is not intended for angled cleaver.

The object of this specification is to prescribe preferred test and inspection criteria and to select from TIA/EIA-5730000 the appropriate test and measuring methods to provide a fixed sample Component qualification approval test schedule. This specification shall indicate which test options and performance levels may be left to the Detail Specification writer via a Blank Detail Specification that references the Sectional Specification.

Product Code 3 May, 1999 **COMMITTEE: FO-6.1**
\$53.00

TIA/EIA-573AA00

Blank Detail Specification for Field-Portable Optical-Fiber Cleaving Tools (ANSI/TIA/EIA-573AA00-93)

This Blank Detail Specification is a supplementary document to Sectional Specification TIA/EIA-573A000 and contains requirements for style and layout, and minimum content of Detail Specifications.

Detail Specifications may be prepared from this Blank Detail Specification by supplies of field-portable cleaving tools, by users, and by TIA Subcommittees or Working Groups.

Product Code 3 Oct, 1993 **COMMITTEE: FO-6.1**
\$41.00

FIBER OPTICS, TOOLS, TESTING, SPECIFICATIONS (cont.)

TIA/EIA-573B000-A**Sectional Specification for Field-Portable Single-Optical Fiber Stripping Tools (ANSI/TIA/EIA-573B000-A-99)**

This Sectional Specification is intended for use with Generic Specification TIA/EIA-5730000 for Field-Portable Optical-Fiber Tools. It describes procedures for assessing the mechanical and environmental performance of optical-fiber stripping tools and defines the tests and inspections that are used to evaluate the resultant physical characteristics of the stripped fiber.

The object of this specification is to prescribe preferred test and inspection criteria and to select from TIA/EIA-5730000 the appropriate test and measuring methods to provide a fixed sample Component Qualification Approval test schedule. This specification shall indicate which test options and performance levels may be left to the Detail Specification writer via a Blank Detail Specification that references the Sectional Specification.

Product Code 3 May, 1999 COMMITTEE: FO-6.1
\$56.00

TIA/EIA-573BA00**Blank Detail Specification for Field-Portable Optical-Fiber Stripping Tools (ANSI/TIA/EIA-573BA00-93)**

This Blank Detail Specification is a supplementary document to Sectional Specification TIA/EIA-573B000 and contains requirements for style and layout, and minimum content of Detail Specifications.

Detail Specifications may be prepared from this Blank Detail Specification by supplies of field-portable stripping tools, by users, and by TIA Subcommittees or Working Groups.

Product Code 3 Sept, 1993 COMMITTEE: FO-6.1
\$41.00

TIA/EIA-573C000**Sectional Specification for Field-Portable Optical Microscopes (ANSI/TIA/EIA-573C000-1998)**

This specification was formulated for the purpose of providing a document setting forth engineering and use requirements as necessary for purchase of field-portable optical microscopes. Use of this document is intended to eliminate misunderstandings or confusion between the supplier and user with respect to product performance requirements and test procedures.

Product Code 3 July, 1998 COMMITTEE: FO-6.1
\$53.00

TIA/EIA-573CA00**Blank Detail Specification for Field-Portable Optical Microscopes (ANSI/TIA/EIA-573CA00-98)**

This specification pertains to field-portable microscopes for inspection of optical waveguides and related devices.

Product Code 3 May, 1998 COMMITTEE: FO-6.1
\$53.00

TIA/EIA-573D000**Sectional Specification for Field-Portable Polishing Devices for Preparation of Optical Fibers (ANSI/TIA/EIA-573D000-98)**

This specification describes procedures for assessing the mechanical and environmental performance of field-portable polishing devices used to prepare optical waveguides and related components.

Product Code 3 May, 1998 COMMITTEE: FO-6.1
\$47.00

TIA/EIA-573DA00**Blank Detail Specification for Field-Portable Polishing Devices (ANSI/TIA/EIA-573DA00-98)**

This specification pertains to field-portable optical polishers for polishing of optical waveguides and related devices.

Product Code 3 May, 1998 COMMITTEE: FO-6.1
\$58.00

WAVEGUIDES, SPECIFICATIONS

TIA/EIA-4920000-A**Generic Specification for Optical Waveguide Fibers (ANSI/TIA/EIA-4920000-B-97)**

This Specification was formulated for the purpose of providing a document setting forth engineering and use requirements for optimum use in optical waveguide fibers. Utilization of this document is intended to eliminate misunderstandings or confusion between the supplier and user with respect to product performance requirements and test procedures.

Product Code 3 Nov, 1997 COMMITTEE: FO-6.6
\$76.00

TIA/EIA-492A000-A**Sectional Specification for Class Ia Multimode, Graded-Index Optical Waveguide Fibers (ANSI/TIA/EIA-492A000-A-97)**

This document is to assist those who prepare Detail Specifications using this document and other applicable Specifications. This is carried out, in part, by prescribing preferred ratings and characteristics, and in selecting from TIA/EIA-4920000-A the appropriate Quality Assessment procedures, tests, and measurement methods.

Product Code 3 Nov, 1997 COMMITTEE: FO-6.6
\$47.00

TIA/EIA-492AA00-A**Blank Detail Specification for Class Ia Graded-Index Multimode Optical Fibers (ANSI/TIA/EIA-492AA00-A-98)**

This Specification forms a part of a set of TIA/EIA standards that systematically specifies performance requirements for optical fiber. This hierarchical specification system comprises four tiers: generic specifications, sectional specifications, blank detail specifications, and detail specifications. This Specification applies to Class Ia grade-index multimode optical fibers.

Product Code 3 Jan, 1998 COMMITTEE: FO-6.6
\$68.00

FIBER OPTICS, WAVEGUIDES, SPECIFICATIONS (cont.)

TIA/EIA-492AAAA-A***Detail Specification for 62.5-um Core Diameter/125-um Cladding Diameter Class Ia Graded-Index Multimode Optical Fibers (ANSI/TIA/EIA-492AAAA-A-98)***

This specification enables end users and manufacturers of fiber-optic cable to specify one of the choices of multimode optical fiber contained in the cable. This Specification, in conjunction with Generic Specification TIA/EIA-4920000-B and Sectional Specification TIA/EIA-492A000-A, follow the specification structure of the National Electronic Components Quality Assessment System (NECQ). This Detail Specification applies to Class Ia, graded-index, 62.5/125 multimode optical fiber used as a component in the manufacture of fiber-optic cable used in buildings. Applications include, but are not restricted to, the following: on-premises intrabuilding and interbuilding fiber installations, including LANS, PBXs, video, various multiplexing uses, outside telephone cable plant use, and miscellaneous related uses.

Product Code 3 Jan, 1998 **COMMITTEE: FO-6.6**
\$60.00

TIA/EIA-492AAAB***Detail Specification for 50-um Core Diameter/125-um Cladding Diameter Class Ia Graded-Index Multimode Optical Fibers (ANSI/TIA/EIA-492AAAB-98)***

This Specification enables end users and manufacturers of fiber-optic cable to specify one of the choices of multimode optical fiber contained in the cable. This Specification, in conjunction with Generic Specification TIA/EIA-4920000-B and Sectional Specification TIA/EIA-492000-A, follow the specification structure of the National Electronic Components Quality Assessment System (NECQ).

This Detail Specification applies to class Ia, graded – index, 50/125 um multimode optical fiber used as a component in the manufacture of fiber-optic cable used in buildings. Applications include, but are not restricted to, the following: telephony, distribution and local networks, carrying data, voice and/or video services and on-premises intrabuilding and interbuilding fiber installations, including LANS, PBX's, video, various multiplexing uses, outside telephone cable plant use, and miscellaneous related issues.

Product Code 3 Nov, 1998 **COMMITTEE: FO-6.6**
\$58.00

TIA-492AAAC***Detail Specification for 850-nm Laser-Optimized, 50-um core diameter/125-um cladding diameter class Ia graded-index multimode optical fibers***

This specification enables end users and manufacturers of fiber-optic cable to specify a high bandwidth optical fiber optimized for enhanced performance at 850 nm.

Product Code 3 Mar, 2002 **COMMITTEE: FO-6.6**
\$62.00

TIA-492B000***Sectional Specification for Class IV Single-Mode Optical Waveguide Fibers***

This Detail Specification applies to a Class Ia Multimode, Graded-Index Optical Waveguide fiber. The core cladding shall consist of all glass with a core having a refractive index profile that varies across the core. The profile is defined by a profile parameter, e.g., whose value is 3 g 1. The coating and/or buffer, usually made from one or more plastic materials or compositions, protects the fiber during manufacture, handling, and use.

Product Code 3 May, 1988 **COMMITTEE: FO-6.6.2**
\$71.00

TIA-492BA00***Blank Detail Specification for Class IVa Dispersion, Unshifted Single-Mode Optical Waveguide Fibers***

This Blank Detail Specification is a supplementary document to Sectional Specification TIA-492B000 and contains requirements for style, layout, and minimum content of Detail Specification.

Product Code 3 May, 1988 **COMMITTEE: FO-6.6.2**
\$33.00

TIA-492BB00***Blank Detail Specification for Class IVb Dispersion, Shifted Single-Mode Optical Waveguide Fibers***

This document is a guide to be used in the preparation of Detail Specification for class IVb Dispersion - Shifted Single - Mode Optical Waveguide Fibers.

Product Code 3 Oct, 1989 **COMMITTEE: FO-6.6**
\$47.00

TIA/EIA-492C000***Sectional Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibers (ANSI/TIA/EIA-492C000-98)***

This specification forms a part of a set of TIA standards that systematically specifies performance requirements for optical fiber. This hierarchical specification system comprises four tiers: generic specifications, sectional specifications, blank detail specifications, and detail specifications. This specification applies to Class IVa dispersion-unshifted single-mode optical fibers with glass core and cladding. The requirements of product, testing, and specification documents are defined so that one can prepare a detail specification.

Product Code 3 Jan, 1998 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-492CA00***Blank Detail Specification for Class IVa Dispersion-Unshielded Single Mode Optical Fibers (ANSI/TIA/EIA-492CA00-98)***

This Specification pertains specifically to Class IVa dispersion-unshifted single-mode optical fiber. This Specification is a supplementary document to Sectional Specification TIA/EIA-492C000 and contains requirements for style, layout, and minimum content of a Detail Specification written for Class IVa fibers.

Product Code 3 Jan, 1998 **COMMITTEE: FO-6.6**
\$68.00

FIBER OPTICS, WAVEGUIDES, SPECIFICATIONS (cont.)

TIA/EIA-492CAAA***Detail Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibers (ANSI/TIA/EIA-492CAAA-98)***

This specification enables end users and manufacturers of fiber-optic cable to specify the choice of single-mode optical fiber contained in the cable.

Product Code 3 May, 1998 **COMMITTEE: FO-6.6**
\$58.00

TIA/EIA-492CAAB***Detail Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibers with Low Water Peak (ANSI/TIA/EIA-492CAAB-2000)***

This Detail Specification applies to Class IVa dispersion-unshifted single-mode optical fiber that has low attenuation at wavelengths near the water peak (typically near 1383 nm).

Product Code 3 Sept, 2000 **COMMITTEE: FO6.6**
\$58.00

TIA/EIA-492E000***Sectional Specification for Class IVd Nonzero-Dispersion Single-Mode Optical Fibers for the 1550 nm Window (ANSI/TIA/EIA-492E000-96)***

This specification was formulated for the purpose of providing a document setting forth engineering and use requirements as necessary for purpose of Class IVd nonzero-dispersion single-mode optical fibers for the 1550 nm window. Use of this document is intended to eliminate misunderstandings or confusion between the supplier and user with respect to product performance requirements and test procedures.

Product Code 3 Nov, 1996 **COMMITTEE: FO-6.6**
\$53.00

TIA/EIA-492EA00***Blank Detail Specification for Class IVd Nonzero-Dispersion Single-Mode Optical Fiber for the 1550 nm Window (ANSI/TIA/EIA-492EA00-96)***

This specification is a supplementary document to sectional specification TIA/EIA-492E000 and contains requirements for style, layout and minimum content of detail specifications written for Class IVd fibers.

Product Code 3 Nov, 1996 **COMMITTEE: FO-6.6**
\$64.00

LAND MOBILE COMMUNICATIONS**EQUIPMENT****EIA-374-A*****Land Mobile Signaling Standard***

This document has focus on key areas of signaling sensitivity, falsing, and potentially degrading interference modes. Many signaling parameters require no testing, but are merely descriptive in nature. Nevertheless, these parameters should be specified in order to allow intelligent comparison of systems. A generalized signaling system is shown and defined to clarify terminology. Some of the descriptive parameters are also listed in this document and briefly defined.

Product Code 3 Mar, 1981 **COMMITTEE: TR-8.5**
\$71.00

EIA-450***Standard Form for Reporting Measurements of Land Mobile, Base Station, and Portable/Personal Radio Receivers in Compliance with FCC Part 15 Rules***

This document reporting form has been developed at the suggestion of the FCC. Its purpose is to provide a uniform method of making and reporting the summary of measurements outlined in the above title of the document. This form is not complete in itself. It supplements the Part 15 Rules and must be used in conjunction with them.

Product Code 3 Sept, 1978 **COMMITTEE: TR-8.2**
\$62.00

TIA/EIA-603-A***Land Mobile FM or PM Communications Equipment Measurement and Performance Standards***

This document provides definition, method of measurement and performance standards for radio equipment used in the Private (Dispatch) Land Mobile Services that employ FM or PM modulation, for transmission of voice or data using analog or digital techniques, with a frequency of 1 GHz or less

Product Code 3 Aug, 2001 **COMMITTEE: TR-8.6**
\$196.00

TIA-845***Radiowave Propagation - Path Loss - Measurement, Validation, and Presentation***

This document defines standard methods for measuring, validating, and presenting radio propagation data

Product Code 3 Oct, 2001 **COMMITTEE: TR-8.18**
\$56.00

TIA-902.BAAB***Wideband Air Interface Scalable Adaptive Modulations (SAM) Physical Layer Specifications - Public Safety Wideband Data Standards Project - Digital Radio Technical Standards***

This document defines the physical layer, or layer 1, of the Scalable Adaptive Modulation (SAM) wideband air interface (WAI).

Product Code 3 Feb, 2002 **COMMITTEE: TR-8.5**
\$89.00

TIA/EIA/IS-804***Terrestrial Land Mobile Radio - Antenna Systems - Standard Format for Digitized Antenna Patterns***

This document is intended to standardize the presentation of digitized antenna patterns for antenna systems in the Terrestrial Land Mobile Radio Services

Product Code 3 Aug, 2001 **COMMITTEE: TR-8.11**
\$62.00

TSB30***Sideband Spectrum Measurement Procedure for Transmitters Not Equipped with Audio Low-Pass Filter***

This document contains a measurement procedure for use in demonstrating compliance with FCC bandwidth limitation requirements for transmitters that are not equipped with an audio low-pass filter. The term "Transmitter Sideband Spectrum" denotes the level of sideband energy measured in a specified receiver bandwidth over a specified frequency displacement range due to all forms of intended modulation and from sources of unwanted noise within the transmitter.

Product Code 3 Apr, 1990 **COMMITTEE: TR-8.1**
\$37.00

LAND MOBILE COMMUNICATIONS, EQUIPMENT (cont.)

TSB48***Method of Measurement for Land Mobile Receiver Impulse Blanking Effectiveness***

This document is to be used in conjunction with TIA/EIA-603.

Product Code 3 Aug, 1992 **COMMITTEE: TR-8.2**

\$33.00

TSB57***Sideband Spectrum Measurement Procedure for Transmitters Intended for Use in the 220-222 MHz Band***

This document shall be used to demonstrate compliance with FCC bandwidth limitation requirements for transmitters intended for use in the 220-222 MHz band. Transmitters used in this frequency band will operate on 5 kHz channels and a maximum authorized bandwidth of 4 kHz. Assignable frequencies represent the center of the authorized bandwidth.

Product Code 3 Feb, 1993 **COMMITTEE: TR-8.1**

\$33.00

TSB69***A System and Standards Definition for a Digital Land Mobile Radio System***

This document describes the functional elements of an FDMA, digital, trunked, Land Mobile Radio communication system, as well as defining the basic system architecture. This document provides the basic expectations of Enhanced Digital Access Communications Systems (EDACSTM), and outlines the organization of the family of documents. This document also serves as a foundation for the coherent development of the remaining documents within the family of documents. Additional and more specific information can be referenced in each of the corresponding documents within this family. As a group, the family of documents describes the Enhanced Digital Access Communications System, inclusive of the equipment requirements, which allow both compatibility and interoperability between various systems and elements. These systems provide advanced digital land mobile radio services for private organizations, on all levels, including local, state, and national. The family of documents will be backward compatible and interoperable with existing installed EDACSTM per the defined technical definition of Section 4. This document describes trunked systems utilizing digital signaling, digital voice, and analog voice for conventional mutual aid operation.

This family of documents is applicable to Land Mobile equipment licensed under National Telecommunications and Information Administration (NTIA) and Federal Communications Commission (FCC) rules and regulations. They are suitable for 12.5 kHz or 25 kHz channels and designed for VHF, UHF, 800 and 900 MHz frequency bands. The family or specific documents within the family may be applicable in situations other than those noted above.

Product Code 3 Nov, 1998 **COMMITTEE: TR-8.16**

\$92.00

TSB69.1-2***Enhanced Digital Access Communications System (EDACS) Land Mobile Radio System Packet Data Specification***

This document serves to define the EDACS packet data interface, protocol and procedures.

Product Code 3 Apr, 1999 **COMMITTEE: TR-8.15**

\$80.00

TSB69.3***Enhanced Digital Access Communications Systems (EDACS) Digital Air Interface for: Channel Access, Modulation, Messages, and Formats***

This document discusses Radio frequency (RF) signaling within the EDACS and includes both digital trunking control channel and working channel signaling structures and message formats. The purpose of this document is to define the digital signaling process to be used for trunking control and voice communications. Voice communication includes channel access, modulation, addressing, and working channel formats and messages, as well as error correction. This document is part of the TSB 69 series and other parts will soon be published.

Product Code 3 Apr, 1998 **COMMITTEE: TR-8.15**

\$111.00

TSB69.5***Enhanced Digital Access Communications System IMBE Implementation***

This document specifies a voice coding method for the Enhanced Digital Access Communication System

Product Code 3 Apr, 2000 **COMMITTEE: TR-8.5**

\$151.00

TSB78***Land Mobile Linear Analog Modulation Communications Equipment Measurement and Performance Standards***

This document aims to standardize parameter titles, definitions, test conditions and the methods of measurement used to ascertain the performance of radio equipment used in the Land Mobile Services that employ linear analog modulation techniques. These include, but are not limited to, tone above band single sideband (TAB), transparent tone in band single sideband (TTIB), and real zero single sideband (RZ™SSB). Harmonizing methods of measurement for base stations, mobiles, and portable/personal equipment is also a goal, and separate standards for these, as an entity, have been included toward this end.

Product Code 3 Sept., 1996 **COMMITTEE: TR-8.14**

\$201.00

LAND MOBILE COMMUNICATIONS, EQUIPMENT (cont.)

TSB88-A***Wireless Communications Systems - Performance in Noise and Interference-Limited Situations - Recommended Methods for Technology-Independent Modeling, Simulation, and Verification***

This document gives guidance on the following areas: establishment of standardized methodology for modeling and simulating narrowband/bandwidth efficient technologies operating in a post "refarming" environment; establishment of a standardized methodology for empirically confirming the performance of narrowband/bandwidth efficient systems operating in a post "refarming" environment; and aggregating the modeling, simulation and empirical performance verification reports into a unified "spectrum management tool kit" which may be employed by frequency coordinators, systems engineers and system operators. The purpose of this document is to define and advance a scientifically sound standardized methodology for addressing technology compatibility. This document provides a formal structure and quantitative technical parameters from which automated design and spectrum management tools can be developed based on proposed configurations that may temporarily exist during a migration process or for longer term solutions for systems that have different technologies.

Product Code 3 June, 1999 **COMMITTEE: TR-8.18**
\$176.00

TSB88-A-1***Wireless Communications Systems - Performance in Noise and Interference-Limited Situations - Recommended Methods for Technology-Independent Modeling, Simulation, and Verification - Addendum 1***

This document is intended to expand on the material in TSB-88-A by adding the following information to that already presented: a well-defined method of calculating height above average terrain (HAAT); a well-defined method of coverage and interference contour calculation; additional bibliographic information for use in association with the other added material; and corrections to erroneous or insufficiently explicit material contained in TSB88-A.

Product Code 3 Jan, 2002 **COMMITTEE: TR-8.18**
\$48.00

TSB92***Report on EME Evaluation for RF Cabinet Emissions Under FCC MPE Guidelines***

The purpose of this document is to develop and document methods and procedures of evaluation to establish cabinet emission levels with respect to the FCC-defined electromagnetic exposure (EME) limits. Specifically, the EME characterization is of box-level equipment only (e.g., fixed station, vehicular or similar equipment) and is not a substitute for a complete transmitter site environmental assessment by means of computation or site measurement. A limited case analysis, based on the FCC Part 90 type acceptance spurious emissions regulation limits, will be conducted herein to show that type accepted equipment at the box level is within the FCC maximum permissible exposure (MPE) limits.

Product Code 3 Aug, 1998 **COMMITTEE: TR-8.17**
\$53.00

TSB-902.A***Digital Radio Technical Standards - Public Safety Wideband Data Standards Project - Wideband Data System and Standards Definition***

This document enables interoperability in a wideband radio system using high-speed packet data over wideband data channels in the 700 MHz public safety band plan

Product Code 3 Dec, 2001 **COMMITTEE: TR-8.5**
\$62.00

PRIVATE RADIO (APCO/PROJECT 25/102 Series)**TIA/EIA 102 Series*****Telecommunications, Land Mobile Communications (APCO/Project 25)***

This series is a combination of all documents and bulletins (TSB) which are related to APCO/Project 25.

Product Code 3 **COMMITTEE: TR-8**
\$2,830.00

TIA/EIA-102.AAAA-A***APCO Project 25 DES Encryption Protocol (ANSI/TIA/EIA-102.AAAA-A-2001)***

This DES encryption protocol document defines the operation of encryption and decryption in a way that is compatible with information transfer through an APCO Project 25 standard system, especially, through the common air interface of such a system.

Product Code 3 Feb, 2001 **COMMITTEE: TR-8**
\$60.00

TIA/EIA-102.AAAC***Conformance Test for the Project 25 DES Encryption Protocol - New Technology Standards Project - Digital Radio Technical Standards (ANSI/TIA/EIA-102-AAAC-2001)***

This DES encryption protocol document describes the following items that are necessary for encryption protocol: encryption algorithm, operating mode, key variable, initialization vector and message indicator. This protocol is compatible with either voice or data messages and can be transported through a radio network using common air interface.

Product Code 3 Feb, 2001 **COMMITTEE: TR-8**
\$115.00

TIA/EIA-102.AABB***APCO Project 25 - Trunking Control Channel Formats (ANSI/TIA/EIA-102.AABB-2000)***

This document defines the general control channel structures to be employed on the APCO Project 25 trunking control channel.

Product Code 3 May, 2000 **COMMITTEE: TR-8.10**
\$60.00

TIA/EIA-102.AABC***APCO Project 25 - Trunking Control Channel Messages (ANSI/TIA/EIA-102.AABC-2000)***

This document updates information contained in TIA/EIA/IS-102.AABC to include messages for telephone interconnect channel grant updates and a revision for the group affiliation response.

Product Code 3 Apr, 2000 **COMMITTEE: TR-8.10**
\$202.00

LAND MOBILE COMMUNICATIONS, PRIVATE RADIO (APCO/PROJECT 25/102 Series) (cont.)

TIA/EIA-102.AABC-1

APCO Project 25 - Trunking Control Channel Messages - Addendum 1 - SNDCP Trunking Control Channel Messages (ANSI/TIA/EIA-102.AABC-1-01)

This document updates TIA/EIA-102-AABC to include information on SNDCP Trunking Control Channel Messages

Product Code 3 Sept, 2001 **COMMITTEE: TR-8.10**
\$36.00

TIA/EIA-102.AACA

APCO Project 25 - Over-The-Air-Rekeying (OTAR) Protocol - New Technology Standards Project - Digital Radio Technical Standards

This document covers Over-the-Air-Rekeying (OTAR) protocol for unclassified sensitive government communications. Readers should have knowledge of the Project 25 standard to make use of this document. OTAR is a method of encrypting and sending the encryption keys through the Common Air Interface (CAI) in privacy. This document defines protocol and sets forth procedures to implement OTAR in radios conforming to Project 25 standards. Key management functions are described at a conceptual level.

Product Code 3 Apr, 2001 **COMMITTEE: TR-8**
\$165.00

TIA/EIA-102.BAAA

APCO Project 25 FDMA Common Air Interface - New Technology Standards Project - Digital Radio Technical Standards (ANSI/TIA/EIA-102.BAAA-98)

This document is part of the APCO/Project 25 series. This document provides an overview of the standardized set of data communication services such that data connectivity will operate in accordance with any Project 25 radio and across any Project 25 digital radio system. The document describes all of the parts of a system for public safety land mobile radio communications. These systems have subscriber units (which include portable radios for hand held operation and mobile radios for vehicular operation), base stations (for fixed installations), and other fixed equipment (for wide-area operation and console operator positions), as well as computer equipment (for data communications). There are interfaces between each of these equipment items. The Common Air Interface allows these radios to send and receive digital information over a radio channel.

Product Code 3 May, 1998 **COMMITTEE: TR-8.15**
\$112.00

TIA/EIA-102.BAAA-1

APCO Project 25 FDMA Common Air Interface - Addendum 1 (ANSI/TIA/EIA-102.BAAA-1-99)

This document updates the information contained in TIA/EIA-102.BAAA for APCO/NASTD/FED Project 25, phase 2.

Product Code 3 Sept, 1999 **COMMITTEE: TR-8.15**
\$36.00

TIA/EIA-102.BAAC

APCO Project 25 - Common Air Interface Reserved Values (ANSI/TIA/EIA-102.BAAC-2000)

This document defines the messages to control trunking system operation on the common air interface for Project 25

Product Code 3 May, 2000 **COMMITTEE: TR-8.15**
\$72.00

TIA/EIA-102.BAAC-1

Common Air Interface Reserved Values - Addendum 1 (ANSI/TIA/EIA-102.BAAC-1-2001)

The standard SAP values are used by the data system to distinguish services for different data packets

Product Code 3 June, 2001 **COMMITTEE: TR-8.15**
\$31.00

TIA/EIA-102.BABA

APCO Project 25 Vocoder Description (ANSI/TIA/EIA-102.BABA-98)

This document specified the voice coding method for the Project 25 System and Standard Definition IS102 (originally published as a TSB). It describes the functional requirements for the transmission and reception of voice information using digital communication media described in the standard. This document is specifically intended to define the conversion of voice from an analog representation.

Product Code 3 May, 1998 **COMMITTEE: TR-8**
\$151.00

TIA/EIA-102.BABB

APCO Project 25 - Vocoder Mean Option Score Conformance Test (ANSI/TIA/EIA-102.BABB-99)

This document details definitions and methods of measurement for test conformance of speech codecs used in APCO Project 25 Digital Land Mobile Radio Equipment to the reference speech codec defined for Project 25. The purpose of this standard is to assure that a speech codec in any given piece of Project 25 Equipment is compliant with TIA/EIA-102.BABA.

Product Code 3 May, 1999 **COMMITTEE: TR-8**
\$92.00

TIA/EIA-102.BABC

APCO Project 25 Vocoder Reference Test (ANSI/TIA/EIA-102.BABC-99)

This document specifies one method that may be employed to test that implementation of TIA/EIA-102.BABA compatible speech codecs meet minimum performance requirements.

Product Code 3 Apr, 1999 **COMMITTEE: TR-8**
\$64.00

TIA/EIA-102.BADA

Telephone Interconnect Requirements and Definitions (Voice Service) (ANSI/TIA/EIA-102.BADA-2000)

This document defines the requirements for telephone voice interconnect for Land Mobile Radio systems. This document only applies to those features of a telephone interconnect service which are necessary for basic telephone functionality.

Product Code 3 Feb, 2000 **COMMITTEE: TR-8.19**
\$53.00

LAND MOBILE COMMUNICATIONS, PRIVATE RADIO (APCO/PROJECT 25/102 Series) (cont.)

TIA/EIA-102.BAEA**APCO Project 25 Data Overview - New Technology Standards Project (ANSI/TIA/EIA-102.BAEA-2000)**

This document provides an overview of the standardized set of data communication services such that data connectivity will operate in accordance with any Project 25 radio and across any Project 25 digital radio system. The document describes circuit and packet data. Additionally, the description serves the requirement to transport multiple packet protocols, including TCP/IP, X.25 and SNA. The APCO 25 system defines 2 different categories of data services in 3 different categories of data configurations for a total of 6 distinct service/configuration combinations. This document does not include a multipoint A interface, or low speed data, which is data embedded in voice.

Product Code 3 Mar, 2000 COMMITTEE: TR-8.5
\$53.00

TIA/EIA-102.BAEB**APCO Project 25 Packet Data Specification - New Technology Standards Project - Digital Radio Technical Standards (ANSI/TIA/EIA-102.BAEB-2000)**

This document serves to define the detailed interfaces, protocols, and procedures involved in interfacing with a data capable Project 25 standard radio unit via the standard mobile data peripheral interface (A), and (optionally) a Project standard FNE (Fixed Network Equipment) data end-system interface (ED). Defined are packet services, in all 3 configurations: radio-radio, radio-repeater, and radio-FNE, supported by point-to-point radio data peripheral interfaces (A). The data services mapping to Project 25 CAI formats are defined, which may be provided across conventional or trunked service channels.

Product Code 3 Apr, 2000 COMMITTEE: TR-8.5
\$137.00

TIA/EIA-102.BAEB-1**APCO Project 25 - Packet Data Specification - Addendum 1 - Subnetwork Dependent Convergence Protocol - New Technology Standards Project - Digital Radio Technical Standards (ANSI/TIA/EIA-102.BAEB-1-2001)**

This document updates information contained in TIA/EIA-102.BAEB "Packet Data Specification". These enhancements are presented in order to optimize the capabilities of a trunked Project 25 data system.

Product Code 3 Oct, 2001 COMMITTEE: TR-8.5
\$66.00

TIA/EIA-102.BAEC**APCO Project 25 Circuit Data Specification New Technology Standards Project Radio Technical Standards (ANSI/TIA/EIA-102.BAEC-2000)**

This document serves to define the detailed interfaces, protocols and procedures involved in interfacing with a data-capable Project 25 standard radio unit via the standard mobile data peripheral interface (A), and, optionally, a Project 25 standard fixed network equipment (FNE) data end-system interface.

Product Code 3 May, 2000 COMMITTEE: TR-8.5
\$84.00

TIA/EIA-102.BAEE**Radio Control Protocol (RCP) (ANSI/TIA/EIA-102.BAEE-2000)**

This document defines a Radio Control Protocol (RCP) for use in land mobile digital radio systems. RPC, along with the Internet Control Message Protocol (ICMP), defines the control signaling protocol across the "A" interface.

Product Code 3 Mar, 2000 COMMITTEE: TR-8.5
\$62.00

TIA/EIA-102.CAAA**Digital C4FM/CQPSK Transceiver Measurement Methods (ANSI/TIA/EIA-102.CAAA-1999)**

This document provides definition, methods of measurement and performance standards for radio equipment used in the private (dispatch) land mobile services that employ C4FM or CQSK modulation for transmission and reception of voice or data using digital techniques, with or without encryption, with a maximum frequency of 1 GHz or less.

Product Code 3 June, 1999 COMMITTEE: TR-8.1
\$165.00

TIA/EIA-102.CAAB**Digital C4FM/CQPSK Transceiver Performance Recommendations (ANSI/TIA/EIA-102.CAAB-2000)**

This document provides physical layer performance standards under standard conditions for 12.5 kHz channelization digitally modulated radio equipment with a maximum operating frequency of 1 GHz or less in the Private (Dispatch) Land Mobile Services that employ compatible 4 level frequency modulation (C4FM) or compatible differential offset quadrature phase shift keying (CQPSK) digital modulation for transmission of voice or circuit switched data.

Product Code 3 Nov, 2000 COMMITTEE: TR-8.6
\$84.00

TSB102-A**APCO Project 25 - Systems and Standards Definition**

The APCO Project 25 System and Standards Definition provides, in a general way, a definition and description of an APCO Project 25 system's architecture, interfaces and system elements. General expectations of the APCO Project 25 system and the organization of a family of APCO Project 25 standards and bulletins are included in this document. More detailed APCO Project 25 information is included in the individual APCO Project 25 standards and bulletins.

Product Code 3 Nov, 1995 COMMITTEE: TR-8
\$145.00

TSB102.AAAB**APCO Project 25 - Security Services Overview - New Technology Standards Project - Digital Radio Technical Standards**

A general land mobile radio communications system consists of subscriber units, base stations and other fixed equipment for single-site to wide area operation and console operator positions, and computer equipment. This document provides an overview of the security services available in Land Mobile Radio systems. It provides the context in which to understand why security services are required and gives a general high level description of how they are provided.

Product Code 3 Jan, 1996 COMMITTEE: TR-8
\$58.00

LAND MOBILE COMMUNICATIONS, PRIVATE RADIO (APCO/PROJECT 25/102 Series) (cont.)

TSB102.AABA***APCO Project 25 Trunking Overview***

APCO Project 25 digital radio systems will optionally support a trunking mode of operation. This document provides an overview of the essential attributes of the trunking mode of operation such that, where systems are configured in the trunking mode, voice and data services will operate in accordance with the goals of the APCO Project 25. Trunking is needed in order to support access control over resources ranging all dimensions from single site single station, to multiple site single station, to multiple station single site, to multiple station multiple site. Additionally, the trunking system must support all required services, which may cover such areas as data, voice, protected data, protected voice, flexible group structures, and telco interconnect.

Product Code 3 Apr, 1995 **COMMITTEE: TR-8.10**
\$38.00

TSB102.AABD***APCO Project 25 Trunking Procedures - New Technology Standards Project - Digital Radio Technical Standards***

This document details the procedures needed to be followed by both trunked subscriber units (mobile, portable and fixed) and the trunked system to which the subscriber units are connected. These procedures are required to permit interoperability.

Product Code 3 Oct, 1997 **COMMITTEE: TR-8.10**
\$129.00

TSB102.AABF***APCO Project 25 - Link Control Word Formats and Messages - New Technology Standards Project - Digital Radio Technical Standards***

This document shall provide information that is necessary for the formats and messages for the Link Control Words for both conventional and trunking operation. Link Control Words are code words that encodes 9 octets of information.

Product Code 3 May, 1996 **COMMITTEE: TR-8.10**
\$58.00

TSB102.AABG***APCO Project 25 - Conventional Control Messages - New Technology Standards Project - Digital Radio Technical Standards***

APCO Project 25 applies to both conventional and trunked systems. The distinction between conventional and trunking systems may be that trunking systems include a centralized controlling device which is used to assign channels to subscribers as service is demanded. This controlling device is absent in a conventional system. A large set of useful functions are defined for trunking systems, including but not limited to the functions necessary for subscribers to request service and for the controller to grant service. Trunking also defines functions which may be applied to conventional systems, such as an Emergency Alarm. This document is intended to name those functions that are defined for trunking which may be applied to conventional systems.

Product Code 3 July, 1996 **COMMITTEE: TR-8.10**
\$41.00

TSB102.AACB***Over-The-Air-Rekeying (OTAR) Operational Description - New Technology Standards Project - Digital Radio Technical Standards***

This document provides an operational description of OTAR. Its purpose is to describe, in relatively simple terms, the various complex over-the-air-rekeying messages and procedures. This document is meant to be used in conjunction with an OTAR protocol standard, and a basic familiarity with an OTAR protocol standard is helpful to interpret this operational description.

Product Code 3 Mar, 1998 **COMMITTEE: TR-8.6**
\$71.00

TSB102.AACC***Conformance Tests for the Project 25 Over-The-Air-Rekeying (OTAR) Protocol - New Technology Standards Project - Digital Radio Technical Standards***

This document provides a series of conformance tests for the APCO Project 25 Over-The-Air-Rekeying (OTAR) protocol. These tests are intended to assure that the equipment conforms to the message formats specified in the OTAR protocol document and that the equipment is interoperable with other equipment conforming to the standard.

Product Code 3 Feb, 1997 **COMMITTEE: TR-8**
\$157.00

TSB102.BAAB-A***APCO Project 25 Common Air Interface Conformance Test***

This document lists a series of conformance tests for the Common Air Interface, defined in reference 2. These tests are intended to assure the equipment actually conforms to the formats specified in the Common Air Interface. The object of the conformance tests is to assure the equipment may be interoperable with other equipment conforming to the standard. These tests are different and distinct from performance test, given in reference 5, which measure the actual limits of equipment performance. The performance and conformance test are mutually complementary. These tests are also different and distinct from lock down tests, which are intended to demonstrate interoperability between different radios. These conformance tests are intended to precede lock down tests.

Product Code 3 Aug, 1995 **COMMITTEE: TR-8.15**
\$170.00

TSB102.BAAB-A-1***APCO Project 25 - FDMA Common Air Interface Conformance Test - Addendum 1***

This document updates information contained in TSB-102.BAAB revision A for APCO/NASTD/FED Project 25 Phase 2.

Product Code 3 Apr, 1999 **COMMITTEE: TR-8.15**
\$30.00

LAND MOBILE COMMUNICATIONS, PRIVATE RADIO (APCO/PROJECT 25/102 Series) (cont.)

TSB102.BAAD**APCO Project 25 Common Air Interface Operational Description for Conventional Channels**

This document serves as a supplement to the Common Air Interface and describes some simple operational procedures for conventional systems using voice or data. These procedures are sufficient for basic operation of conventional radio systems. The basic procedures defined in TSB102.BAAD include those for transmitting and receiving digital voice on a radio channel, and basic conventional systems are classed as either repeater systems or direct systems.

Product Code 3 Oct, 1994 **COMMITTEE: TR-8.15**
\$58.00

TIA/EIA/TSB102.BABD**APCO Project 25 Vocoder Selection Process**

This document describes the evaluation procedure to be employed in the assessment of various digital voice coding technology proposals for Project 25.

Product Code 3 May, 1996 **COMMITTEE: TR-8**
\$166.00

TSB102.BACA**Inter-RF Subsystem Interface Messages Definition - New Technology Standards Project - Digital Radio Technical Standards**

This document defines a basic set of high-level messages to be utilized on the APCO Project 25 Interswitching Interface (ISSI) to accomplish the necessary mobility for subscriber units and mandatory standard services across the country.

Product Code 3 Dec, 1996 **COMMITTEE: TR-8**
\$72.00

TSB102.BACC**APCO Project 25 - Inter-RF - Subsystem Interface Overview - New Technology Standards Project - Digital Radio Technical Standards**

This document provides an overview of the essential attributes of the ISSI such that, where APCO Project 25 communication systems are configured to include more than a single radio frequency subsystem (RFSS), the communication system will function and operate in accordance with the goals of APCO Project 25.

Product Code 3 Dec, 1996 **COMMITTEE: TR-8**
\$43.00

TSB102.BAFA-A**APCO Project 25 - Network Management Interface Overview - New Technology Standards Project - Digital Radio Technical Standards**

This document specifically addresses the Network Management Interface. Its objective is to define the interface between one or more Radio Frequency (RF) Sub-systems and an attached network management manager or other interconnected network management system.

Product Code 3 July, 1999 **COMMITTEE: TR-8.19**
\$48.00

TSB102.CABA**APCO Project 25 - Interoperability Test Procedures - Conventional Voice Equipment**

This document defines procedures for testing the interoperability of subscribers/repeaters between different manufacturers, different models of the same manufacturer, and different firmware upgrades of the same model.

Product Code 3 Feb, 2002 **COMMITTEE: TR-8**
\$76.00

MICROWAVE, POINT-TO-POINT**EIA-166****Miniature Waveguide Flanges, Unpressurized Contact Type**

This document pertains to miniature unpressurized contact flanges for use with rectangular waveguides as specified in EIA-261-B. It contains a list of waveguides flange assemblies with pertinent drawing dimensions.

Product Code 3 May, 1962 **COMMITTEE: TR-14.12**
\$33.00

TIA-200-A**Circular Waveguides**

This document contains 38 EIA designations for rigid circular waveguides along with standard dimensions, tolerances and frequency ranges. Inside diameters range from .094 to 25.508 inches.

Product Code 3 Aug, 1975 **COMMITTEE: TR-14.12**
\$33.00

EIA-261-B**Rectangular Waveguides (WR3 to WR2300)**

This document contains 34 EIA designations for rigid rectangular waveguides; along with standard dimensions and frequency ranges.

Product Code 3 May, 1979 **COMMITTEE: TR-14.12**
\$33.00

EIA-271-A**Waveguide Flanges, Pressurizable Contact Types for Waveguide Sizes WR90 to WR2300**

This document pertains to pressurizable contact flanges for use with rectangular waveguides as specified in the latest issue of EIA-261, Section II pertains to contact flanges for sizes WR770 through WR2300. The document contains a list of pertinent drawings of waveguide flange assemblies utilizing two types of pressurizing gaskets. By specifying assembly dimensions in lieu of detail part drawings, it provides for interchangeability and permits manufacturing flexibility with regard to the method of joining the flange to the waveguide.

Product Code 3 Nov, 1963 **COMMITTEE: TR-14.12**
\$62.00

MICROWAVE, POINT-TO-POINT (cont.)

EIA-285

Waveguide Flanges, Dual Contact Pressurizable and Miniature Type for Waveguide Sizes WR90 to WR975

This document pertains to waveguide flanges where two waveguides are in close proximity such as short slot hybrid, dual TR tubes, etc., and provides a dual contact pressurizable flange for use with two rectangular waveguides per EIA-261. It also provides for a miniature version for the waveguide sizes from WR90 to WR284. Drawings and tables showing the actual dimensions are given.

Product Code 3 Nov, 1963 **COMMITTEE: TR-14.12**
\$33.00

EIA-298

Audio Transmitter Input Impedances for Single Input Transmitters

This document specifies the audio input impedance of radio transmitters for broadcasting regardless of the type of modulation.

Product Code 3 Apr, 1964 **COMMITTEE: TR-8**
\$33.00

EIA-304

Ridge Waveguides

This document pertains to both single ridge and double ridge waveguides, having bandwidth ratios of 2.4 to 1 and 3.6 to 1.

Product Code 3 Feb, 1965 **COMMITTEE: TR-14.12**
\$33.00

TSB10-F

Interference Criteria for Microwave Systems

This document provides methodology and criteria for properly coordinating microwave radio systems in the merged Domestic Public Fixed Radio Services and Private Operational-Fixed Microwave Service bands. These interference criteria are based on levels of interference established in Parts 21 and 94 of the Federal Communications Commission (FCC) Rules and Regulations. TSB10-F will have particular significance in facilitating the transition of 2GHz fixed systems to higher bands in order to accommodate the new PCS systems.

Product Code 3 June, 1994 **COMMITTEE: TR-14.11**
\$190.00

MODEMS

TSB38

Test Procedure for Evaluation of 2-Wire 4-Kilohertz Voiceband Duplex Modems

This document provides a consistent set of repeatable test procedures designed to characterize the performance of modems, specifically 2-Wire 4-Kilohertz Voiceband Duplex Modems that operate over the Public Switched Telephone Network (PSTN). These procedures apply regardless of manufacturer type or implementation of the modem.

This document gives step-by-step instructions for performing each test. TSB38 also gives format suggestions for analyzing, interpreting and presenting the results.

Product Code 3 Dec, 1994 **COMMITTEE: TR-30.3**
\$146.00

DATA MODEMS

TIA/EIA-793

North American Telephone Network Transmission Model for Evaluating Analog Client and Digitally Connected Server Modems (ANSI/TIA/EIA-793-2001)

This document defines a model of the characteristics of the Public Switched Telephone Network (PSTN) in the continental United States of America which determine PCM modem transmission performance

Product Code 3 Jan, 2001 **COMMITTEE: TR-30.3**
\$133.00

TIA/EIA-3700

Telephone Network Transmission Model for Evaluating Analog Modem Performance (ANSI/TIA/EIA-3700-99)

This document defines a model of the characteristics of the U.S. public switched telephone to be used to measure modem transmission performance.

Product Code 3 Aug, 1999 **COMMITTEE: TR-30.3**
\$88.00

FAX MODEMS

TIA/EIA-578-B

Facsimile Digital Interfaces - Asynchronous Facsimile DCE Control Standard, Service Class 1 (ANSI/TIA/EIA-578-B-2000)

Group 3 facsimile machines were developed for sending digitized documents over the general switched telephone network (GSTN). This document contains protocols for use between a DTE and a facsimile DCE, and includes automatic calling and answering. It defines the commands that the DTE may issue to configure and control the DCE, and the responses the facsimile DCE may issue to those commands. It is useful for intelligent DTEs and DTE software, facsimile DCEs, and facsimile terminals with digital connection to DTEs. This Standard assumes that the DTE and DCE are connected via serial asynchronous connection using TIA-232-D (or CCITT V.24) circuits. However, the protocols defined may be implemented in any environment that provides a character serial bidirectional data stream, including processor bus attached "FAX boards," local area networks, small computer systems interface (SCSI, ANSI X3.131), etc. The adaptation of the protocols and procedures to these alternative communication schemes is beyond the scope of this Standard. TSB43 relates to and clarifies TIA-578.

Product Code 3 Nov, 2000 **COMMITTEE: TR-30.5**
\$84.00

MODEMS, FAX MODEMS (cont.)

TIA/EIA-592-A

Asynchronous Facsimile DCE Control Standard - Service Class 2 (ANSI/TIA/EIA-592-A-98)

This document contains protocols for use between a DTE and a Facsimile DCE. It supports automatic calling and answering. This standard defines the commands that the DTE may issue to configure and control the DCE, and the responses the facsimile DCE shall issue to those commands. It also contains useful information for intelligent DTEs and DTE software, facsimile DCEs, and facsimile terminals with digital connection to DTEs. This Standard assumes that the DTE and DCE are connected via serial asynchronous connection using TIA/EIA-232-F (or v.24) circuits. It also requires the provision of the Packet Protocol when used on serial ports.

Product Code 3 Apr, 1998 **COMMITTEE: TR-29.2**
\$129.00

TIA-605

Facsimile DCE-DTE Packet Protocol Standard

This document describes a Facsimile DCE-to-DTE Packet Protocol. This protocol is designed to detect the loss of octets sent by the Facsimile DCE to the DTE due to DTE inability to service the input channel.

This protocol was designed to support Facsimile DCE, such as those defined in the earlier editions of TIA-578 and TIA-592.

This document was designed to support communication on serial asynchronous connections, such as EIA/TIA-232-E or ITU-T V.24 circuits.

Product Code 3 Dec, 1992 **COMMITTEE: TR-30.5**
\$44.00

TSB43

Recommendations for DTE Compatibility with TIA/EIA-578 DCEs and Corrections to Example Sessions

This addendum makes corrections to the original document.

Product Code 3 Aug, 1992 **COMMITTEE: TR-30.5**
\$33.00

OPTIONAL MODEMS

TSB83

IS-680 Optional Modems

This document describes two optional modems for information communication between personal base (PB) equipment and authorization and call routing equipment (ACRE): Bell 212 and higher-speed transmission modems.

Product Code 3 Apr, 1997 **COMMITTEE: TR-45.1**
\$37.00

MULTIFUNCTION PERIPHERAL INTERFACE

TIA/EIA-334-C

Signal Quality at Interface Between Data Terminal Equipment and Synchronous Data Circuit-Terminating Equipment for Serial Data Transmission (ANSI/TIA/EIA-334-C-2000)

This document provides a basis of agreement on the signal quality at the DTE/DCE interface in synchronous serial data transmission systems where timing leads are exchanged across the interface. A section on the significance of individual distortion on frequency measurements has been added and terminology has been revised to be consistent with that used in the ITU-T documents.

Product Code 3 Apr, 2000 **COMMITTEE: TR-30.2**
\$47.00

PERSONAL COMMUNICATIONS SERVICES (PCS)

TIA/EIA/IS-104-A

Personal Communications Service Descriptions for 1800 MHz

This document presents a recommended plan for the implementation of Uniform Services for use in the Personal Communications Services (PCS) in the 1800 MHz band. Its intent is not to determine the specific service offerings required of service providers. Rather it is intended that, when service offerings are made, the manner in which a PCS subscriber may place calls using such offerings should remain reasonably consistent from system to system.

Product Code 3 Apr, 1996 **COMMITTEE: TR-46.1**
\$197.00

A-INTERFACE

J-STD-024

Personal Communications Services – SS7 – Based A-Interface (ANSI/J-STD-024-97)

This document specifies the functional capabilities, including services and features, for the interfacing of a Personal Communications Switching Center (PCSC) with one or more Radio Systems (RS) (A-Interface).

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$158.00

TIA/EIA/IS-651-A

SS7 Based A-Interface

This document specifies the functional capabilities, including services and features, for the interfacing of a Personal Communications Switching Center (PCSC) with one or more Radio Systems (RS) (A-Interface).

Product Code 3 Oct, 1997 **COMMITTEE: TR-46.2**
\$181.00

TIA/EIA/IS-653

ISDN Based A-Interface (Radio System - PCSC) for 1800 MHz Personal Communications Systems

This document is to standardize the ISDN based A-interface for PCS.

Product Code 3 May, 1996 **COMMITTEE: TR-46.2**
\$166.00

PERSONAL COMMUNICATIONS SERVICES (PCS) (cont.)

AIR INTERFACE

J-STD-007***PCS 1900 - Air Interface Specification (ANSI/J-STD-007-97)***

This document describes in detail air interface suitable for Personal Communications Services (PCS) operating in the licensed U.S. Emerging Technologies bands. The purpose of this standard is to give operators, manufacturers and users information which will ensure interoperability between equipment, which is compliant with the draft standard.

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$361.00

J-STD-007a***PCS 1900 – Air Interface Specification – Calling Name Presentation (CNAP) Supplementary Service (ANSI/J-STD-007a-98)***

This document supplements J-STD-007 for the Calling Name Presentation (CNAP) supplementary service. The CNAP services requires changes to Volume 2 Part III and Volume 5 Part III.

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$29.00

J-STD-014***Personal Access Communications System Air Interface Standard (ANSI/J-STD-014-98)***

This document is to provide a standardized layered air interface that is optimized to allow residential and business customers to gain wireless access to a typical wireline exchange. This document specifies the bandwidth, frame structure, elements of procedure, format of fields and procedures for the proper operation of the Personal Access Communications System (PACS) air interface.

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$212.00

J-STD-014b***Personal Access Communications System Unlicensed (Version B) Air Interface Standard (ANSI/J-STD-014b-96)***

This document is to provide a standardized layered air interface that is optimized to allow residential and business customers to gain wireless access to a typical wireline exchange using the radio spectrum allocated by the FCC for unlicensed operation.

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$212.00

J-STD-017***A Composite CDMA/TDMA Air Interface Compatibility Standard for Personal Communications in 1.85 – 1.99 GHz for Licensed Applications (ANSI/J-STD-017-99)***

This document was developed to detail the specifications of the Composite CDMA/TDMA air interface for PCS in the 1.85 to 1.99 GHz frequency bands. It covers system implementation and operation in the 1850 to 1990 MHz licensed frequency bands, within the Public Switched Telecommunications Network (PSTN).

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$271.00

CELLULAR INTERSYSTEM OPERATIONS

TSB56-A***Cellular Application Level Testing for IS-41-B, TSB-51 and IS-53***

This document contains testing scenarios for the verification of intersystem signaling and cellular feature compatibility with IS-41 (Rev-B), IS-53 (Rev-0) and TSB-51 (Rev. 0). These tests are not intended to be a complete exercise of all possible combinations of intersystem signaling scenarios. Rather, these exercises present a manageable set of verification exercise tests.

Product Code 3 June, 1994 **COMMITTEE: TR-45.2**
\$92.00

INTERFERENCE

TSB84-A***Licensed PCS-to-PCS Interference***

This document categorizes issues related to interference between licensed-band PCS systems in the 1.85-1.91 and 1.93-1.99 GHz band. The TSB is designed to facilitate the reduction of interference from adjacent band and co-band systems and provide data for spectrum coordination rules at geographic and spectrum band edges.

Product Code 3 Aug, 1999 **COMMITTEE: TR-46.2**
\$243.00

INTERSYSTEM OPERATION

J-STD-038-A***Network Interworking Between GSM Map and TIA/EIA-41-Map - Revision A - GPRS Support***

This document addresses the interworking and interoperability between TIA/EIA-41 MAP and GSM based networks in the support of subscribers roaming between networks.

Product Code 3 Jan, 2002 **COMMITTEE: TR-46.3**
\$312.00

TIA/EIA/IS-129***Interworking/Interoperability Between DCS 1900 and IS-41 Based MAPs for 1800 MHz Personal Communications Systems - Phase I***

Interworking and interoperability between DCS 1900 MAP and IS-41 MAP systems is a key issue in ensuring national and global availability of Personal Communications Systems (PCS) services for mobile users.

Product Code 3 July, 1996 **COMMITTEE: TR-46.2**
\$84.00

PERSONAL COMMUNICATIONS SERVICES (PCS), INTERSYSTEM OPERATION (cont.)

TIA/EIA/IS-652

PCN to PCN Intersystem Operations Based on DCS 1900

This document intends to standardize ISDN based a-interface between personal communications systems switching centers (PCS) and one or more radio stations (RSs). Through the presentation of call flow diagrams and associated descriptions of messages flowing across the ISDN base A-interface, the standard focuses on the call control aspects of the ISDN based A-interface. TIA/EIA/IS-653 includes signaling and transmission protocol descriptions; procedures for call control, mobility management, and hand offs; and A-interface requirements that support the functional capabilities of various air interface signaling protocols. A companion document ANSI T1 Mobility Management Applications Layer Protocol (MMAP) standard, focuses primarily on the mobility management aspects of the ISDN based A-interface. TIA/EIA/IS-653 will enable various telecommunications manufacturers to provide interconnecting equipment that will operate compatibly and evolve across the ISDN based A-interface. The standard does not specify nor intends to preclude any specific implementations.

Product Code 3 Feb, 1996 **COMMITTEE: TR-46.2**
\$627.00

INTERSYSTEM STANDARDS

TSB68

PCN to PCN Intersystem Operations - IS-41 Based

This document describes the enhancements, additions and modifications to TIA/EIA-IS-41-C that are required to support Personal Communications Services (PCS) at 1800 Mhz. The scope is limited to providing the specifications and technical requirements for the intersystem operations between two PCS networks. The unique characteristics of Mobility Management for PCS along with other PCS-specific characteristics are highlighted and the differences are bridged to support full compatibility with IS-41-C. The technical requirements for a Mobile Application Part (MAP) based upon the Cellular Radio Telecommunications Intersystem Operations MAP specified in IS-41-C are provided.

Product Code 3 June, 1995 **COMMITTEE: TR-46.2**
\$54.00

NETWORK FUNCTIONALITIES AND PROTOCOL

J-STD-023

PCN to PCN Intersystem Operations Based on PCS 1900 (ANSI/J-STD-023-96)

This document specifies the Stage 2 and Stage 3 descriptions of the Network Functionalities and Network Protocol for a Personal Communications Services (PCS) network in the public 1800 MHz domain. This document covers all Stage E and Stage 3 descriptions for the network protocol, as well as the Stage E description of the supported PCS services.

Product Code 3 Dec, 1996 **COMMITTEE: TR-46.3**
\$353.00

PERSONAL ACCESS COMMUNICATIONS SYSTEM (PACS)

J-STD-021

Recommended Minimum Performance Standards of Personal Access Communications System (PACS) Subscriber Units (ANSI/J-STD-021-96)

This document details definitions, methods of measurement, and minimum performance requirements for Personal Access Communications Systems (PACS) Subscriber Units (SUs) operating with PACS Radio Ports (RPs). This Standard shares the purpose of the PACS Air Interface Standard to ensure that an SU can obtain service in any PACS system that meets the compatibility requirements of the PACS Air Interface Standard.

Product Code 3 Feb, 1999 **COMMITTEE: TR-46.3**
\$53.00

J-STD-022

Recommended Minimum Performance Standards of Personal Access Communications System (PACS) Radio Ports (ANSI/J-STD-022-96)

This document details definitions, methods of measurement, and minimum performance requirements for Personal Access Communications system (PACS) Radio ports (RPs). This standard shares the purpose of the PACS Air Interface Standard to ensure that RP equipment in the PACS system provides service to any Subscriber Unit (SU) that meets the PACS Air Interface Standards, ANSI J-STD-014.

Product Code 3 Oct, 1996 **COMMITTEE: TR-46**
\$53.00

PRIVATE NETWORK TELEPHONY

TSB32-A

Overall Transmission Plan Aspects for Telephony in a Private Network

This document applies to transmission within private networks and the interconnection of private networks with other, mainly public, networks. It should be considered as a tutorial and illustration for the planning of private networks with respect to the voice transmission quality of narrowband 3.1 kHz real time telephony via handsets.

Product Code 3 Dec, 1998 **COMMITTEE: TR-41.1**
\$151.00

SATELLITE

TIA/EIA/IS-787

Common ATM Satellite Interface Interoperability Specification (CASI)

This document introduces a network device that provides powerful, dynamic forward error correction (FEC) and data compression techniques for better wideband utilization. This CASI specification provides the details for implementing a network device between the terrestrial asynchronous transfer mode (ATM) network interface and a conventional satellite modem. This document allows interoperability among different vendor equipment that provides the features that are described in this document.

Product Code 3 July, 1999 **COMMITTEE: TR-34.1**
\$47.00

SATELLITE (cont.)

TSB90

High Level Requirements for Common Air Interface for GEO-Mobile (Super-GEO) Satellite Communications Featuring Interoperation with Terrestrial GSM

This document defines the minimum requirements in terms of services, operating scenario and service attributes of a common air interface (CAI) standard for a geostationary earth orbit (GEO) mobile satellite service (MSS) enabling single-mode or multimode user terminal operation with the terrestrial global system for mobile communications (GSM) network.

Product Code 3 Sept, 1998 **COMMITTEE: TR-34.1**
\$78.00

TSB91

Satellite ATM Networks: Architectures and Guidelines

This document provides architectures and guidelines for satellite ATM networks. An important element of satellite ATM networking will involve support for the routing, rerouting, and handover of active connections.

Product Code 3 May, 1998 **COMMITTEE: TR-34.1**
\$56.00

INTERFERENCE CRITERIA

TSB-86

Criteria and Methodology to Assess Interference Between Systems in the Fixed Service and the Mobile-Satellite Service in the Band 2165-2200 MHz

This document provides technical background information on systems operating in the FS and the MSS in the 2.1 GHz frequency band; delineates methods for evaluating the associated potential interference; presents example applications for the methodology and discusses possible interference mitigation techniques.

Product Code 3 Oct, 1999 **COMMITTEE: TR-34.2**
\$129.00

SURVEILLANCE

WIRE TAPING

J-STD-025-A

Lawfully Authorized Electronic Surveillance (Interim Standard)

This document defines the interfaces between a telecommunications service provider (TSP) and a law enforcement agency (LEA) to assist the LEA in conducting lawfully authorized electronic surveillance.

Product Code 3 May, 2000 **COMMITTEE: TR-45.2**
\$91.00

J-STD-025-A

Lawfully Authorized Electronic Surveillance (ANSI-J-STD-025-A-2000)

This document defines the interfaces between a telecommunications service provider (TSP) and a law enforcement agency (LEA) to assist the LEA in conducting lawfully authorized electronic surveillance.

Product Code 3 Dec, 2000 **COMMITTEE: TR-45.2**
\$165.00

TELEPHONES/TERMINAL EQUIPMENT

CALLER ID

TIA/EIA-716

Telecommunications Telephone Terminal Equipment - Type 1 Caller Identity Equipment Performance Requirements (ANSI/TIA/EIA-716-98)

This document addresses the technical issues associated with Customer Premises Equipment (CPE) for on-hook signaling, with or without power ringing, which are able to decode data frames packaged in a Single Data Message Format (SDMF), or a Multiple Data Message Format (MDMF). Specifically this standard establishes formal criteria for Frequency Shift keying (FSK) signals and protocol capable of being received by such CPE.

It does not address technical issues associated with Caller Identity Delivery on Call Waiting (CIDCW) or Analog Display Services Interface (ADSI) CPE, but may be referenced, as the signaling criteria are the same or similar.

Product Code 3 Nov, 1998 **COMMITTEE: TR-41.3**
\$62.00

TIA/EIA-855

Telecommunications - Telephone Terminal Equipment - Stutter Tone Detection Device Performance Requirements (ANSI/TIA/EIA-855-2001)

This document provides specifications for Customer Premises Equipment (CPE) devices designed to automatically detect stutter dial tone (SDT) on an analog telephone line.

Product Code 3 June, 2001 **COMMITTEE: TR-41.3**
\$60.00

KEY SYSTEMS

TIA-478

Multi-Line Key Telephone Systems (KTS) for Voiceband Application

This document, the third in a series, covers key telephone equipment. The other two documents are the latest editions of TIA-464 and TIA-470-A. This document establishes performance and technical criteria for interfacing and connecting with the various elements of the public telephone network, and will be of value to producers and purchasers of key telephone equipment, and producers of auxiliary equipment intended for use with such systems. Key telephone systems which conform to the new document can reasonably be expected to provide quality service in most applications in the U.S. network. Thus, although the document is written around conventional key systems of the familiar "1A2" type, it will be invaluable as a guide to designers of new all-electronic and quasi-electronic key systems as well. Included in TIA-478 are criteria on transmission characteristics, loop supervision and signaling, and alerting signals.

Product Code 3 Mar, 1988 **COMMITTEE: TR-41**
\$118.00

TELEPHONES/TERMINAL EQUIPMENT, KEY SYSTEMS (cont.)

TIA-487

Line Circuit (Card) for 1A2 Generic Multi-Line Key Telephone Systems

This document was written as a result of the increasing use in the United States public telephone network of equipment by a variety of manufacturers. The Standard fills a recognized need in the telephone industry brought about by the increasing use of substitute or add-on auxiliary equipment supplied by different manufacturers. This document will be useful to anyone engaged in the manufacture of U.S. telephone equipment and auxiliary devices, as well as those purchasing, operating or using such equipment or devices.

This document was adopted and approved for DoD use on August 19, 1982.

Product Code 3 Aug, 1982 **COMMITTEE: TR-41**
\$78.00

TIA-514

Telephone Exclusion-Key Interface

This document contains criteria for the exclusion-key interface of telephones that provide this feature. Exclusion keys provide for the transfer of the telephone line to either the telephone or to the data equipment and provide mode indication to the data equipment. The criteria apply to the interface of the exclusion-key telephone.

Product Code 3 July, 1985 **COMMITTEE: TR-41**
\$33.00

NETWORK CHANNEL TERMINAL EQUIPMENT

TIA/EIA-596

Network Channel Terminating Equipment for Public Switched Digital Service (ANSI/TIA/EIA-596-93)

Public Switched Digital Services (PSDS) is a switched service offering providing the end user with the capability of establishing, through the Public Switched Network (PSN), a 56 kb/s digital circuit. These interfaces can be either 4-wire, in-band signaling; 2-wire, in-band signaling; or 2-wire, out-of-band signaling metallic facilities, as shown in Fig 1-1. For purposes of this Standard, these interfaces are referred to as Type I, Type II and Type III respectively. This Standard establishes technical and functional requirements for the customer premises equipment known as Network Channel Terminating Equipment (NCTE). This Standard includes the specification for NCTE interfaces to data terminal equipment (DTE) interface, and end-to-end compatibility and maintenance requirements for connection to PSDS. Throughout this Standard, this equipment will be referred to as the Switched Circuit Data Service Unit (SCDSU) to distinguish it from the general category NCTE.

Product Code 3 Feb, 1993 **COMMITTEE: TR-41.4**
\$132.00

TIA-619

Aggregation of Multiple Independent 56 kbits/s or 64 kbits/s Channels into a Synchronized Wideband Connection

This document is to define a frame structure and procedures for establishing a wideband communications connection by combining multiple switched 56/64 kbit/s channels through the use of a Channel Aggregation Unit.

Product Code 3 Apr, 1996 **COMMITTEE: TR-41.4**
\$130.00

PART 68, (FCC) GUIDELINES

TIA/EIA/IS-883

Telecommunications - Telephone Terminal Equipment - Supplemental Technical Requirements for Connection of Stutter Dial Tone Detection Devices and ADSL Modems to the Telephone Network

This document provides supplemental criteria for connecting stutter dial tone detection devices and ADSL modems to the telephone network in accordance with 47 CFR 68

Product Code 3 June, 2001 **COMMITTEE: TR-41.9**
\$38.00

TIA/EIA/IS-968

Telecommunications - Telephone Terminal Equipment - Technical Requirements for Connection of Terminal Equipment to the Telephone Network

This document specifies technical criteria for terminal equipment approved in accordance with 47 CFR 68 for direct connection to the public switched telephone network, including private line services provided over wireline facilities owned by providers of wireline telecommunications

Product Code 3 July, 2001 **COMMITTEE: TR-41.9**
\$181.00

TSB31-B

Part 68 Rationale and Measurement Guidelines

This document covers test procedures, test equipment and guidelines for determining compliance with the technical requirements of Part 68 of the Federal Communications Commission's (FCC) Rules and Regulations. Part 68 contains the minimum technical standards that customer premises equipment (CPE) must meet in order to be directly connected to the telephone network. These rules specify those technical standards necessary to assure that CPE will not cause harm to the telephone network.

The technical standards of Part 68 cover four broad categories of network harm: (1) Limitations to voltages or other signals that could be harmful to telephone company equipment or craftpersons; (2) Limitations to maximum signal power applied to the network to avoid interference with other telephone network services and users; (3) Limitations to longitudinal imbalance which may cause crosstalk interferences in the wire cable plant; and (4) Limitations to CPE functions that can interfere with the operation of telephone companies' billing equipment.

Product Code 3 Feb, 1998 **COMMITTEE: TR-41.9**
\$349.00

TSB129

Telecommunications - Telephone Terminal Equipment - Guide to the U.S. Supplier's Declaration of Conformity Process

This document provides guidance to the "responsible party" (as defined in Federal Communications Commission (FCC) rules 47CFR Part 68) who wishes to achieve approval of telecommunications terminal equipment (TTE) for connection to the public switched telephone network by the Supplier's Declaration of Conformity (SDoC) method.

Product Code 3 Nov, 2001 **COMMITTEE: TR-41.11**
\$60.00

TELEPHONES/TERMINAL EQUIPMENT, PART 68, (FCC) GUIDELINES (cont.)

TSB168

Telecommunications - Telephone Terminal Equipment - Labeling Requirements

This document specifies the labeling requirements for terminal equipment approved by a Telecommunications Certification Body or a Supplier's Declaration of Conformity for connection to the telephone network in accordance with 47 CFR68.

Product Code 3 June, 2001 **COMMITTEE: TR41.11**
\$41.00

PBX

TIA-464-B

Requirements for Private Branch Exchange (PBX) Switching Equipment

This document establishes performance and technical criteria for interfacing and connecting with the various elements of public and private telecommunications networks. Compliance with these requirements should assure quality service.

Product Code 3 Apr, 1996 **COMMITTEE: TR-41.1**
\$197.00

TIA/EIA-689

PBX and KTS Support for Enhanced 9-1-1 Emergency Service Calling (ANSI/TIA/EIA-689-97)

This document addresses technical issues associated with multi-line telecommunication system (MLTS) support of enhanced 9-1-1 emergency service calling. It specifically addresses dialing, routing, attendant notification and network interface technical specifications associated with outgoing 9-1-1 calls from MLTS stations.

Product Code 3 Aug, 1997 **COMMITTEE: TR-41.1**
\$47.00

TSB81

Comparison of PBX Transmission Requirements in Standards ANSI/TIA/EIA-464-B and ETSI ETS 300 439

This document compares like transmission requirements in ANSI/TIA/EIA-464-B-1996 "Requirements for Private Branch Exchange (PBX) Switching Equipment" and those in ETSI ETS 300 439 "Business Telecommunications (BTC); Transmission Characteristics of Digital Private Branch eXchanges (PBXs)".

Product Code 3 Nov, 1996 **COMMITTEE: TR-41.1**
\$84.00

TSB103

PBX and KTS Support of Enhanced 911 Calling Service

This document addresses dialing, call routing, and caller location database issues associated with MLTS support of Enhanced 911 calling service. It applies to MLTS used by callers to originate emergency calls to an Enhanced 911 service; but it does not apply to MLTSs that might be used in a PSAP to answer emergency calls.

This TSB refers to, but does not resolve, the unique problems of wireless PBX interfaces or those of multiple extensions that pick-up on a single MLTS station line. It also does not address the unique considerations of an MLTS supporting 911 calling service to callers with hearing or speech disabilities, who require the use of text telephones. Those issues are deferred for future investigation.

This TSB includes configurations using currently available techniques and network interfaces to provide Enhanced 911 support. But services may not be offered or available in all areas to support the configurations described in this TSB. The use of configurations other than described in this document is not precluded. Some alternative configurations may be available today. Other configurations involving newer technologies may exist now or may be developed in the future. For all alternate configurations, compatibility with the configurations described in this document is not required.

Product Code 3 Nov, 1993 **COMMITTEE: TR-41.1**
\$51.00

TSB123

Telecommunications - Multiline Terminal Systems - North American Test Plan for Multivendor QSIG Interoperability Testing

This document describes the test cases for the functional testing of QSIG features for interoperability between at least two vendors' QSIG offerings. The tests described in this document are designed to be conducted within private networks in point to point configurations that link the QSIG interfaces of the PINXs utilizing either BRI or PRI trunks.

Product Code 3 Oct, 2000 **COMMITTEE: TR-41.1**
\$151.00

TELEPHONES/TERMINAL EQUIPMENT (cont.)

PBX, WIRELESS

TIA/EIA-662

Personal Wireless Telecommunication Standard (PWT) (ANSI/TIA/EIA-662-97)

This document defines profiles for Personal Wireless Telecommunications (PWT) Interoperability Standard conforming to ANSI/TIA/EIA 622 1998. It is part of a family of profiles that build upon and extend each other, aimed at the general connection of terminals supporting non-voice services at a fixed infrastructure, private and public.

This section specifies a generic frame relay service for use within closed user groups (CUG, see section 3 Definitions and Abbreviations). This service is used by other Data Services Profile (DSP) standards when providing inter-working to levels above the Medium Access Control (MAC) layer of the attached network. Annex B contains inter-working conventions to specific attached data networks. This includes inter-working to the MAC layer of international standard connectionless Local Area data networks (LANs) ISO 8802.3, Ethernet and ISO 8802.5 Token Ring.

This section defines both Type A and Type B services. Type A is a low speed frame relay, with net sustainable throughput of up to 24 kb/s, optimized for burst data, low power consumption and low complexity applications such as hand-portable equipment. Service Type B is a high-speed frame relay, with net sustainable throughput of up to 552K/bits, optimized for high speed and low latency with burst data. Both are full compatible and can inter-work with each other. This standard defines the requirements on the Physical (PHL), Data Link Control (DLC) and Network (NWK) layers of PWT. This section also specifies Management Entity (ME) requirements and generic inter-working conventions that ensure the efficient use of the PWT frequency spectrum.

Product Code 3 Apr, 1998 **COMMITTEE: TR-41.6**
\$363.00

TIA/EIA-662.013

Personal Wireless Telecommunications Interoperability Standard (PWT) - Part 3 - Data Services Access Profiles A and B Class 1 (ANSI/TIA/EIA-662.013-98)

This document defines profiles necessary for equipment to conform to TIA/EIA-662, Personal Wireless Telecommunications (PWT) Interoperability Standard. It is part of a family of profiles that build upon and extend each other, aimed at the general connection of terminals supporting non-voice services to a fixed infrastructure (private and public).

Product Code 3 Nov, 1998 **COMMITTEE: TR-41.6**
\$92.00

TIA/EIA-663

Personal Communications Interface Interoperability Standard (PCI) (ANSI/TIA/EIA-663-97)

This specification is to be used for the two-way interworking between fixed and portable radio devices operating in the unlicensed frequency band allocated for personal communications services (unlicensed PCS or U-PCS).

Product Code 3 Apr, 1997 **COMMITTEE: TR-41.6**
\$171.00

TIA/EIA-667-A

Personal Access Communications System Wireless User Premises Equipment (PACS-WUPE) Air Interface Standard (ANSI/TIA/EIA-667-99)

This document specifies the elements and operation of the layered common air interface for digital radio communications systems with advanced communications capabilities.

Product Code 3 June, 1999 **COMMITTEE: TR-41.6**
\$283.00

RADIO FREQUENCY IMMUNITY

TIA-631

Telecommunications Telephone Terminal Equipment - Radio Frequency Immunity Requirements for Equipment Having an Acoustic Output

This document specifies Radio Frequency (RF) immunity performance criteria for two-wire Telephone Terminal Equipment (TTE) having an acoustic output. Criteria are specified for immunity to radiated RF signals over the frequency range from 150 kHz to 150 MHz and for immunity to longitudinal (common mode) conducted RF signals over the frequency range from 150 kHz to 30 MHz.

Product Code 3 Apr, 1996 **COMMITTEE: TR-41.7.3**
\$72.00

TELEPHONES

TIA/EIA-470-B

Telecommunications - Telephone Terminal Equipment - Performance and Compatibility Requirements for Telephone Sets with Loop Signaling (ANSI/TIA/EIA-470-B-97)

This document provides performance and compatibility requirements for telephone sets intended for direct tip and ring connection to central office (CO) or private branch exchange (PBX) lines.

Product Code 3 Nov, 1997 **COMMITTEE: TR-41.3**
\$111.00

TIA/EIA-504-A

Telecommunications-Telephone Terminal Equipment-Magnetic Field and Acoustic Gain Requirements for Headset Telephones Intended for Use by the Hard of Hearing (ANSI/TIA/EIA-504-A-98)

This document defines magnetic field requirements for all handset telephones intended to couple magnetically with hearing aids. This Standard also covers requirements for receive-amplified handset telephones intended for use by the hard of hearing. This Standard does not cover other devices for the hard of hearing to use the telephone network.

Product Code 3 Feb, 1998 **COMMITTEE: TR-41.3**
\$53.00

TELEPHONES/TERMINAL EQUIPMENT, TELEPHONES (cont.)

TIA/EIA-579-A

**Telecommunications Telephone Terminal Equipment
Transmission Requirements for Digital Wireline
Telephones (ANSI/TIA/EIA-579-A-98)**

This document contains voice transmission performance and compatibility requirements for digital wireline telephones including ISDN voice terminals intended for connection to a public ISDN and digital proprietary telephones connected to the ICS interface of an ISPBX as specified in the ISPBX Loss Plan section of ANSI/TIA/EIA-464 B.

These requirements should ensure satisfactory voice service to the user in a high percentage of installations, both initially and over some period of time, as ISDN service becomes more ubiquitous and as changes occur in telephone serving equipment. However, because of the wide range of central office switching equipment, PBX equipment, customer apparatus, and loop plant used in North America, conformity with this standard does not guarantee acceptable performance under all possible operating conditions. In general, where two levels of acceptability are specified (desirable and mandatory), compliance with the criteria in the desirable category implies a higher probability of acceptable performance or compatibility. These requirements are not intended to describe specific requirements for the following types of digital voice terminal equipment: ISDN terminal adapters, ISDN cellular voice terminals, ISDN terminal speakerphones, and proprietary digital telephone designed to be connected to systems whose loss plan is different from ANSI/TIA/EIA-464-B. This document is limited to digital telephones employing a close- speaking microphone and an earphone that permit a single user to carry on a two- way real- time voice communication, e.g. handset type telephones. This standard is also limited to telephones with linear, e.g., noncarbon, technology transmitters.

Product Code 3 Nov, 1998 **COMMITTEE: TR-41.3**
\$58.00

TERMINALS

TIA/EIA-571-A

**Telecommunications User Premises Equipment
Environmental Considerations (ANSI/TIA/EIA-571-A-99)**

This document establishes environmental conditions which should be addressed in the design of equipment for interfacing and connecting with the various elements of the public telephone network. It is intended as a companion standard for Private Branch Exchanges, Key Telephone Systems, Telephones and other customer terminal equipment standards that may be generated. It defines physical, electrical, and mechanical conditions to which the equipment may be exposed.

Product Code 3 May, 1999 **COMMITTEE: TR-41.7**
\$62.00

TRANSMISSION

TIA/EIA-250-C

**Electrical Performance for Television Transmission
Systems (ANSI/EIA/TIA-250-C-90) (R2001)**

This document specifies the minimal transmission performance characteristics, consistent with good engineering practice, of television transmission of 525-line NTSC color or monochrome video and associated audio signals suitable for television broadcasting or for similar application and digital techniques. These limits are used for the acceptance of new systems or restoration of existing systems after maintenance. It should be noted that transmission systems utilizes analog, digital, or a mixture of analog and digital techniques. Definitions, standards, and methods of measurement are given for both the video and related audio signals being carried from a few hundred feet to thousands of miles, including satellite transmission.

Product Code 3 Feb, 2001 **COMMITTEE: TR-14.10**
\$70.00

VOICE OVER IP

TIA/EIA-810-A

**Telecommunications - Telephone Terminal Equipment-
Transmission Requirements for Narrowband
(ANSI/TIA/EIA-810-A-2000)**

This document establishes voice performance requirements for narrowband digital wireline telephones with codecs that conform to the ITU-T G-Series Recommendations and where transmission is in digital format.

Product Code 3 Dec, 2000 **COMMITTEE: TR-41.3**
\$87.00

TIA/EIA/IS-811

**Telecommunications - Telephone Terminal Equipment -
Performance and Interoperability Requirements for Voice-
over-IP (VoIP) Feature Telephones**

This document fills a recognized need in the telephone industry brought about by the use of equipment supplied by many different manufacturers

Product Code 3 June, 2000 **COMMITTEE: TR-41.3**
\$71.00

TSB116

**Telecommunications - IP Telephony - Voice Quality
Recommendations for IP Telephony**

The objectives of this document are to provide end-to-end quality guidelines for North American IP Telephony and to an E-Model tutorial for IP scenarios.

Product Code 3 Mar, 2001 **COMMITTEE: TR-41.1**
\$84.00

TSB122-A

**Telephone - IP Telephony Equipment - Voice
Router/Gateway Loss and Level Plan Guidelines**

This document recommends a loss and level plan for voice routers that specifies the amount of loss or gain to be inserted by the router when interfacing with the various elements of public and private telecommunications networks. It is intended to be coordinated with the public network loss plan according to the principles of ANSI T1.508-1998 and it is intended to fully comply with FCC Part 68 Rules.

Product Code 3 Mar, 2001 **COMMITTEE: TR-41.4**
\$53.00

WIRING/CABLING

TIA/EIA-568-B.1**Commercial Building Telecommunications Cabling Standard - Part 1: General Requirements (ANSI/TIA/EIA-568-B.1-2001)**

This document specifies a generic telecommunications cabling system for commercial buildings that will support a multi-product, multi-vendor environment

Product Code 3 Apr, 2001 **COMMITTEE: TR-42**
\$144.00

TIA/EIA-568-B.1-1**Commercial Building Telecommunications Cabling Standard - Part 1: General Requirements - Addendum 1 - Minimum 4-Pair UTP and 4-Pair ScTP Patch Cable Bend Radius (ANSI/TIA/EIA-568-B.1-1-2001)**

This addendum applies to minimum 4-pair unshielded twisted-pair (UTP) and 4-pair screened twisted-pair (ScTP) patch cable bend radius

Product Code 3 Aug, 2001 **COMMITTEE: TR-42**
\$33.00

TIA/EIA-568-B.2**Commercial Building Telecommunications Cabling Standard - Part 2: Balanced Twisted Pair Cabling Components (ANSI/TIA/EIA-568-B.2-2001)**

This document specifies cabling components, transmission, system models, and the measurement procedures needed for verification of balanced twisted pair cabling

Product Code 3 Apr, 2001 **COMMITTEE: TR-42**
\$165.00

TIA/EIA-568-B.2-2**Commercial Building Telecommunications Cabling Standard - Part 2: Balanced Twisted-Pair Cabling Components - Addendum 2 (ANSI/TIA/EIA-568-B.2-2-2001)**

This document provides corrections to the 568-B.2.

Product Code 3 Dec, 2001 **COMMITTEE: TR-42**
\$31.00

TIA/EIA-568-B.2-3**Commercial Building Telecommunications Cabling Standard - Part 2: Balanced Twisted-Pair Cabling - Addendum 3 - Additional Considerations for Insertion Loss and Return Loss Pass/Fail Determination (ANSI/TIA/EIA-568-B.2-3-2002)**

The purpose of this addendum is to add clause I.2.5 to TIA/EIA-568-B.2

Product Code 3 Mar, 2002 **COMMITTEE: TR-42.7**
\$36.00

TIA/EIA-568-B.3**Optical Fiber Cabling Components Standard (ANSI/TIA/EIA-568-B.3-2000)**

This document specifies the component and transmission requirements for an optical fiber cabling system (e.g., cable, connectors)

Product Code 3 Apr, 2000 **COMMITTEE: TR-42**
\$62.00

TIA/EIA-569-A**Commercial Building Standard for Telecommunications Pathways and Spaces (ANSI/TIA/EIA-569-A-98)**

This document encompasses telecommunications considerations both within and between buildings. The aspects covered are the pathways into which telecommunications media are placed and the rooms and areas associated with the building used to terminate media and install telecommunications equipment.

Product Code 3 Feb, 1998 **COMMITTEE: TR-41.8.3**
\$263.00

TIA/EIA-569-A-1**Commercial Building Standard for Telecommunications Pathways and Spaces, Addendum 1 (ANSI/TIA/EIA-569-A-1-2000)**

This addendum defines the surface raceways contained in the work area outlets.

Product Code 3 Apr, 2000 **COMMITTEE: TR-42**
\$34.00

TIA/EIA-569-A-2**Commercial Building Standard for Telecommunications Pathways and Spaces, Addendum 2 (ANSI/TIA/EIA-569-A-2-2000)**

This addendum defines the furniture pathways and spaces contained in work areas.

Product Code 3 Apr, 2000 **COMMITTEE: TR-42**
\$33.00

TIA/EIA-569-A-3**Commercial Building Standard for Telecommunications Pathways and Spaces, Addendum 3 (ANSI/TIA/EIA-569-A-3-2000)**

This addendum provides information on access flooring systems.

Product Code 3 Mar, 2000 **COMMITTEE: TR-42**
\$33.00

TIA/EIA-569-A-4**Commercial Building Standard for Telecommunications Pathways and Spaces, Addendum 4 (ANSI/TIA/EIA-569-A-4-2000)**

This addendum provides information on poke-thru device that allows penetration of above-grade concrete floors and steel decks.

Product Code 3 Apr, 2000 **COMMITTEE: TR-42**
\$33.00

TIA/EIA-569-A-5**Commercial Building Standard for Telecommunications Pathways and Spaces - Addendum 5 - In Floor Systems (ANSI/TIA/EIA-569-A-5-2001)**

This addendum is to replace subclause 4.2, underfloor pathways, of ANSI/TIA/EIA-569-A.

Product Code 3 June, 2001 **COMMITTEE: TR-42**
\$53.00

TIA/EIA-569-A-6**Commercial Building Standard for Telecommunications Pathways and Spaces - Addendum 6 - Multi-Tenant Pathways and Spaces**

This addendum provides information on pathways and spaces in multi-tenant commercial office buildings.

Product Code 3 Sept, 2001 **COMMITTEE: TR-42**
\$55.00

WIRING/CABLING (cont.)**TIA/EIA-569-A-7*****Commercial Building Standard for Telecommunications Pathways and Spaces - Addendum 7 - Cable Trays and Wirelines (ANSI/TIA/EIA-569-A-7-2001)***

This addendum replaces Subclause 4.5, Cable Trays and Wirelines, it modifies the standard to clarify industry issues with cable fill for cable trays systems.

Product Code 3 Dec, 2001 **COMMITTEE: TR-42**
\$36.00

TIA/EIA-758***Customer-Owned Outside Plant Telecommunications Cabling Standard (ANSI/TIA/EIA-758-99)***

This document provides requirements used in the design of the telecommunication pathways and spaces, and the cabling installed between buildings or points in a customer-owned campus environment. Customer-owned campus facilities are typically termed "outside plant" (OSP). For the purpose of this standard, they are termed "customer-owned OSP".

Product Code 3 Apr, 1999 **COMMITTEE: TR-41.8**
\$105.00

TIA/EIA-758-1***Customer-Owned Outside Plant Telecommunications Cabling Standard, Addendum 1 (ANSI/TIA/EIA-758-1-1999)***

This addendum adds a new paragraph to Subclause 4.5, a new Subclause 6.3.5, and an Informative Annex C.

Product Code 3 Apr, 1999 **COMMITTEE: TR-41.8**
\$36.00

TSB110***Residential Gateway***

This document promotes industry comments on the minimum application, features, and operational parameters of a Residential Gateway (RG).

Product Code 3 Dec, 1999 **COMMITTEE: TR-41.5**
\$49.00

TSB125***Guidelines for Maintaining Optical Fiber Polarity Through Reverse Pair Positioning***

This document is intended to provide additional information for maintaining optical fiber polarity through reverse pair positioning

Product Code 3 June, 2001 **COMMITTEE: TR-42**
\$41.00

TIA/EIA-854***A Full Duplex Ethernet Specification for 1000 Mb/s (1000BASE-TX) Operating Over Category 6 Balanced Twisted-Pair Cabling (ANSI/TIA/EIA-854-2001)***

This document specifies a 1000BASE-TX PHY layer as defined in the ISO/IEC Open Systems Interconnection (OSI) reference model.

Product Code 3 June, 2001 **COMMITTEE: TR-41.5**
\$68.00

ADMINISTRATION**TIA/EIA-606*****Administration Standard for the Telecommunications Infrastructure of Commercial Buildings (ANSI/TIA/EIA-606-93)***

The purpose and intent of this document is to provide a uniform administration scheme that is independent of applications, which may change several times throughout the life of a building. This standard establishes guidelines for owners, end users, manufacturers, consultants, contractors, designers, installers, and facilities administrators involved in the administration of the telecommunications infrastructure or related administration system.

Product Code 3 Feb, 1993 **COMMITTEE: TR-41.8.3**
\$60.00

GROUNDING AND BONDING**TIA/EIA-607*****Commercial Building Grounding and Bonding Requirements for Telecommunications (ANSI/TIA/EIA-607-94)***

"Commercial Building Grounding and Bonding Requirements for Telecommunications," also known as TIA/EIA-607, can be utilized with or without prior knowledge of the telecommunications systems installed in the building. This Standard supports a multivendor, multiproduct environment, as well as the grounding practices for various systems that may be installed on customer premises. TIA/EIA-607 will be useful to manufacturers of telecommunications equipment, purchasers, installers, or operators of equipment and devices for specifying the exact interface points between the building grounding systems and the telecommunications equipment grounding configuration, and for specifying building grounding configurations needed to support this equipment. TIA/EIA-607 will also help building owners and developers who want to build an advanced technology structure that is compatible with modern telecommunications equipment.

Product Code 3 Aug, 1994 **COMMITTEE: TR-41.7.2**
\$60.00

RESIDENTIAL**TIA/EIA-570-A*****Residential Telecommunications Cabling Standard (ANSI/TIA/EIA-570-A-99)***

This document standardizes requirements for residential telecommunications cabling. These requirements are based on the facilities that are necessary for existing and emerging telecommunications services.

Product Code 3 Oct, 1999 **COMMITTEE: TR-42.2**
\$84.00

TIA/EIA-570-A-1***Residential Telecommunications Cabling Standard - Addendum 1 - Security Cabling for Residences (ANSI/TIA/EIA-570-A-1-2002)***

This addendum provides recommendations and specifications for security cabling systems in residences. It contains references to national and international standards

Product Code 3 Mar, 2002 **COMMITTEE: TR-42.2**
\$43.00

WIRING/CABLING, RESIDENTIAL (cont.)

TIA/EIA-570-A-3

***Residential Telecommunications Cabling Standard -
Addendum 3 - Whole-Home Audio Cabling for Residences
(ANSI/TIA/EIA-570-A-3-2002)***

This addendum focuses on whole-home audio cabling to support high-quality stereo to various rooms or areas throughout the residence.

Product Code 3 Mar, 2002 **COMMITTEE: TR-42.2**
\$43.00

Appendix

CURRICULUM VITAE SYLVIA D. HALL-ELLIS

EDUCATION

Ph.D., University of Pittsburgh, Pittsburgh, Pennsylvania, 1985
M.P.S., University of Denver, Denver, Colorado, 2014
Post Graduate Studies, University of Texas – San Antonio, Texas, 1975-1976
M.L.S., University of North Texas, Denton, Texas, 1972
B.A., Rockford University, Rockford, Illinois, 1971

PROFESSIONAL EXPERIENCE

- 1981- Consultant for higher education, non-profit organizations, and corporations.**
- 2002- Adjunct Professor, School of Information, San José State University, San José, California.** Serve as part-time faculty member teaching graduate students in technical services (cataloging, bibliographic control, classification), “core courses,” and special topics.
- 2014-2016 Director, Grants and Resource Development, Colorado Community College System.**
Provided leadership and vision to foster the continued growth of rigorous scholarship, innovative projects, and creative work for statewide system, 13 campuses, and 50 teaching sites serving 155,000 students. Responsible for leadership and ensured efficient functioning of contract and grants in compliance with state & federal requirements and successful implementation and management. Served as a subject matter expert and liaison for college Grant Directors for all issues relating to grants and subcontracts.
- 2010-2014 Senior Grant Administrator, Morgridge College of Education, University of Denver (Colorado).** Provided leadership and vision to foster continued growth of rigorous scholarship, innovative research, and creative work in the Morgridge College of Education. Ensure that contract and grants processes function effectively and efficiently for 60 faculty and researchers with a focus on the successful progression and efficient management of grants totaling \$13M. Worked effectively and collegially with Department Chairs and Program Coordinators on operational grant-related management activities and with a broad range of internal and external constituencies. Supported the dissemination and promotion of faculty research and scholarship to outside constituents at conferences and through publications. Assisted Principal Investigators and grant project teams by coaching, mentoring, and financial management.
- 2011-2013 Interim Director & Assistant Dean, Westminster Law Library, Sturm College of Law, University of Denver.** Planned, organized, and directed all administrative activities for the library serving students, faculty, and alumni; oversaw the employment, retention, promotion, transfer and termination of library personnel; represented the library at professional conferences and public meetings; created and promoted a climate and culture of acceptance for new programs and services, a positive high-quality image of the law library, and that reflect the organization’s values, encourage excellent performance, and reward high productivity and innovation; provided leadership and set strategic direction of the organization; ensured that the library provided excellent customer service through solution-oriented staff response to patron needs and by responsiveness and continuous improvement of the organization; promoted, developed, and maintained positive working relationships with colleagues and customers including key stakeholders and groups, higher education institutions, the legal community, other regional libraries and districts statewide, and national library organizations.

- 2007-2014** **Associate Professor, Library & Information Science, Morgridge College of Education, University of Denver (Colorado).** Served in leadership role and worked collaboratively in program, college, campus and community environments. Advised and supervised students, taught core and specialized courses at the graduate level in an integrative, student-centered learning environment. Served on LIS, College, and University committees, and maintained working relationships with colleagues in other academic units and information professionals in the Rocky Mountain region and beyond. Served on and chair doctoral student dissertation committees. Oversaw and facilitated the College and LIS graduate student association.
- 2002-2007** **Assistant Professor, Library & Information Science, College of Education, University of Denver (Colorado).** Served as tenure-track faculty member teaching graduate students in “core courses,” resource description and access, service learning, and independent studies. Advised graduate students, participate on LIS and College committees, and serve on doctoral student dissertation committees. Oversaw and facilitated the LIS graduate student association and alumni association.
- 2000-2002** **Affiliate Faculty, Library & Information Science, College of Education, University of Denver (Colorado).** Served as part-time faculty member teaching graduate students in technical services (cataloging, bibliographic control, classification), “core courses,” and special topics. Oversaw and facilitated the LIS graduate student association and alumni association.
- 2000-2001** **Special Assistant to the Secretary’s Regional Representative, U.S. Department of Education, Region VIII, Denver, Colorado.** Served as the principal advisor and representative of the U. S. Secretary of Education’s Regional Representative (SRR). Ensured the implementation of major goals of the SRR and the Secretary. Provided leadership on behalf of the SRR in contacts with high-level officials in Region VIII requiring sensitive policy interpretation in communication with senior Department officials to solve problems and resolve issues raised by State and local education officials. Served as the primary contact for School-to-Work/Career, Children’s Health Insurance Program, and Safe and Drug-Free Schools. Delivered technical assistance to local education agencies and institutions of higher education in technology, professional development, and school construction.
- 1999-2000** **Catalog Librarian, Jefferson County Public Library, Lakewood, Colorado.** Performed original, copy cataloging and classification of library materials (English and Spanish) using standard library protocols; completed original descriptive cataloging and subject analysis; enhanced brief catalog and authority records in III.
- 1997-1999** **Development Officer, McREL International, Aurora, Colorado.** Served as senior member of corporate management team in strategic planning, development of proposals and contracts, implementation, and evaluation of new services, products, and programs for educational agencies. Provided creative leadership to corporate committees to solicit ideas, identify goals and objectives, plan, develop, present, and evaluate professional development opportunities.
- 1995-1997** **Education Specialist, Education Service Center, Region One, Edinburg, Texas.** Served as member of Administrative Cabinet team in strategic planning, development of proposals and contracts, implementation, and evaluation of telecommunications capabilities, services, products, and programs for 40 school districts serving 283,000 students in 7 counties. Provided creative leadership to regional and state committees to solicit ideas, identify strategic goals and objectives, plan, develop, present, and evaluate funding opportunities and professional development for 400 librarians.

- 1993-1996** **Assistant Professor of Library Science, Sam Houston State University, Huntsville, Texas.** Served as a faculty member teaching 400 graduate students in technical services (cataloging, bibliographic control, classification), automation, and networking. Participated in distance education program and coordinated annual conference. Conducted university and Texas Library Association-funded field research focused on library collection development and academic achievement.
- 1992-1993** **Head Librarian, Rocky Mountain College of Art & Design, Denver, Colorado.** Responsible for the daily operation, selection and acquisition of materials, formulation of policies for library operations, media center, and photography/slides archives. Designed and implemented library automation and delivery of electronic resources to college community.
- 1981-1985** **Development Officer, PRLC, Inc., Pittsburgh, Pennsylvania.** Served as senior member of corporate management team in strategic planning, development of proposals and contracts, implementation, and evaluation of new services, products, and programs for 100 institutional member organizations. Coordinated the development of proposals and contracts totaling \$4,000,000 annually. Provided creative leadership to corporate committees to solicit ideas, identify goals and objectives, plan, develop, present, and evaluate professional development opportunities.
- 1981** **Director of Library Development, Pennsylvania Department of Education, Harrisburg, Pennsylvania.** Responsible for statewide development, technical assistance, professional development, resource sharing, children's services, institutional library services, networking, and state aid program for all libraries throughout the Commonwealth. Functioned as liaison to Governor's Advisory Council, LSCA Advisory Council, District Administrators, private colleges, universities, consortia managers, and network directors. Supervised \$14,000,000 formula-based state aid program and \$3,000,000 grant awards to individual libraries, consortia, and networks.
- 1978-1981** **Assistant Director, Southern Tier Library System, Corning, New York.** Coordinated operation of system-wide programs (technical assistance, professional development, resource sharing, technical services, outreach) to 40 public libraries in 5 counties serving 500,000 residents. Solicited ideas, identified goals, sponsored, and evaluated professional development opportunities and technical assistance sessions.
- 1976-1978** **Division Librarian for Technical Services, Corpus Christi Public Libraries, Corpus Christi, Texas.** Provided leadership in acquisitions, cataloging, serials control, and processing for main library and 4 branches serving 250,000 residents. Participated as senior member of library management team. Compiled and prepared technical evaluations, reports, and statistical analyses of Division operations to measure the achievement and cost of annual goals, objectives, and staff performance.
- 1975-1976** **System Coordinator, San Antonio Major Resource Center, San Antonio, Texas.** Served as senior member of the management team for District X Office, charged to provide technical assistance, resource sharing, media services, and professional development to librarians and staff representing 30 public library jurisdictions in 21 counties serving 1,500,000 residents. Functioned as liaison to System Director, staff, and members of governing bodies with the System Board of Directors and the Texas State Library and Historical Commission. Prepared LSCA grant applications and monitored awards totaling \$1,100,000 annually.

- 1973-1975** **Bilingual Branch Librarian, San Antonio Public Library, San Antonio, Texas.** Worked as librarian providing reference, information, and readers' advisory services in branch serving 50,000 Spanish-speaking residents in southwest San Antonio. Participated in collection development and resource acquisition activities, specializing in children's work, Spanish language resources, and multicultural studies.
- 1972-1973** **Librarian, Holding Institute, Laredo, Texas.** Worked as high school librarian serving 500 boarding students in Spanish-speaking environment of private school. Provided reference, research assistance, and library instruction to students and 35 faculty members.
- 1966-1971** **Rockford Public Library, Rockford, Illinois.** Worked in branches as part-time as a Library Assistant, Clerk, and Page in city library serving 150,000 residents.

PUBLICATIONS

Editor-reviewed Monographs (Completed and in Progress)

- Hall-Ellis, Sylvia D., and Mary Beth Weber. *Contemporary Cataloging in an RDA Environment: A Handbook for Students and Practitioners*. Chicago, IL: American Library Association. Under contract & In development.
- RDA Testing: Lessons Learned and Challenges Revealed*. Sylvia D. Hall-Ellis and Robert O. Ellett, Jr., eds. Binghamton, N.Y.: Haworth, 2012. 128 p.
- Hall-Ellis, Sylvia D., Stacey L. Bowers, Christopher D. Hudson, and M. Claire Williamson. *Librarian's Handbook for Seeking, Writing, and Managing Grants*. Santa Barbara, Calif.: Libraries Unlimited, 2011. 315 p.
- Hall-Ellis, Sylvia D., with Ann Jerabek, and Merrie W. Valliant. *Contemporary Cataloging: A Handbook for Practitioners and Students*. Open access text. Athens, GA: University of Georgia System Regents, 2011. 767 p.
- Grealy, Deborah S. and Sylvia D. Hall-Ellis. *From Research to Practice: The Scholarship of Teaching and Learning in LIS Education*. Westport, Conn.: Libraries Unlimited, 2009. 175 p.
- Hall-Ellis, Sylvia D. with J. Ann Jerabek. *Grants for School Libraries*. Westport, Conn.: Libraries Unlimited, 2003. 197 p.
- Hall-Ellis, Sylvia D., Doris Meyer, Frank W. Hoffmann, with J. Ann Jerabek. *Grant Writing for Small Libraries and School Library Media Centers*. Boulder, Colo.: NetLibrary, 2001. 173 p.
- Hall-Ellis, Sylvia D., Doris Meyer, Frank W. Hoffmann, with J. Ann Jerabek. *Grant Writing for Small Libraries and School Library Media Centers*. Englewood, Colo.: Libraries Unlimited, 2000. 173 p.

Editor-reviewed Chapters (Completed and In Progress)

- Hall-Ellis, Sylvia D. "Prepared to Lead: Talent, Skills, and Competencies." In *Telling the Technical Services Story*. Chicago, IL: American Library Association, 2020. Program Presentation for Re-Accreditation by the American Library Association, School of Information, San Jose State University, 2022.
- Hall-Ellis, Sylvia D. "Grant Writing and Sponsored Research Funding for Academic Librarians." In *The New Librarianship*. Vol. 4. Bradford Lee Eden, ed. New York: Scarecrow Press, 2015. (pp. 163-174)
- Hall-Ellis, Sylvia D. "Organizing Information: Technical Services." In *Information Services Today: An Introduction*. Sandra Hirsch, ed. Lanham, Md.: Rowman and Littlefield, 2015. (pp. 139-148)
- Hall-Ellis, Sylvia D. "Metadata, MARC, and More." In *Rethinking Technical Services, Considering Our Profession and Ourselves: What's the Future of Our Profession?* Mary Beth Weber, ed. Lanham, Md.: Rowman and Littlefield, 2015. (pp. 29-55)
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Martínez, Rubén. *Crossing Over: A Mexican Family on the Migrant Trail.* Metropolitan: Holt, 2001. 0-8050-4908-8, \$26.00 [*Library Journal*, 2001]

Guevara, Ernesto "Che." *The African Dream: the Diaries of the Revolutionary War in the Congo.* Translated from the Spanish by Patrick Camiller. With an introduction by Richard Gott and a foreword by Aleida Guevara March. New York: Grove Press, 2001. 0-8021-3834-9, \$13.00 [*Library Journal*, 2001]

Cooper, Gail and Garry Cooper. *New Virtual Field Trips.* Englewood, Colo.: Libraries Unlimited, 2001. 1-56308-887-8, \$27.50 [*Colorado Libraries*, 2001]

NATIONAL SERVICE & PROFESSIONAL AFFILIATIONS

American Library Association, Life Member

Association for Library Collections & Technical Services (now CORE)
Cataloging, Classification, and Metadata Section
ALCTS Editorial Board, Member, 2015-2019
Committee on Cataloging: Description and Access, Member, 2008-2012
Test Site for RDA, Manager, 2009-2011
Nominating Committee, Member, 2007-2008
Committee for Education and Training of Catalogers, Chair, 2006-2007, Member, 2003-2007
Competencies & Education for a Career in Cataloging Interest Group, Chair, 2010-2012; Member, 2010-
President's Program Committee, 2015-2016
Education Committee, Member, 2005-2007
Task Force on Competencies and Education for a Career in Cataloging, Chair, 2007-2009
2007 Annual Meeting Pre-conference, "What They Don't Teach in Library School: Competencies,
Education and Employer Expectations for a Career in Cataloging," Steering Committee Chair
Fundraising Committee, Member, 2004-2006
Office of Diversity
Committee on Diversity, Chair, 2010-2011
Diversity Research Advisory Committee, Member, 2009-2010
Spectrum Scholar Mentor, 2009
Diversity Grants Review Committee, Member, 2007, 2010, 2012
Office of Statistics and Research
Research and Statistics Committee, Member, 2005-2007; Intern, 2003-2005
Library Research Round Table
Nominating Committee, 2022-2023
Membership Committee, 2019-2021
Board of Directors, Member At-Large, 2009-2012
Office of Accreditation
Accreditation Panel Member (training completed 2004)
Accreditation Review Panel Member (training completed 2004)

REFORMA, Life Member

National Board of Directors, 2005-2013
National Fundraising Chair, 2005-2013
National Recruiting and Mentoring Committee, 2008-2010
Colorado Chapter, Secretary, 2004-2005
Colorado Chapter Liaison to National Board of Directors, 2004-2013

American Association of Law Libraries (AALL), Life Member Online Audiovisual Catalogers Association (OLAC) Colorado Association of Law Librarians (CoALL)

American Association of University Women Association for Library and Information Science Education (ALISE)

University of Denver ALISE Representative, 2003-2008; 2010-2011
Membership Advisory Committee, 2007-2010
Technical Services Education Special Interest Group, 2003-
Garfield Doctoral Dissertation Award Reviewer, 2012
Garfield Doctoral Dissertation Scholarship Reviewer, 2014

American Association of University Professors (AAUP), 2006-

American Grant Writers Association, 2014- Grant Professionals Institute, 2016- National Grants Management Association, 2014-

Grant Reviewer (National and Regional Team Leader), U.S. Department of Education, 1998- Grant Reviewer, Broadband Technologies Opportunity Program, U.S. Department of Commerce, 2009
Grant Reviewer, Institute of Museum and Library Services, 1998-2000
Grant Reviewer, Colorado Department of Education, 2014-
Grant Reviewer, Colorado State Library, 1998-
Grant Reviewer, American Association of Community Colleges *Working Connections* program, 1999
Peer Reviewer, *Journal for Library and Information Science Education*, 2005-
Peer Reviewer, *Journal of Library Metadata*, 2009
Peer Reviewer, *International Journal of Library and Information Science*, 2011
Regular Columnist, *The Bottom Line*, 2013-2016
Book Reviewer, *Library Journal*, 2001
Book Reviewer, *Criticas*, 2002-2009
Book Reviewer, *Colorado Libraries*, 2000-2012

REGIONAL SERVICE & PROFESSIONAL AFFILIATIONS

Mountain Plains Library Association

Professional Development Grants Committee, Member, 2005-2006
Professional Development Policy and Guidelines Sub-committee Chair, 2006

Colorado Association of Libraries

“Student Voices” Column Editor, *Colorado Libraries*, 2005-2006
Conference Planning Committee, Member, 2002
Technical Services and Automation Division, Chair, 2002-2003; Member, 2000-
Academic Libraries Division, Peer Review Conference Papers Committee, Member, 2007-2009
Education Committee, Member, 1988-1993
Diverse Populations Committee, Member, 2009-2013

SERVICE TO THE UNIVERSITY OF DENVER

Center for Teaching and Learning Faculty Advisory Board, 2007-2008; 2010-2012
Center for Community Engagement and Service Learning Advisory Board, 2007-2012
Faculty Senate
Executive Committee, 2008-2013
Nominations, Rules & Credentials Committee, Chair, 2008-2013; Member 2007-2013
Appointment, Promotion, and Tenure Revision Committee, 2010-2012
Grievance Policy Committee Member, 2007-2010
Law Library Director Search Committee Chair, 2012-2013
PROF Grant Review, College Representative to the University Review Team, 2006, 2008
Project Homeless Connect Evaluations, Principal Investigator, 2006-2009
University Technology Council, 2007-2009
University of Denver Hyde Interviews for Incoming Freshmen, 2003-2012

SERVICE TO THE MORGRIDGE COLLEGE OF EDUCATION

Appointment, Tenure & Review Committee
Member, voting, 2003-2005; 2007- 2009
Chair, Clinical Faculty Promotion & Tenure Policy Subcommittee, 2008-2009
Member, Community Engagement Subcommittee, 2007-2009
Member, Tenure Review Panel, 2003
Advancement and Alumni Relations Committee, Chair, 2003-2007; Member, 2002-2007
College Building Committee Member, 2004-2010

College of Education Student Association, Faculty Advisor, 2004-2007; 2009-2010
Faculty Senator, 2007-2013
Research and Scholarship Committee, Chair, 2008-2009; Member, 2002-2003, 2008-2009
Research and Grant Mentoring Committee, Chair, 2009-2010
Research Task Force Member, 2010-2012
Search Committee Member, Assistant Professor for Curriculum & Instruction, 2010-2011
Workload Task Force Member, 2010-2011

SERVICE TO THE LIBRARY & INFORMATION SCIENCE PROGRAM

Library and Information Science Student and Alumni Association, Faculty Advisor, 2002-2008
ALA Student Chapter, Faculty Advisor, 2005-2008
Beta Phi Mu Phi Chapter, Faculty Advisor, 2004-2014
Steering Committee Member, Accreditation by the American Library Association, 2001-2004
Search Committee Member, Associate Professor for LIS, 2006
Search Committee Chair, Assistant Professors for LIS, 2003, 2005, 2006, 2007
Search Committee Ex-Officio Member, Director for LIS, 2004

SERVICE TO SAM HOUSTON STATE UNIVERSITY

Rio Roundup: South Texas Literature Conference, Conference Coordinator, 1993
External Relations, Fund Raising, Grants Committee, Chair, 1993-1995
Advisory Council Committee, Chair, 1993-1995
Students, Admissions, and Advisement Committee, Chair, 1994
Institutional Effectiveness Committee, Member, 1993-1995

SERVICE TO THE COLLEGE OF EDUCATION AND APPLIED SCIENCE

Faculty Affairs Committee, Member, 1993-1995
Curriculum Committee, Member, 1993-1995
Continuing Education Committee, Member, 1993-1995

SERVICE TO THE COMMUNITY

French Teacher & Student Exchange with Laon, France, Monarch High School, Boulder Valley School District (Boulder, Colorado), 2017-
Denver/Boulder Games 2022, Board of Directors, Secretary-Treasurer, 2015-2018
United Way Campaign Committee, College of Education, 2006
Arapahoe County, Election Judge for the County Clerk and Recorder, 2000-2005
Arthritis Foundation, Rocky Mountain Chapter, Certified Educator & Trainer, 1999-2008
Bonfils Blood Center, Silver Level Donor, 2000-2016
Denver Museum of Natural History, Docent, 1992
Tech Prep of the Lower Rio Grande Valley, Inc. (Harlingen, Texas) Board of Directors, 1995-1997
Executive Committee, 1996-1997; Chair, Development Committee, 1995-1997; Chair, Fiscal Agency Committee, 1995-1996; Chair, Colleges and Universities Committee, 1996-1997
Gilpin County (Colorado) Public Library Board of Trustees, 1986-1989; Vice President, 1987-1989
City of Central (Colorado) Economic Development Committee, 1987-1989
Columbine Family Health Centers, Inc. (Nederland and Black Hawk, Colorado) Board of Directors, 1988-1989

CERTIFICATION

Permanent Public Librarian Certificate - Pennsylvania, New York, Texas
Westlaw Expert Witness, 2008-
Certified Grant Writer®, 2016-

AWARDS AND HONORS

Advanced Practitioner for Service Learning and Community Engagement, University of Denver, 2011
Platinum Star Alumnae, College of Information, Library Science & Technologies, University of North Texas, 2009
Commendation for Integration of Technologies in Teaching & Learning Environment, University of Denver, 2006
Outstanding Adjunct Faculty Member Award, College of Education, University of Denver, 2002
Beta Phi Mu, Pi, University of Pittsburgh, 1985
Alpha Lambda Sigma, University of North Texas, 1972
Albert Nelson Marquis Lifetime Achievement Award, Who's Who in America
Who's Who in American Women
Who's Who of Women Executives
Dictionary of International Biography
Who's Who in the East
Who's Who in the South and Southwest
Who's Who in the World
Who's Who of Online Professionals
Who's Who in Library and Information Science
2,000 Notable Women
Who's Who of Emerging Leaders
Who's Who in Professional and Executive Women
Who's Who in American Education
International Who's Who of Professional and Business Women
International Leaders in Achievement
International Educator of the Year
Who's Who in Finance and Industry
Who's Who in Finance and Business

Invited International and National Conference Presentations

Driscoll, Margaret, Christy Confetti Higgins, Scott Brown, and Sylvia D. Hall-Ellis. *A View from Within: Open House Tour of Three Canvas Core Courses*. Presentation to be delivered at the School of Information, San José State University Professional Development Seminar, San José, California, October 17, 2019.

Hall-Ellis, Sylvia D. *Invest in Me -- I'm Your Future: Succession Planning for Libraries*. Keynote presentation delivered at the ALCTS President's Symposium, Boston, Mass., January 8, 2016.

Seidel, Kent E. and Sylvia D. Hall-Ellis. *Making Grants Work for You: Strategies for Doctoral Students and Early Career Scholars*. Presentation delivered at the University Council for Educational Administration, Early Career Scholars Session, Indianapolis, Ind., November 9, 2013.

Hall-Ellis, Sylvia D. *So You Want to be a Manager; Leadership Skills and Competencies for Technical Services Managers and Administrators*. Presentation delivered at the 138th Annual Conference, American Library Association, Chicago, Ill., June 29, 2013.

Seidel, Kent E., Karen S. Riley, Lyndsay Agans, Susan Korach, and Sylvia D. Hall-Ellis. *Making Grants Work for You (Instead of Just Working for Grants)*. A panel discussion delivered at the University Council for Educational Administration, Early Career Scholars Session, Denver, Colo., November 17, 2012.

Hall-Ellis, Sylvia D. *After the Great TS Reorganization: The Westminster Law Library*. Presentation delivered at the 137th Annual Conference, American Library Association, Anaheim, Calif., June 23, 2012.

- Hall-Ellis, Sylvia D. *Conversations with Catalogers in the 21st Century*. A panel discussion sponsored by the ALCTS Competencies for a Career in Cataloging Interest Group, delivered at the 137th Annual Conference, American Library Association, Anaheim, Calif., June 22, 2012.
- Hall-Ellis, Sylvia D., moderator. *Mid-Career Leaders Program*. A panel discussion sponsored by the ALA Committee on Diversity delivered at the 136th Annual Conference, American Library Association, New Orleans, La., June 26, 2011.
- Hall-Ellis, Sylvia D., moderator. *Diversity Town Hall*. A community conversation sponsored by the ALA Committee on Diversity delivered at the 136th Annual Conference, American Library Association, New Orleans, La., June 24, 2011.
- LaBarre, Kathryn, Sylvia D. Hall-Ellis, Karen Anderson, Rick Hasenyager, Christopher Cronin, and Penny Baker. *Briefings from RDA Test Participants*. A panel discussion delivered at the Midwinter Conference, American Library Association, San Diego, Calif., January 7, 2011.
- Miksa, Shawne, Marjorie Bloss, and Sylvia D. Hall-Ellis. *Educating the Next Generation of Catalogers: Teaching RDA*. A panel discussion delivered at the 97th Annual Conference, Association for Library and Information Science Education, San Diego, Calif., January 7, 2011.
- Hall-Ellis, Sylvia D., Robert Maxwell, John Hostage, and George Prager. *RDA Panel: What Cataloging Managers Need to Know*. Presentation delivered at the 103rd Annual Conference, American Association of Law Librarians, Denver, Colo., July 12, 2010.
- Hall-Ellis, Sylvia D. and Stacey L. Bowers. *Catalogers in the RDA Environment: Skill Sets, Expectations and Challenges*. Presentation delivered at the 103rd Annual Conference, American Association of Law Librarians, Denver, Colo., July 11, 2010.
- Hall-Ellis, Sylvia D. *Comfortable in Your Cataloging and Metadata Specialist Skin? Or, So You Want to Hire a Cataloger*. Presentation delivered to the ALCTS Research Group at the 134th Annual Conference, American Library Association, Chicago, Ill., July 11, 2009.
- Perez, Megan, Sylvia D. Hall-Ellis, and Denise Anthony. *From Novice to Expert: Collaboration for Succession Planning*. A “hot topic” presentation delivered at the 14th ACRL Conference, Seattle, Wash., March 13, 2009.
- Hall-Ellis, Sylvia D. *Cataloging in the RDA Environment: Skill Sets, Expectations and Challenges*. Presentation delivered to the ALCTS Research and Publications Committee at the Midwinter Conference, American Library Association, Denver, Colo., January 24, 2009.
- Hall-Ellis, Sylvia D. *LIS Cataloging Education for the 21st Century: Expectations and Challenges*. A panel discussion held at the 95th Annual Conference, Association for Library and Information Science Education, Denver, Colo., January 23, 2009.
- Chu, Clara, Sylvia D. Hall-Ellis, and Mark Winston. *The Doctoral Degree & Building a Career*. A panel discussion delivered at the ALA Office of Diversity Spectrum Doctoral Fellows E.J. Josey Leadership Institute, Midwinter Conference, American Library Association, Denver, Colo., January 20, 2009.
- Hall-Ellis, Sylvia D. and Robert O. Ellett, Jr. *Fundamentals of Cataloging Course: An Overview of the ALCTS Online Course*. Presentation delivered to the ALCTS Big Heads Group, 133rd Annual Conference, American Library Association, Anaheim, Calif., June 30, 2008.

Hall-Ellis, Sylvia D. *Employers' Expectations for Technical Services Librarians: What We Don't Know*.

Presentation delivered to the ALCTS Research and Publications Committee Program, 133rd Annual Conference, American Library Association, Anaheim, Calif., June 28, 2008.

Hall-Ellis, Sylvia D., Virginia R. Maloney, and Mary Stansbury. *Institutional Responses to Engaged Scholarship: The Carnegie Foundation Engaged University Classification at Two Universities*. Presentation delivered to the 94th Annual Conference, Association for Library and Information Science Education, Philadelphia, Pa., January 11, 2008.

Hall-Ellis, Sylvia D. *Puzzles, Problems, and Predicaments*. Presentation delivered to the ALCTS Research Discussion Group, 132nd Annual Conference, American Library Association, Washington, D.C., June 23, 2007.

Hall-Ellis, Sylvia D. *Cataloging Education: A New Emphasis for the Library and Information Science Curriculum*. Presentation delivered to the ALCTS Pre-conference, 132nd Annual Conference, American Library Association, Washington, D.C., June 22, 2007. <http://www.loc.gov/catdir/cpsocareercat.html>

Ellett, Jr., Robert O. and Sylvia D. Hall-Ellis. *Copy Cataloging Done Smarter*. Presentation delivered to the International Conference on Interdisciplinary Information Sciences and Technologies (InSciT2006), October 25-28, 2006.

Hall-Ellis, Sylvia D. and Robert O. Ellett, Jr. *Cooperative Cataloging: Challenges and Opportunities for Defense Libraries*. Presentation delivered to the 1st Annual Conference of Defense Libraries, Spanish Ministry of Defense, Madrid, Spain, July 7, 2006.

Hall-Ellis, Sylvia D. *Cataloger Competencies: Do the Employers Require What the Professors Teach?* Presentation delivered to the ALCTS CCS Heads of Cataloging Discussion Group, 131st Annual Conference, American Library Association, New Orleans, La., June 26, 2006.

Grealy, Deborah S. and Sylvia D. Hall-Ellis. *From Research to Practice: The Scholarship of Teaching and Learning in LIS Education*. Presentation delivered to the at the 92nd Annual Conference, Association for Library and Information Science Education, San Antonio, Tex., January 18, 2006.

Hall-Ellis, Sylvia D. *Employers' Expectations for Entry-Level Catalogers: What Position Announcement Data Indicate*. Research paper delivered to the Technical Services Special Interests Group, 91st Annual Conference, Association for Library and Information Science Education, Boston, Mass., January 12, 2005. <http://dlist.sir.arizona.edu/>

Hall-Ellis, Sylvia D. *Common Errors in MARC Records Prepared by LIS Students: What Does It Mean?* Research paper delivered to the ALCTS CCS Cataloging Norms Discussion Group, Mid-Winter Conference, 90th American Library Association, San Diego, Calif., January 10, 2004.

Hall-Ellis, Sylvia D. *Visual Arts as Foundation for Successful Library Automation: The Rocky Mountain College of Art & Design Experience*. Paper delivered at the 6th Annual Conference of Higher Education, Charleston, S. C., 1993.

Hall, Sylvia D. *Design Elements for Bibliographic Databases: An Overview*. Paper delivered at the 14th Online National Conference, New York, 1983.

Invited Regional Conference Presentations

- Hall-Ellis, Sylvia D., Hudson, Christopher D., Brittany Cronin, and Kathryn Michaels. "The Colorado Law Project: Meeting the Public's Need for Legal Information." Panel discussion delivered at the Mountain Plains Library Association Conference, Billings, Mont., April 9, 2011.
- Grealy, Deborah S. and Sylvia D. Hall-Ellis. *Education for Information Professionals in New Mexico: Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the New Mexico Library Education Summit, Las Vegas, N.M., September 26, 2005.
- Hall-Ellis, Sylvia D. *Public Library-School Library Partnerships*. Presentation delivered at the 3rd Annual Colorado Association of Libraries Conference with the Mountain Plains Library Association, Denver, Colo., October 22, 2004.
- Hall-Ellis, Sylvia D. *Learn All You Can – Educational Partnership Opportunities for the Lewis and Clark Bicentennial Commemoration*. Paper delivered at the 3rd Annual Lewis and Clark Bicentennial Council National Planning Conference, Bismarck, N.D., April 26, 1998.

Invited State Conference Presentations

- Grealy, Deborah S. and Sylvia D. Hall-Ellis. *Academic Library Leadership Changes: Using Succession Planning and Mentoring*. Presentation delivered at the Minnesota Library Education Conference, St. Cloud, Minn., October 10, 2013.
- Hall-Ellis, Sylvia D., Merrie Valliant, and Melissa Powell. *RDA: What Is It and What Do You Need To Do With It At Your Library?* Presentation delivered at the Colorado Library Consortium Spring Conference, Ft. Morgan, Colo., April 26, 2013.
- Hall-Ellis, Sylvia D. *Service Learning and the Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 4th LEADS Scholars Orientation, Denver, Colo., August 5, 2009.
- Hall-Ellis, Sylvia D. *Service Learning: Enhancement to Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 3rd LEADS Scholars Orientation, Denver, Colo., June 2008.
- Hall-Ellis, Sylvia D. *Law Librarianship: A Community Conversation*. Sponsored by the Colorado Association of Law Libraries. Paper delivered at the Colorado Supreme Court Library, Denver, Colo., May 14, 2008.
- Hall-Ellis, Sylvia D. *Opportunities and Challenges in Law Librarianship: A Community Conversation*. Presentation delivered at the Sturm College of Law, Denver, Colo., November 7, 2007.
- Ellis, Sylvia D. *Grant Writing Resources for Nursing Professionals*. Presentation delivered at the Presbyterian / St. Luke's Health One Medical Center 1st Annual Research Symposium, Denver, Colo., October 17, 2007.
- Hall-Ellis, Sylvia D. *Project Homeless Connect 4 Event Evaluation – Insights and Lessons Learned*. Presentation delivered at the Homelessness Research Symposium: What is DU Doing about Homelessness in Denver, Denver, Colo., September 14, 2007.
- Hall-Ellis, Sylvia D. *Service Learning and the Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 2nd LEADS Scholars Orientation, Denver, Colo., August 10, 2007.

- Hall-Ellis, Sylvia D. *Education for Information Professionals in a Digital Environment: Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 15th Spring Mountains and Plains Parapros Conference, Denver, Colo., February 24, 2007.
- Hall-Ellis, Sylvia D. *Public Library Service to Spanish-Speaking and Latino Residents in Denver: A Case Study*. Presentation delivered at the 4th Annual Colorado Association of Libraries Conference, Denver, Colo., November 10, 2005.
- Hall-Ellis, Sylvia D. *Education for Information Professionals in a Digital Environment: Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 14th Annual Mountains and Plains Parapros Conference, Aurora, Colo., July 29, 2005.
- Hall-Ellis, Sylvia D. *Educational Opportunities: Library & Information Science Graduate Education at the University of Denver*. Presentation delivered at the 13th Annual Mountains and Plains Parapros Conference, Centennial, Colo., August 6, 2004.
- Hall-Ellis, Sylvia D. *Library Education & Training: Focus on the West: An LIS Faculty Member's Personal Response*. Presentation delivered at the 1st Annual Colorado Association of Libraries Conference, Keystone, Colo., October 18, 2002.
- Hall-Ellis, Sylvia D. *Grant Writing for School Librarians*. Presentation delivered at the 2002 Annual Colorado Education Media Association Conference, Colorado Springs, Colo., February 15, 2002.
- Hall-Ellis, Sylvia D. *Grants – Opportunities for the Future*. Paper delivered at the Southeast Regional Accountability Annual Conference, Lamar, Colo., November 12, 1998.
- Hall-Ellis, Sylvia D. *The Texas Library Connection and Interlibrary Loan: An Experiment in Resource Sharing*. Paper delivered at the Texas Computer Educators' Association Annual Conference, Austin, Tex., February 6, 1997.
- Hall-Ellis, Sylvia D. *Finding Grant Sources on the Internet: A Guide for Librarians*. Paper delivered at the 2nd Annual Institute for School Library Personnel, Pharr-San Juan-Alamo North High School, Pharr, Tex., July 29, 1996.
- Hall-Ellis, Sylvia D. *Mathematical and Logical Thinking: A Critical Intelligence*. Paper delivered at the 3rd Annual Paraprofessional Conference at the University of Texas - Pan American, Edinburg, Tex., March 8, 1996.
- Hall-Ellis, Sylvia D. *Cataloging Trends and Issues: Update Session*. Paper delivered at the 1st Annual Institute for School Library Personnel, South Texas Community College, McAllen, Tex., July 19, 1995.
- Hall-Ellis, Sylvia D. *Grant Writing: Tips and Encouragement for School Librarians*. Paper delivered at the 1st Annual Institute for School Library Personnel, South Texas Community College, McAllen, Tex., July 18 and 19, 1995.
- Hall-Ellis, Sylvia D. *How to Become an Expert Grant Writer*. Paper delivered at the 3rd Annual High School Principals' Academy, South Padre Island, Port Isabel, Tex., June 19, 1995.
- Texas Library Study: Results from Regions I and II*. Paper delivered at the 3rd Annual Technology Conference, Texas A&M University, College Station, Tex., November 18, 1994.
- Hall-Ellis, Sylvia D. *Academic Achievement and Middle School Students*. Paper delivered at the 8th Annual Young Adult Conference, Sam Houston State University, Huntsville, Tex., November 5, 1994.
- Hall-Ellis, Sylvia D. *Multimedia Resources for Library Leaders*. Paper delivered at the Institute for Librarians in A Multicultural Environment, Sam Houston State University, Huntsville, Tex., June 10, 1994.

Hall-Ellis, Sylvia D. *Finding the Resource: Empowering the User, or, the Case for Curriculum Based Subject Access to Learning Resource Center Collections*. Paper delivered at the 81st Annual Texas Library Association Conference, Corpus Christi, Tex., April 12-16, 1994.

Hall-Ellis, Sylvia D. and William H. Pichette. *Sam Houston State University Makes Use of OCLC/AMIGOS Collection Analysis CD*. Paper delivered at the 81st Annual Texas Library Association Conference, Corpus Christi, Tex., April 12-16, 1994.

Hall, Sylvia D. *Funding and Library Development in Pennsylvania: A Symbiotic Relationship*. Paper delivered at the Annual Graduate Student Colloquia, University of Pittsburgh, School of Library and Information Science, 1982.

Hall, Sylvia D. *Leadership for Public Library Trustees*. Paper delivered for the Trustees Division, Pennsylvania Library Association Annual Conference, Lancaster, Penn., 1981.

Seminar and Professional Development Presentations

Taylor, Meredith, and Sylvia D. Hall-Ellis. *Talent Management and Succession Planning*. ALCTS eForum, held March 22, 2017.

Hirsh, Sandra, Heather O'Brien, Michelle Holschuh Simmons, Michael Krasulski, and Sylvia D. Hall-Ellis. *Information Services Today: An Introduction. Part 3: Information Services: Roles in the Digital Age*. Rowan and Littlefield in partnership with Library Journal webinar, recorded February 5, 2015.

Hall-Ellis, Sylvia D. and Jennifer Sweda. *Copy Cataloging in an RDA Environment*. ALCTS eForum, held May 14 and 15, 2013.

Hall-Ellis, Sylvia D. *Law Librarianship: A Community Conversation*. Sponsored by the Colorado Association of Law Libraries, presented at the Colorado Supreme Court Library, Denver, Colo., May 14, 2008.

Hall-Ellis, Sylvia D. and Beatrice Z. Gerrish. *Reading and Libraries: Recent Research in Reading*. Presentation at the Ricks Center for Gifted Education, Denver, Colo., March 4, 2008.

Hall-Ellis, Sylvia D. *Cataloger Competencies: Do the Employers Require What the Professors Teach?* Presentation for the School of Library and Information Science, San José State University, February 12, 2008.

Hall-Ellis, Sylvia D. and Robert O. Ellett, Jr. *Cooperative Cataloging: Rules, Tools, and Conventions for Building a Multi-institutional Catalog*. Sponsored for the Spanish Ministry of Defense, Madrid, Spain, July 10, 2006.

Hall-Ellis, Sylvia D. *Cash for Kids: Grant Writing Opportunities for Youth Services Librarians*. Sponsored by the Colorado Young Adult Librarians; presented at Bemis Memorial Library, Littleton, Colo., November 13, 2002.

Hall-Ellis, Sylvia D. *MARC Records and Authority Control: Planning for Bibliographic Database Migration*. Sponsored and held at the Douglas County Public Library, Castle Rock, Colo., May 28, 2002.

Grant Writing: A Refresher for Librarians. Sponsored by Library and Information Science Program, College of Education, University of Denver; presented at University Center at Chaparral, August 12, 2000.

Hall-Ellis, Sylvia D. *Shaking the Money Tree – Basic Grant Writing for Colorado Educators*. Sponsored by the Office of Educational Telecommunications of the Colorado Department of Education.

Pikes Peak Community College, Colorado Springs, Colo., November 16, 1998.

Pueblo School District 60, Pueblo, Colo., November 12, 1998.

University of Northern Colorado, Greeley, Colo., November 10, 1998.
United Technology Educational Partnership, Grand Junction, Colo., November 9, 1998.

Hall-Ellis, Sylvia D. *Cataloging Multimedia, Kits, Globes and Map Materials in USMARC*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., April 24, 1997 and December 12, 1996.

Hall-Ellis, Sylvia D. *New Standards for School Library Media Centers*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., April 15, 1997.

Hall-Ellis, Sylvia D. *The School Library Media Specialist in the 21st Century: Visions for the Future*. Sponsored and hosted by Pharr-San Juan-Alamo Independent School District, Pharr, Tex., April 4, 1997.

Hall-Ellis, Sylvia D. *Cataloging Sound Recordings and Audio Materials in USMARC*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., March 20, 1997 and November 21, 1996.

Hall-Ellis, Sylvia D. *Evaluating and Selecting CD-ROMS for School Library Media Collections*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., March 18, 1997.

Hall-Ellis, Sylvia D. *Cataloging Audiovisual Materials in USMARC*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., February 27, 1997, November 7, 1996 and October 24, 1996.

Hall-Ellis, Sylvia D. *Introduction to Dialog: Basic Searching Strategies*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., February 14, 1997.

Hall-Ellis, Sylvia D. *Cataloging Books in USMARC*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., January 30, 1997, October 10, 1996, September 26, 1996 and August 8, 1996.

Hall-Ellis, Sylvia D. *Advanced Internet Searching Techniques for Librarians*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., January 21, 1997.

Hall-Ellis, Sylvia D. *Texas Library Connection Full-Text Searching*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., December 13, 1996 and October 25, 1996.

Hall-Ellis, Sylvia D. *Developing Evaluation Strategies for Grants and Proposals*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., December 10, 1996.

Hall-Ellis, Sylvia D. *Developing Needs Assessment for Grants and Proposals*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., November 12, 1996.

Hall-Ellis, Sylvia D. *Texas Library Connection Union Catalog Searching*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., November 8, 1996 and September 6, 1996.

Hall-Ellis, Sylvia D. *Grant Resources on the Internet*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., October 23, 1996.

Hall-Ellis, Sylvia D. *Preparing a Response to the Telecommunications Infrastructure Fund Board: Needs Assessment, Professional Development Framework, and Evaluation Strategies*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., October 16, 1996.

Hall-Ellis, Sylvia D. *Texas Library Connection: Building the Districtwide Bibliographic Database*. Sponsored and hosted by Mercedes Independent School District, Mercedes, Tex., September 13, 1996 and August 8, 1996. Sponsored and hosted by Los Fresnos Consolidated Independent School District, Los Fresnos, Tex., August 12, 1996.

Hall-Ellis, Sylvia D. *School-to-Work and Special Education: An Inclusive Partnership for Success*. Sponsored and hosted by the Office of Special Education, Region One Education Service Center, Edinburg, Tex., September 11, 1996.

Hall-Ellis, Sylvia D. *Telecommunications Infrastructure Fund Board: An Overview of Funding for Secondary Schools*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., August 31, 1996.

Hall-Ellis, Sylvia D. *Cataloging Books, Multimedia, and Realia in USMARC*. Sponsored and hosted by Edinburg Consolidated Independent School District, Edinburg, Tex., August 6, 1996.

Hall-Ellis, Sylvia D. *Internet Resources for Grant Writers*. Sponsored and hosted by Region One Education Service Center, Edinburg, Tex., April 20, 1996.

Hall-Ellis, Sylvia D. *Enhanced Grant Writing Skills for Mathematics Educators: Writing Skills for Campus Teams*. Sponsored and hosted by the Office of General Education, Region One Education Service Center, Edinburg, Tex., March 22, 1996.

Hall-Ellis, Sylvia D. *Internet Resources for Grant Writers*. Sponsored and hosted by the College of Education and Applied Science, Sam Houston State University, Huntsville, Tex., March 9, 1996.

Hall-Ellis, Sylvia D. *Grant Writing for Mathematics Educators: A Development Process for Campus Teams*. Sponsored and hosted by the Office of General Education, Region One Education Service Center, Edinburg, Tex., March 4, 1996.

Hall-Ellis, Sylvia D. *Shaking the Money Tree: Preparing Successful Technology Grant Applications*. Sponsored and hosted by the Office of Technology and Media Services, Region One Education Service Center, Edinburg, Tex., February 29, 1996 and April 29, 1996.

Hall-Ellis, Sylvia D. *District-wide Technology Planning: Technical Assistance for the Texas Education Agency Initiative*. Sponsored and hosted by the Office of Technology and Media, Region One Education Service Center, Edinburg, Tex., February 2, 1996.

Hall-Ellis, Sylvia D. *Enhanced Grant Writing Skills*. Sponsored and hosted by Pharr-San Juan-Alamo Independent School District, Pharr, Tex., January 27, 1996.

Hall-Ellis, Sylvia D. *United States Copyright Act of 1976, Video Transmissions, Computer Software and the Internet*. Sponsored and hosted by the Office of Technology and Media, Region One Education Service Center, Edinburg, Tex., January 24, 1996.

Hall-Ellis, Sylvia D. *The Grant Writing Development Process*. Sponsored and hosted by Pharr-San Juan-Alamo Independent School District, Pharr, Tex., January 20, 1996.

Hall-Ellis, Sylvia D. *MARC Cataloging of Materials for Library Media Centers*. Sponsored and hosted by the Office of Media Services, Region One Education Service Center for the Donna Independent School District, Donna, Tex., August 17, 1995.

Hall-Ellis, Sylvia D. *Classification*. Sponsored by AJ Seminars, Rockville, Maryland; presented at University Hilton Hotel, Houston, Tex., May 10, 1995.

Hall-Ellis, Sylvia D. *Library Technical Services*. Sponsored by AJ Seminars, Rockville, Maryland; presented at University Hilton Hotel, Houston, Tex., April 26, 1995.

Hall-Ellis, Sylvia D. *Grant Writing: An Introduction for Public School Administrators*. Sponsored and hosted by the Office of Administrative Services, Region One Education Service Center, Edinburg, Tex., April 19, 1995.

Hall-Ellis, Sylvia D. *The School Library Media Specialist in the 21st Century: Visions for the Future*. Sponsored and hosted by the United Independent School District, Laredo, Tex., March 31, 1995.

Hall-Ellis, Sylvia D. *Using USMARC*. Sponsored by AJ Seminars, Rockville, Maryland; presented at University Hilton Hotel, Houston, Tex., March 29, 1995.

Hall-Ellis, Sylvia D. *Library Media Center Policies and Guidelines: How to Prepare for School Board Adoption*. Sponsored and hosted by the Office of Technology and Media Services, La Joya Independent School District, La Joya, Tex., March 10, 1995.

Hall-Ellis, Sylvia D. *Developing District-wide Policies and Guidelines for Library Media Centers*. Sponsored and hosted by the Office of Technology and Media Services, La Joya Independent School District, La Joya, Tex., January 10, 1995.

Hall-Ellis, Sylvia D. *MARC Cataloging of Audiovisual Materials for Library Media Centers*. Sponsored and hosted by the Office of Library Media and Technology Services, Cypress-Fairbanks Independent School District, Houston, Tex., December 1, 1994.

Hall-Ellis, Sylvia D. *The School Library Media Specialist in the 21st Century: Visions for the Future*. Sponsored and hosted by United Independent School District, Laredo, Tex., October 14, 1994.

Hall-Ellis, Sylvia D. *The School Library Media Specialist in the 21st Century: Visions for the Future*. Sponsored and hosted by the Laredo Independent School District, Laredo, Tex., October 7, 1994.

Hall-Ellis, Sylvia D. *MARC Cataloging for Library Media Centers*. Sponsored by the Office of Library Media and Technology Services, Cypress-Fairbanks Independent School District, Houston, Tex., October 5, 1994.

Hall-Ellis, Sylvia D. *Jump to the Head of the Class: Undergraduate Library Resources Available at Sam Houston State University*. Sponsored by the Office of the Associate Vice President for Student Services, Sam Houston State University, Huntsville, Tex., October 4, 1994.

Hall-Ellis, Sylvia D. *CD-ROMs - 1994's Newest and the Best for Secondary Level Media Centers*. Sponsored and hosted by Clear Lake Independent School District, Houston, Tex., June 3, 1994.

Hall-Ellis, Sylvia D. *Introduction to Classification*. Sponsored by AJ Seminars, Rockville, Maryland; presented at Holiday Inn, Market Center, Dallas, Tex., May 18, 1994.

Hall-Ellis, Sylvia D. *Basic Descriptive Cataloging*. Sponsored by AJ Seminars, Rockville, Maryland; presented at University Hilton Hotel, Houston, Tex., May 4, 1994.

Hall-Ellis, Sylvia D. *Shaking the Money Tree - Part II: Writing Successful Grant Applications*. Sponsored by Donna Independent School District, Donna, Texas, and Region One Education Service Center Edinburg, Texas; presented at South Texas Community College Library, McAllen, Tex., April 29, 1994.

Hall-Ellis, Sylvia D. *Using MARC*. Sponsored by AJ Seminars, Rockville, Maryland; presented at Holiday Inn, Market Center, Dallas, Tex., April 6, 1994.

Hall-Ellis, Sylvia D. *Automated Authority Control*. Sponsored by AJ Seminars, Rockville, Maryland; presented at University Hilton Hotel, Houston, Tex., March 23, 1994.

Hall-Ellis, Sylvia D. *Automating the District School Library Media Centers: Choices and Opportunities*. Sponsored and hosted by the Office of Technology and Library Media Services, Fort Bend Independent School District, Sugar Land, Tex., March 4, 1994.

Hall-Ellis, Sylvia D. *Shaking the Money Tree - Part I: Preparing Successful Grant Applications*. Sponsored and hosted by the Office of Library Media Services, Donna Independent School District, Donna, Tex., February 4, 1994.

GRADUATE COURSES TAUGHT

San José State University, School of Library and Information Science

INFO 249 – Advanced Cataloging and Classification (Fall 2015, 2016; Summer 2016)
INFO 287 – Special Topics in Cataloging and Classification (Spring 2017, 2018, 2019, 2020, 2021, 2022, 2023; Fall 2020, 2021, 2022, 2023)
LIBR 248 – Beginning Cataloging and Classification (Summer 2002, 2003, 2004, 2005, 2006)
LIBR 249 – Advanced Cataloging and Classification (Summer 2003; Fall 2014; Summer 2015)

University of Denver, University College

Grant Writing Certificate Seminar for Non-Profit Organizations (Fall 2020, 2021; Spring 2021)

University of Denver, Morgridge College of Education HED

5991 – Grant Writing in Higher Education (Spring 2011)
LIS 4010 – Organization of Information (Fall 2002-2009; Winter 2005; Spring 2004-2006)
LIS 4020 – Professional Principles and Ethics (Summer 2000)
LIS 4040 – Management of Libraries and Information Centers (Fall 2010; Spring 2003, 2009 (DS); Winter 2005)
LIS 4070 – Cataloging and Classification (Winter 2008, 2009, 2010, 2011, 2012; Fall 2009 (DS)) LIS
4321 – Collection Management (Spring 2005)
LIS 4326 – LIS Research (Winter 2009 (DS); Spring 2009 (DS))
LIS 4350 – Adult Materials and Services (Summer 2006, 2009)
LIS 4379 – Social Sciences Resources (Spring 2009)
LIS 4400 – Cataloging and Classification (Spring 2000, 2001; Winter 2002-2009; Summer 2005, 2006 – course renumbered LIS 4070, September 2007)
LIS 4401 – Descriptive Cataloging (Winter 2001; Spring 2002, 2003, 2006-2009; Summer 2005)
LIS 4402 – Subject Cataloging (Spring 2001, 2009; Summer 2005, 2006, 2007, 2008)
LIS 4403 – Classification Schemes (Fall 2007, 2008, 2009 (DS)) LIS
LIS 4405 – Authority Control (Winter 2009)
LIS 4510 – Materials and Services for Children (Winter 2004; Summer 2005)
LIS 4620 – Grant Writing and Fundraising (Summer 2000, 2002, 2004, 2010; Winter 2006; Fall 2006-2009)
LIS 4700 – Seminar in Technical Services (Fall 2001)
LIS 4700 – Seminar in Public Libraries (Summer 2002)
LIS 4804 – Management of Electronic Records (Spring 2004; Fall 2005)
LIS 4902 – Capstone Projects (Winter 2003, Spring 2008, 2009, 2011)
LIS 4910 – Independent Study (every quarter Winter 2000 through Spring 2011)
LIS 4920 – Service Learning (every quarter Summer 2004 through Spring 2011)
RMS 4954 – Grant Writing (Summer 2013, 2014)
RMS 4959 – Content Analysis Methodology (Spring 2015)
QRM 4978 – Grant Writing (Summer 2011, 2012)

Rutgers University, School of Communication and Information

SC&I 522 – Cataloging and Classification (Summer 2013)

University of Arizona, College of Behavioral and Social Sciences

LIS 602 – Cataloging and Classification (Summer 1995)
LIS 612 – Advanced Online Search and Retrieval (Summer 1995)

Sam Houston State University, College of Education & Applied Science

LIS 532 - Cataloging and Classification (Fall 1993, 1994, 1995)
LIS 563 - Advanced Cataloging and Classification (Summer 1994)
LIS 567 - Research Methods (Spring 1994, Spring 1995)
LIS 591 - Educational Technology (Spring 1994, 1995)
LIS 596 - Networking and Computer Technologies in Education (Fall 1993, Summer 1994, Fall 1995)

Dissertations at the University of Denver

- Bowers, Stacey L. *Library Anxiety of Law School Students: A Study Utilizing the Multidimensional Library Anxiety Scale*. Chair, May 5, 2010.
- Fattor, Melissa M. *Student Engagement Differences by Ethnicity and Scale for Ninth Grade Students*. Chair, November 1, 2010.
- Fulton, Roseanne. *A Case Study of Culturally Responsive Teaching in Middle School Mathematics*. Kent Seidel, Chair, June 18, 2009, Outside Chair.
- Greal, Deborah S. *Tribes and Territories in Library and Information Studies Education*. Bruce Uhrmacher, Chair, June 10, 2008, Committee Member.
- McCord, J. Michael. *Developing a Standard of Care for Educational Malpractice*. Chair, April 15, 2011.
- Priebe, Sarah J. *Distinguishing Effects of Domain and General Knowledge on Passage Fluency and Comprehension*. Jan Keenan, Chair. July 21, 2011, Outside Chair.
- Snyder-Mondragon, Sandra M. *Institutional Factors that Impact the Retention of Graduate Students of Color in Schools of Library and Information Science: A Metaregression of Accredited Library School Statistics on Student Retention and Graduation Rates*. Kathy Green, Chair, July 24, 2009, Committee Member.
- Taylor, Karen Pickles. *Effective Teaching*. Elinor Katz, Chair, July 15, 2009, Outside Chair.
- Thompson, Jennifer. *Distinguishing a Western Women's College: A History of the Curriculum and Student Experience at Colorado Women's College*. Edith W. King, Chair, July 16, 2010, Committee Member.
- Walker, Emelda. *Influence of Organizational Factors on Job Satisfaction of Disability Service Providers at Postsecondary Institutions*. Chair, April 29, 2010.

Dissertation Proposals at the University of Denver

- Bowers, Stacey L. *Library Anxiety of Law School Students: A Study Utilizing the Multidimensional Library Anxiety Scale*. Chair, November 5, 2009.
- McCord, J. Michael. *Developing a Standard of Care for Educational Malpractice*. Edith W. King, Chair. April 23, 2010.
- Thompson, Jennifer. *History of Colorado Women's College*. Edith W. King, Chair, October 30, 2008. Committee Member.
- Walker, Emelda. *Influence of Organizational Factors on Job Satisfaction of Disability Service Providers at Postsecondary Institutions*. Chair, July 21, 2009.

Dissertations at Other Institutions

- Rodríguez-Mori, Howard. *The Information Behavior of Puerto Rican Immigrants to Central Florida, 2003-2009: Grounded Analysis of Six Case Studies Use of Social Networks during the Migration Process*. Kathleen Burnett, Chair, April 10, 2009, Florida State University, Committee Member.
- Schwartz, Brian *More than a Look-up Skill: Medical Information Literacy Education in Osteopathic Medical Schools*. D. Mirah Dow, Chair, July 18, 2017. Emporia State University, Committee Member.
- Snow, Karen. *A Study of the Perception of Cataloging Quality among Catalogers*. Shawne D. Miksa, Chair, August 1, 2011. University of North Texas, Committee Member.

Dissertation Proposals at Other Institutions

Schwartz, Brian *More than a Look-up Skill: Medical Information Literacy Education in Osteopathic Medical Schools*. D. Mirah Dow, Chair, December 4, 2015. Emporia State University, Committee Member.

Snow, Karen. *A Study of the Perception of Cataloging Quality among Catalogers*. Shawne D. Miksa, Chair, May 11, 2010. University of North Texas, Committee Member.

Master's Thesis at the University of Denver

Hemingson, Jeff. *Recital Paper*. Lamont School of Music, February 2010, Outside Chair.

Capstones at the University of Denver

Anthony, Alisa. *Correlation of Library and Information Science Program outcomes and Vacant Position Qualifications Listed on the Colorado State Library Jobline by Employers During the Period September 1, 2000 through August 31, 2002*. Chair, Winter Quarter, 2003.

Borden, Donna M. *Improving Emergency Communications Systems: Is a Radio Communications Network the Answer?* Fall Quarter, 2014.

Bowden, Heather L.M. *Exploring Biological Models for Long-term Data Preservation*. Chair, Spring Quarter, 2008.

Casenada, Cassandra Y. *Challenges to the Recruitment, Education, and Retention of Librarians of Color*. Chair, Spring Quarter, 2008.

Chang, Jennifer C. *Legal Research Practice and Preference: A Law Firm Perspective*. Chair, Spring Quarter 2011.

Ellis, Megan S. Fitzgerald. *Design of a Public Library Adult Volunteer Recruitment Program and Training Curriculum*. Chair, Winter Quarter, 2003.

Kircher, Kathy. *Development of a Library Pathfinder for Exobiology and Posting it on the Internet*. Chair, Winter Quarter, 2003.

Melhado, Loretta. *Design of St. John's Episcopal Church Library*. Chair, Spring Quarter, 2008.

Radcliff, Kathy. *Original Cataloging of Archival materials in the HERS Collection in Penrose Library*. Chair, Winter Quarter, 2003.

Sass, Carol Ann. *ACT Periodical Index: Access to Catholic Thinking Periodical Index: Web Index to Select Catholic Periodicals*. Spring Quarter 2000.

Stone, Sergio D. *Conducting Community Analysis for the Bemis Public Library (Littleton, Colorado) Using 2002 U.S. Census Data and the Online Outcome-Based Evaluation Toolkit*. Chair, Winter Quarter, 2003.

Tureson, Tamara. *Design and Use of an Information Audit Tool for Use in a Law Library*. Chair, Winter Quarter, 2003.

Tweed, Beth. *Evaluation of Email Reference Service in a Consumer Health Library Environment*. Chair, Winter Quarter, 2003.

GRANTS AND CONTRACTS

Student Learning in Agriculture STEM through Teacher Professional Development. Research team: Stanton Gartin (PI) and Cyndi Hofmeister, Northeast Junior College; Jeff Cash, Cheryl Sánchez, Anne-Marie Crampton, Lamar Community College; Suzanna Spears, Morgan Community College; Jack Wiley, Kerry Gabrielson, Trinidad State Junior College; Michael J. Miller, Colorado State University; Michael Womochil (Co-PI), Casey Sacks, and Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Agriculture, Agriculture and Food Research Initiative, Food, Agriculture, Natural Resources and Human Sciences Education and Literacy Initiative, \$404,460 (2017-2020)

Leading and Achieving: the Colorado Agriculture Regional Consortium. Research team: Jack Wiley (PI), Kerry Gabrielson, Trinidad State Junior College; Jeff Cash (PI), Cheryl Sánchez, Anne-Marie Crampton, Lamar Community College; Suzanna Spears, Morgan Community College; Cyndi Hofmeister, Northeast Junior College; Michael Womochil (Co-PI), Casey Sacks, and Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Agriculture, Hispanic Serving Institutions Education Grants Program, \$504,414 (2017-2020)

Cyber Prep Program Planning Grant. Research team: Debbie Sagen (PI), Brenda Lauer, Pikes Peak Community College; Gretchen Martin, Koiosa Insights; and, Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Commerce, Regional Alliances and Multi-stakeholder Partnerships to Stimulate (RAMPS) Cybersecurity Education and Workforce Development, \$199,681 (2016-2018)

Career and Technical Education in Colorado: Pathways to Education and Employment. Research team: Heather McKay (PI), Rutgers University; Sarah Heath, Casey Sacks, Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Education, Institute of Education Sciences, \$1,400,000 (2017-2021)

Pre-Alliance Planning Grant Colorado Community College Alliance. Research team: Victor Vialpondo (PI) and Janel Highfill, Community College of Aurora; Heidi Loshbaugh (Co-PI), Community College of Denver; Rick Reeves, Bill McGreevy, Liz Cox, and Kristin Aslin, Red Rocks Community College; Cathy Pellish, Front Range Community College; Samuel DeVries, Arapahoe Community College; Sylvia D. Hall-Ellis, Colorado Community College System. National Science Foundation, Louis Stokes Alliance for Minority Participation (LSAMP), \$86,817 (2016-2017)

Towards Scalable Differentiated Instruction Using Technology-enabled, Competency-based, Dynamic Scaffolding. Research team: Karen Wilcox (PI) and Vijay Kumar, Center for Computational Engineering, Massachusetts Institute of Technology; Flora McMartin, Broad-based Knowledge; Quinsigamond Community College; and, Casey Sacks, and Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Education, First in the World Developmental Grant, \$2,891,882 (2015-2019)

Colorado Strategic Partnerships Emergency Grant. Research team: Elise Lowe-Vaughn (PI), Amy Hodson, Celia Hardin, Barbara McBride, James Newby, Christopher Dewhurst, Nina Holland, Kate Anderson, MaryAnn Roe, Chrystalynn Chrystalynn, Elaine Edon, Mona Barnes, Tom Morgan, Rob Hanni, and Marie Valenzuela, Colorado Department of Labor and Employment; Steve Anton, Joelle Brouner, and, Katie Griego, Colorado Department of Human Services; Rebecca Holmes, Judith Martinez, and Jennifer Jirous, Colorado Department of Education; Emily Templin Lesh, Colorado Workforce Development Council; Cory Everett, Colorado Department of Regulatory Agencies; and, Casey Sacks and Sylvia D. Hall-Ellis, Colorado Community College System. U.S. Department of Labor, Strategic Partnerships Emergency Grant, \$5,000,000 (2015-2017)

CAEL Jump Start Program: Competency-Based Education. Research team: Jerry Migler (PI), Casey Sacks, Debra Cohn, Thomas Hartman, and Sylvia D. Hall-Ellis, Colorado Community College System; Matt Jamison, Front Range Community College; Mike Coste, Red Rocks Community College; Amanda Corum, Pueblo Community College; Janet Colvin, Pikes Peak Community College; and, MaryAnn Matheny, Community College of Denver. Council for Adult and Experiential Learning, \$15,000 (2015)

Summit on the Redesign of Developmental Education. Research team: Jerry Migler (PI), Casey Sacks, and Sylvia D. Hall-Ellis, Colorado Community College System; Chip Nava, Pueblo Community College; Kim Moultny, Arapahoe Community College; Debbie Ulibarri, Trinidad State Junior College; and, Kris Bernard, Front Range Community College. American Association of Community Colleges, \$15,000 (2015-2016)

Equity in Excellence at Colorado Community Colleges. Research team: Keith Howard (PI) and Sylvia D. Hall-Ellis, Colorado Community College System; Estela Mata Bensimon, Center for Urban Education, University of Southern California; and Kerry Gabrielson, Trinidad State Junior College. Colorado Department of Higher Education, Colorado Opportunity Scholarship Program, \$150,000 (2015-2016)

MBA High School of Business in Colorado. Research team: Laurie Urich (PI) and Sylvia D. Hall-Ellis, Colorado Community College System; Rudolph Sumpter and Beatrice Gerrish, Boulder Valley Schools; Keith Curry Lance, RSL Research Group. Colorado Department of Higher Education, Colorado Opportunity Scholarship Program, \$501,295 (2015-2016)

Fullbridge Program in Colorado. Research team: Keith Howard (PI) and Sylvia D. Hall-Ellis, Colorado Community College System; Suzanna Spears, Fort Morgan Community College; and, Cheryl Sánchez and Anne-Marie Compton, Lamar Community College. Colorado Department of Higher Education, Colorado Opportunity Scholarship Program, \$300,000 (2015-2017)

Colorado Community College System Alternative Credit Program. Research team: Jerry Migler (PI), Keith Howard, and Sylvia D. Hall-Ellis, Colorado Community College System. American Council on Education, \$13,000 (2015)

Internationalization in Higher Education. Researcher: Samuel D. Museus. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$8,000 (2014-2015)

International Perspectives on Bilingual Education. Researcher: Sharolyn Pollard-Durodola. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$3,700 (2014-2015)

Cultivating Culturally Relevant and Responsive Curriculum and Pedagogy in College. Researcher: Samuel Museus. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, iRise Grant, \$5,000 (2014-2015)

Project EMERGE (Educational Model for Evaluation and Replicability in Gifted Environments). Research team: Norma Hafenstein (PI) and Bruce Uhrmacher. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Lynde and Harry Bradley Foundation, \$235,000 (2014-2015)

Collecting Asian American Refugee Stories. Researcher: Samuel Museus. Technical reviewer for MCE: Sylvia D. Hall-Ellis. American Educational Research Association, Research Grant, \$5,000 (2014-2015)

Developing Expertise in Teaching K-5 Mathematics. Research team: Julie Sarama (PI) and Douglas H. Clements (Co-PI), in partnership with the School of Education at the University of Michigan. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, \$130,344 (2013-2015)

Investigation of the Long-Term Outcomes for Special Education Students. Researcher: Antonio Olmos-Gallos. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Jefferson County School District, Office of Assessment, \$40,000 (2014)

Refugee Community Collaboration. Researcher: Vicki Tomlin (PI) in partnership with the African Community Center and Jewish Family Service. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, \$14,854 (2014-2015)

Access to Mathematics for All. Research team: Richard S. Kitchen (PI), Nicole M. Russell (Co-PI), and Terrence Blackman (Co-PI), Curriculum Studies and Teaching Program, Morgridge College of Education; Álvaro Árias (Co-PI, Department of Mathematics); and, James Gray (Co-PI), Department of Mathematics, Community College of Aurora. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, The Robert Noyce Scholarship Program, Capacity Building Project, \$349,926 (2014-2016)

Cognitive Test Battery for Intellectual Disabilities. Research team: Karen Riley (PI), Lyndsay Agans, Jessica Lerner, and Karin Dittrick-Nathan in partnership with David Hessel (PI), The MIND Institute at the University of California – Davis, and Elizabeth Berry-Kravis, Rush University Medical Center. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Institutes of Health, Outcome Measures for Use in Treatment Trials for Individuals with Intellectual and Developmental Disabilities (R01), \$2,499,996 (\$588,672 at DU) (2014- 2019)

Broadening Participation in Engineering among Women and Latino/as: A Longitudinal, Multi-Site Study. Researcher: Patton Garriott (PI) in partnership with the University of North Dakota and the University of Missouri. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, HER Core Research, \$677,390 (\$69,992 at DU) (2014-2019)

Designing a Teacher Evaluation System to Improve Teacher Effectiveness for Culturally and Linguistically Diverse Learners. Research team: María del Carmen Salazar (PI), Jessica Lerner, and Kathy Green. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Professional Research Opportunities for Faculty, \$29,988 (2014-2016)

Developing a College-Going Culture in Latina/O Families: Exploring the Influence of Funds of Knowledge on Family Outreach Programs. Researcher: Judy Marquez Kiyama. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Professional Research Opportunities for Faculty, \$18,720 (2014-2016)

Assessment of Quality of Life in Neural Implantation Surgery for the Treatment of Parkinson's Disease. Researcher: Cynthia McRae. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$3,967 (2014-2015)

Pura Vida: Cloud Forest, Curriculum and Cross-Cultural Study. Research team: Norma Hafenstein (PI) and Bruce Uhrmacher (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$8,000 (2014-2015)

Online Course Development for Curriculum and Instruction. Researcher: Ruth Chao. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$3,000 (2014)

Online Course Development for Curriculum and Instruction. Researcher: María del Carmen Salazar. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$3,000 (2014)

Online Course Development for Curriculum and Instruction. Researcher: Jessica Lerner. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$3,000 (2014)

Online Course Development for Curriculum and Instruction. Researcher: Duan Zhang. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$3,000 (2014)

The Mathematics Education of African Americans, 1866 – 1954. Researcher: Nicole M. Russell. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Academy of Education, Spencer Foundation Postdoctoral Fellowship, \$55,000 (2014-2016)

Early Childhood Care and Education Study. Research team: Carrie Germeroth (PI), Melissa Mincic, and Douglas H. Clements. Technical reviewer for MCE: Sylvia D. Hall-Ellis. State of North Dakota, Department of Public Instruction, \$73,500 (2013-2014)

Graduate Level Specialty in Addiction Counselor Training with Emphasis on Integration of Native American Specific Content. Research team: Ruth Chao (PI) and Michael J. Faragher (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. The Galena Foundation, \$289,732 (2013-2016)

The Collecting Asian American and Pacific Islander Refugee Stories (CARS) Project. Researcher: Samuel Museus. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, \$15,000 (2014)

Parents in Transition: A Multiple Case Study of Parent and Family Orientation Programs. Researcher: Judy Marqu  z Kiyama. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Faculty Research Fund, \$1,500 (2014-2015)

The Sistah Network: Black Women Graduate Students Supporting and Retaining Each Other. Researcher: Nicole M. Russell. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Faculty Research Fund, \$2,708 (2014-2015)

Evaluation of the Northeast Denver Babies Ready for College Program. Research team: Carrie Germeroth (PI), Melissa Mincic, and Douglas H. Clements. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Mile High Montessori, \$9,922 (2013-2014)

Developing Teaching Expertise in K-5 Mathematics. Research team: Julie Sarama (PI) and Douglas Clements (University of Denver), in partnership with Timothy Boerst (PI), Meghan Shaughnessy, Deborah Ball, Hyman Bass (School of Education at the University of Michigan). Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, \$449,827 (\$130,344 at the University of Denver) (2013-2015)

Early Learning Care and Education Study Program Grant for the State of North Dakota. Research team: Carrie Germeroth (PI), Melissa Mincic, and Sheridan Green. Technical reviewer for MCE: Sylvia D. Hall-Ellis. State of North Dakota Department of Public Instruction, \$73,500 (2013-2014)

Local Professional Learning Community for School Leaders. Research team: Susan Korach (PI), Kristina Hesbol, and Rebecca McClure. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Education Development Center, \$10,950 (2013)

Healthy Eaters, Lifelong Movers 2: Implementing Evidence-Based School Environment, Policy, and Curricular Changes to Increase Opportunities for Healthy Eating and Physical Activity in Low Income, Rural Colorado. Research team: Elaine Berlansky, University of Colorado at Denver (PI), Nicholas Cutforth, University of Denver (Co-PI), and Allison Reeds. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Health Foundation, \$3,103,108 (2013-2017)

Hughes Rare Books Library Room Renovation in the Sturm College of Law. Project team: Patti H. Marks, Sylvia D. Hall-Ellis, and Leigh Elliott. Mabel T. Hughes Charitable Trust, \$34,000 (2013-2014)

The Promise Center Partnership with the Marsico Institute for Early Learning and Literacy and the City and County of Denver. Research team: Karen Riley (PI), Douglas H. Clements (Co-PI), and Sheridan Green. Technical reviewer for MCE: Sylvia D. Hall-Ellis. The Piton Foundation, \$223,468 (2013-2014)

Center of Excellence for Problem Gambling. Research team: Ruth Chao (PI) and J. Mike Faragher. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Department of Behavioral Health, \$68,021 (2012-2013)

United Way Implementation and Validation Review. Research team: Douglas H. Clements (PI), Amanda Moreno, and Sheridan Green. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Mile High United Way, \$19,737 (2013)

Math/Science Partnership in Rural Districts. Research team: Kristen Bunn (PI, Eagle County Schools), Paul Michalec (Co-PI), and Alegra Reiber. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Department of Education, Colorado's Mathematics and Science Partnership Program, \$750,000 (2013-2014)

Mathematics and Science Education of African Americans. Research team: Nicole Russell (PI), Sylvia D. Hall-Ellis, Steve Fisher (Penrose Library). Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Professional Research Opportunities for Faculty, \$29,994 (2013-2015)

Online Course Development for Curriculum and Instruction. Researcher: Nicole Russell. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$3,000 (2013)

Discourse and Opportunity: Undocumented Students and Higher Education Policy. Researcher: Ryan Gildersleeve. Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Academy of Education, Spencer Foundation Postdoctoral Fellowship, \$55,000 (2012-2014)

An Anthropological Study of the Latino Graduation Ceremony. Researcher: Ryan Gildersleeve. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Spencer Foundation, \$39,900 (2012-2013)

Fragile-X and Pharmaceutical Company: Clinical Trial of AFQ056. University of California – Davis Children's Hospital MIND Institute (Sacramento), Children's Hospital Denver, and Rush Children's Hospital at Rush University Medical Center (Chicago). Karen Riley, PI. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Novartis Pharmaceuticals Corporation, \$394,206 (2012-2014)

Project Engage, Phase 2, a DAPRA Grant in partnership with Total Immersion Systems, Inc., and Texas A&M University. Research team: Karen Riley (PI) and Lyndsay Agans (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. U.S. Department of Defense, \$60,000 (2011-2013)

International School Psychology Practicum Exchange. Researcher: Gloria L. Miller. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, \$14,951 (2012-2013)

Online Course Development for Curriculum and Instruction. Research team: Bruce Uhrmacher (PI) and Norma Hafenstein (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Teaching and Learning, \$18,193 (2012-2014)

Writers in the Schools. Research team: Karen Riley (PI) and Amanda Moreno (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Humanities, \$4,965 (2012-2013)

Learning Ecosystem Validation Grant. Research team: Karen Riley (PI), Lyndsay Agans, Kent Seidel, and Shimelis Assefa. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Bill & Melinda Gates Foundation, \$315,000 (2012-2013)

Project Words of Oral Reading and Language Development (WORLD). Research team: Jorge E. Gonzalez (PI), Texas A&M University; Laura Saenz (Co-PI), University of Texas – Pan American; and, Sharolyn Pollard-Durodola (Co-PI), University of Denver. Technical reviewer for MCE: Sylvia D. Hall-Ellis. U.S. Department of Education, Institute of Education Sciences, \$53,354 (2012-2015); award \$640,718, transfer from Texas A&M University

Increasing the Efficacy of an Early Mathematics Curriculum with Scaffolding Designed to Promote Self-Regulation. Research team: Douglas H. Clements (PI) and Julie Sarama (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. U.S. Department of Education, Institute of Education Sciences, \$1,445,315 (2008-2014); award \$4,541,975, transfer from University at Buffalo, The State University of New York

Using Rule Space and Poset-based Adaptive Testing Methodologies to Identify Ability Patterns in Early Mathematics and Create a Comprehensive Mathematics Ability Test. Research team: Douglas H. Clements (PI) and Julie Sarama (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, \$323,791 (2010-2014); award \$1,194,944, transfer from University at Buffalo, The State University of New York

Comprehensive Postdoctoral Training in Scientific Education Research. Researcher: Julie Sarama (PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. U.S. Department of Education, Institute of Education Sciences, \$133,458 (2010-2014); award \$613,353, transfer from University at Buffalo, The State University of New York

Longitudinal Study of a Successful Scaling Up Project: Extending TRIAD. Research team: Douglas H. Clements (PI), Julie Sarama (Co-PI), and Abt Associates (Carolyn Layzer, Fatih Unlu, Laurie Bozzi, Lily Fesler, Alina Martinez, Cristofer Price, James van Orden). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Institute of Education Sciences, \$384,940 (2011-2015; award \$1,250,286, transfer from University at Buffalo, The State University of New York

Early Childhood Education in the Context of Mathematics, Science, and Literacy. Research team: Julie Sarama (PI), Douglas H. Clements (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. National Science Foundation, \$990,020 (2010-2014; award \$2,285,228, transfer from University at Buffalo, The State University of New York

Early Childhood Clearinghouse Information Center Redesign. Research team: Karen Riley (PI) and Amanda Moreno (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Office of the Lt. Governor of Colorado, \$12,000 (2012-2013)

Morgridge Rural Educational Leadership Initiative. Research team: Lyndsay Agans (PI), Linda Brookhart (Co-PI), Susan Korach, and Rebecca McClure. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Morgridge Family Foundation, \$100,000 (2012-2014)

Center of Excellence for Problem Gambling. Research team: Patrick Sherry (PI) and J. Mike Faragher. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Department of Behavioral Health, \$55,000 (2012-2013)

Intermodal Transportation Institute Research Initiatives. Researcher: Patrick Sherry. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University Transportation Centers Program, Research and Innovative Technology Administration, U.S. Department of Transportation. \$600,000 (2012-2014)

Mile High United Way Social Innovation Fund Early Literacy Initiative. Gloria L. Miller, PI, Amanda Moreano, Kim Hartnett-Edwards, and Sheridan Green. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Mile High United Way, \$89,992 (2012-2013)

International School Psychology Practicum Exchange. Researcher: Gloria L. Miller. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, \$1,000 (2012-2013)

Refugee Student Art Outreach. Researcher: Karin Ditttrick-Nathan. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Faculty Research Fund, \$3,000 (2012-2013)

Resistance, Resilience, and Reciprocity: Centering the Voices of Black Doctoral Women with Faculty Aspirations. Researcher: Nicole M. Russell. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Faculty Research Fund, \$2,965 (2012-2013)

Assessing Learning through Student Notebooks. Research team: Keith Miller, Nancy Sasaki, and Kathy Green.

Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Professional Research Opportunities for Faculty, \$30,000 (2012-2014)

International School Psychology Practicum Exchange. Researcher: Gloria L. Miller. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$2,000 (2012-2013)

ELO in Colorado. Research team: Cynthia Hazel and Duan Zhang. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Legacy Foundation, \$150,000 (2012-2013)

Creating Online LIS Courses. Research team: Mary C. Stansbury (PI), Shimelis Assefa, Denise Anthony, Xiao Hu, and Krystyna Matusiak. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Teaching and Learning, \$15,000 (2011-2013)

Maritime Piracy Seminar. Researcher: Ved Nanda, The Nanda Center, Sturm College of Law. Technical reviewer for Sturm College of Law: Sylvia D. Hall-Ellis. Arsenault Family Foundation, \$15,000 (2012-2013).

Early Childhood Librarianship: An Interdisciplinary, Experiential Learning MLIS. Researcher: Mary C. Stansbury (PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Laura Bush's 21st Century Librarians Program, Institute for Museums and Library Services, \$249,066 (2012-2014)

Learning Ecosystem Planning Grant. Research team: Karen Riley (PI), Lyndsay Agans, Kent Seidel, and Shimelis Assefa. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Bill & Melinda Gates Foundation, \$281,217 (2011-2012)

Advanced Service Learning Practitioner Faculty Grant, Sylvia D. Hall-Ellis, University of Denver, Center for Community Engagement and Service Learning, \$400 (2011)

Evaluating and Enhancing the EspeciallyMe Program. Research team: Lori D. Patton and Nicole Russell. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, Public Good Fellowship Grant, \$24,780 (2012)

Choosing Excellence: Let Every Child Bloom. Research team: Shimelis Assefa (PI) and Mary C. Stansbury (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Community Engagement and Service Learning, Public Good Grant, \$7,657 (2012)

K-8 STEM Content Specific Professional Development to Improve Elementary Student Achievement. Research team: Kent Seidel (PI), Nicole Russell (Co-PI), Kimberly Hartnett-Edwards, Paul Michalec, Jeff Farmer, Keith Miller, Alegra Reiber, and Nancy Sasaki. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Department of Education, Improving Teacher Quality Grant, (Title II ESEA), \$307,299 (2011-2012)

Building a Better Principal Pipeline to Boost Student Achievement. Researcher: Susan Korach. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Denver Public Schools; a subcontract from the Wallace Foundation Grant, \$170,000 (2011-2017)

Center of Excellence for Problem Gambling. Research team: J. Mike Faragher (Co-PI) and Bobbie Vollmer (PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Department of Behavioral Health, \$79,999 (2011-2012)

An Exploration of Novice Teachers' Core Competencies: Impacts on Student Achievement, and Effectiveness of Preparation. Research team: Kent Seidel (PI), Kathy Green (Co-PI), Kimberly Hartnett-Edwards, and Duan Zhang. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Institute of Education Sciences, Effective Teachers and Effective Teaching, \$990,987 (2012-2015)

Project Engage, a DAPRA Grant in partnership with Total Immersion Systems, Inc., and Texas A&M University.

Research team: Karen Riley (PI) and Lyndsay Agans (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. U.S. Department of Defense, \$49,964 (2011-2014)

User-centered Evaluation of Music Search Engines. Researcher: Xiao Hu. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Faculty Research Fund, \$2,931 (2011-2012)

Educational Practicum in Vietnam and China to Promote the Inclusion of Young Children with Disabilities.

Researcher: Gloria L. Miller. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Office of Internationalization, \$5,000 (2011-2012)

Evaluation of Colorado's Enhancing Quality in Infant-Toddler (EQIT) Initiative. Research team: Virginia R.

Maloney and Amanda Moreno. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Buell Foundation, \$395,884 (2011-2013)

Creating Engaging Environments to Teach Pre-Algebra Mathematics to Elementary Students. Research team:

Álvaro Arias, Mario López, María del Carmen Salazar, and Lyndsay Agans. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver Interdisciplinary Grant, \$60,000 (2011-2012)

Morgridge Education Technology Accessible (META) Resource Project. Research team: Lyndsay Agans (PI) and

Shimelis Assefa (Co-PI). Technical reviewer for MCE: Sylvia D. Hall-Ellis. Morgridge Family Foundation, \$36,000 (2011)

MCE Connect: A 21st Century Framework for Faculty Development. Research team: Bruce Uhrmacher (PI),

Shimelis Assefa (Co-PI), Lyndsay Agans (Co-PI), Kimberly Hartnett-Edwards, Norma Hafenstein, Xiao Hu, Paul Michalec (Co-PI), María del Carmen Salazar (Co-PI), and Sandra Snyder-Mondragon. Technical reviewer for MCE: Sylvia D. Hall-Ellis. University of Denver, Center for Teaching and Learning, \$22,355 (2011-2012)

Parent Education and Parent Leadership and Advocacy. Research team: Virginia Maloney (PI) and Amanda

Moreno, Marsico Institute for Early Learning and Literacy. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Health Foundation, \$27,358 (2010-2011)

Intentional School Culture. Researcher: Cynthia Hazel. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Denver Public Schools, \$38,040 (2010-2011)

Healthy Eaters, Lifelong Movers: Implementing Evidence-Based School Environment, Policy, and Curricular Changes to Increase Opportunities for Healthy Eating and Physical Activity in Low Income, Rural Colorado.

Research team: Elaine Berlansky, University of Colorado at Denver (PI), Nicholas Cutforth, University of Denver (Co-PI), and Allison Reeds. Technical reviewer for MCE: Sylvia D. Hall-Ellis. Colorado Health Foundation, \$1,683,277 (2011-2014)

Second Life Learning Community. Research team: Don McCubbrey (PI), Sylvia D. Hall-Ellis (Co-PI), Walter

LaMendola, and Paul Novak. University of Denver, Center for Teaching and Learning, \$13,000 (2010-2011)

Reintroducing the Value of Law Librarians to Academic and Public Librarians in Colorado through the

Identification and Use of Emerging Technologies. Research team: Sylvia D. Hall-Ellis (Co-PI), Stacey L.

Bowers (PI), and Christopher Hudson, in partnership with Denver Public Library, Arapahoe Library District, and the Colorado State Supreme Court Library. University of Denver, Center for Community Engagement and Service Learning, \$5,773 (2010-11)

Reintroducing the Value of Law Librarians to Public Librarians through the Identification and Use of Emerging

Technologies and Resources. Research team: Stacey Bowers (PI) and Sylvia D. Hall-Ellis (Co-PI). American Association of Libraries, Wolters Kluwer Law & Business Grant Program, \$2,725 (2010-2011)

Faculty Service Learning Pod. Research team: María del Carmen Salazar and Nicholas Cutforth (Curriculum and Instruction Program), Frank Tuitt (Higher Education Program), Cynthia Hazel and Gloria Miller (Child, Family, and School Psychology Program), and Sylvia D. Hall-Ellis (Library and Information Science Program). University of Denver, Center for Community Engagement and Service Learning, \$8,000 (2010-2011)

Lincoln Collaborative. Research team: Antonio Esquibel (Principal, Lincoln High School), María del Carmen Salazar (Curriculum and Instruction Program), and Sylvia D. Hall-Ellis. School Improvement Grant, Denver Public Schools, \$375,000 (2010-2012)

Future LEADers of America: Leaders III. Research team: Denver Public Library (Kristen Svendsen, PI), the University of Denver (Sylvia D. Hall-Ellis), the Colorado Chapter of REFORMA (Orlando Archibeque), and the Colorado Association of Libraries (Martin Garner). Laura Bush's Recruiting Librarians for the 21st Century Program, Institute for Museums and Library Services, \$988,366 (2009-2012)

Teaching for Success in the Library Environment: LIS 4030 in Library 2.0. Research team: Deborah S. Greal (PI) and Sylvia D. Hall-Ellis (Co-PI). University of Denver, Center for Teaching and Learning, \$ 9,350 (2009-10)

Writing Group Faculty Grant, Sylvia D. Hall-Ellis, University of Denver, Center for Community Engagement and Service Learning, \$750 (2008-2009)

Collaborative Learning Faculty Grant, Sylvia D. Hall-Ellis, University of Denver, Center for Teaching and Learning, \$1,500 (2008)

Connecting Information Literacy to Learning. Research team: Lori Micho, Merrie Valliant, Amanda Samland, and Sylvia D. Hall-Ellis. Colorado State Library, LSTA Discretionary Grant Program, \$19,548 (2008-2009)

Law Librarianship Fellows Program. Research team: Sylvia D. Hall-Ellis (PI), Stacey Bowers (Co-PI), and Christopher Hudson, Westminster Law Library. Laura Bush's 21st Century Librarians Program, Institute for Museums and Library Services, \$999,370 (2008-2012)

Grant Writing in a Cooperative Learning Environment. Sylvia D. Hall-Ellis. University of Denver, Center for Teaching and Learning, \$2,000 (2008-2009)

Project Homeless Connect 6 Event Evaluation. Research team: Sylvia D. Hall-Ellis and Duan Zhang. University of Denver Center for Community Engagement and Service Learning, \$9,785 (2008)

Project Ecuador: International Learning Service Libraries – A Faculty Development Experience in Ecuador. Sylvia D. Hall-Ellis, Office of Internationalization, University of Denver, \$600 (2007)

Project Ecuador: International Learning Service Libraries – A Faculty Development Experience in Ecuador. Sylvia D. Hall-Ellis, International Service Learning Office, University of Denver, \$400 (2007)

Project Homeless Connect 5 Event Evaluation. Research team: Sylvia D. Hall-Ellis and Duan Zhang. University of Denver Center for Community Engagement and Service Learning, \$1,000 (2007)

Project Homeless Connect 4 Event Evaluation. Research team: Sylvia D. Hall-Ellis and Duan Zhang. University of Denver Center for Community Engagement and Service Learning, \$4,595 (2007)

Future LEADers of America: Leaders II. Research team: Denver Public Library (Kristen Svendsen, PI), the University of Denver (Sylvia D. Hall-Ellis), and the Colorado Chapter of REFORMA (Orlando Archibeque). Laura Bush's Recruiting Librarians for the 21st Century Program, Institute for Museums and Library Services, \$988,518 (2007-2010)

Strategic Planning Assistance for the Denver Medical Library. Sylvia D. Hall-Ellis. Denver Medical Library, Inc., \$30,000 (2006-2007)

Destiny Software for JMAC Student Lab. Sylvia D. Hall-Ellis, gift from the Sagebrush Corporation, Minneapolis, Minnesota, \$10,000 (2006)

Libraries: Tools for Education and Development Worldwide: A Faculty Development Experience in France. Sylvia D. Hall-Ellis, Office of Internationalization, University of Denver, \$800 (2005)

Denver Public Library: Opportunities for Change. Sylvia D. Hall-Ellis, Colorado Community Based Research Network, \$2,000 (2005)

Future LEADers of America. Research team: Denver Public Library (Letty Icolari and Steve Taylor, PIs), Emporia State University (Jim Agee), and the University of Denver (Sylvia D. Hall-Ellis). Recruiting Librarians for the 21st Century Program, Institute for Museums and Library Services, \$670,315 (2005-2008)

American Association of University Professors Summer Institute Professional Development Grant. Sylvia D. Hall-Ellis, American Association of University Professors, \$300 (2005)

Beta Phi Mu Alumni Tea. Sylvia D. Hall-Ellis, gift from the Office of Alumni and Parent and Relations, University of Denver, \$2,000 (2005)

Spectrum Software for LIS Student Lab. Sylvia D. Hall-Ellis, gift from the Sagebrush Corporation, Minneapolis, Minnesota, \$5,000 (2005)

Developing Research Capacity in Community Organizations and Residents through Training and Technical Assistance. Nicholas J. Cutforth (PI) and Sylvia D. Hall-Ellis. Piton Foundation, \$25,000 (2005-2006)

Libraries: Tools for Education and Development Worldwide: A Faculty Development Experience in Argentina. Sylvia D. Hall-Ellis, Office of Internationalization, University of Denver, \$500 (2004)

Developing Research Capacity in Community Organizations and Residents through Training and Technical Assistance. Research team: Nicholas J. Cutforth (PI), Gary Lichtenstein and Sylvia D. Hall-Ellis, Piton Foundation, \$25,000 (2003-2004)

Increasing Spanish-Speaking and Hispanic Diversity among Library and Information Science Students at the University of Denver: Development of a Student Recruitment Model. Researcher: Sylvia D. Hall-Ellis (PI), Office of Multicultural Excellence, University of Denver, \$2,750 (2003-2004)

Collection Development Enrichment to Support the Cataloging & Classification Specialization and School Librarianship within the Library & Information Science Program at the University of Denver. Research team: Sylvia D. Hall-Ellis (PI) and Deborah S. Grealy. Women's Library Association, University of Denver, \$4,000 (2003)

Collection Development Enrichment to Support the Library & Information Science Program at the University of Denver. Research team: Deborah S. Grealy (PI) and Sylvia D. Hall-Ellis. Women's Library Association, University of Denver, \$4,000 (2001)

Wireless LAN for Library Education. Research team: Deborah S. Grealy (PI) and Sylvia Hall-Ellis. University of Denver, Center for Teaching and Learning, \$24,000 (2001-2002)

Upward Bound – A Program for South Texas Youth. Research team: Monte Churchill, Executive Director of Community Relations; Gary R. Saucedo, Outreach Coordinator; Raymond Hernandez, (PI) Associate Dean for Student Success; and Sylvia D. Hall-Ellis, South Texas Community College (McAllen, Texas). U.S. Department of Education, Office of Postsecondary Education, \$2,672,003 (1999-2003)

Write Now! Improving Elementary Students' Writing Skills. Research team: Caryl G. Thomason, Assistant Superintendent (PI); Karen Tankersley, Principal; and, Hal Anderson, Director of Technology, Cheyenne Mountain School District 12 (Colorado Springs, Colorado); and Sylvia D. Hall-Ellis. Colorado Department of Education, Educational Telecommunications Unit, \$189,453 (1999-2001)

Operation Quick Start -- Distance Learning in Rural Colorado. Research team: Randal Weigum, Technology Coordinator (PI); Bonnie Barns, Director of Federal Programs and Staff Development; and, Adam "Joe" Raskop, Executive Director, Southeastern Board of Cooperative Educational Services (Lamar, Colorado); and Sylvia D. Hall-Ellis. Colorado Department of Education, Educational Telecommunications Unit, \$400,000 (1999-2001)

Advanced Technological Training for Information Professionals for the 21st Century. Research team: Mario Reyna, Division of Business Director (PI) and Sylvia D. Hall-Ellis, South Texas Community College (McAllen, Texas). Phi Delta Kappa and the National Science Foundation, \$250,000 (1999-2001)

Working Connections – Training Information Technologies Professionals for the 21st Century. Research team: Mario Reyna, Division of Business Director (PI) and Sylvia D. Hall-Ellis, South Texas Community College (McAllen, Texas). Microsoft Corporation and the American Association of Community Colleges, \$1,147,775 (1999-2001)

The ROAD (Research Oriented Amplification of Development to Literacy) Program. Research team: Deborah J. Leong (PI), Metropolitan State University; Elena Bodrova, Metropolitan State University; Dmitri Semenov, Robert J. Marzano, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). Hewlett-Packard Foundation, \$25,000 (1998-1999)

Press to Literacy. Research team: Deborah J. Leong (PI), Metropolitan State University; Elena Bodrova, Metropolitan State University; Dmitri Semenov, Robert J. Marzano, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). The Denver Post and the Robert S. McCormick Foundation, \$49,818 (1998-1999)

International Telementor Center. Research team: David Neils, David B. Frost (PI), and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). Hewlett-Packard Philanthropy, \$100,000 (1998-1999)

America Reads: Providing Tutor Training for the America Reads Challenge. Research team: Louis F. Cicchinelli (PI) and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). U.S. Department of Education, Office of Educational Research and Improvement, \$306,000 (1998-1999)

Comprehensive School Reform. Research team: Louis F. Cicchinelli (PI), J. Timothy Waters, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). U.S. Department of Education, Office of Educational Research and Improvement, \$285,000 (1998-1999)

Sustainable Energy Education (SEE) Program for Grades 4-8: Preparing Today's Youth for Lifelong Learning and Responsible Actions in Energy Conservation. Research team: Mary Gromko, Colorado Department of Education; Gene McCarthy, Rocky Flats Field Office, U.S. Department of Energy; Gina Kissell, National Renewable Energy Laboratory; and Barbara L. McCombs (PI), Janet L. Bishop, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). State of Colorado Governor's Office for Energy Conservation, \$499,936 (1997-1999)

Review of Kansas Curriculum Standards in Mathematics and Language Arts. Research team: Robert J. Marzano (PI), John S. Kendall, David B. Frost, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). Submitted to the Kansas State Department of Education, \$25,903 (1998)

International Telementor Center. Research team: David Neils, John Kuglin, Chris Rapp, David B. Frost (PI), and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). Hewlett-Packard Company, \$54,752 (1998)

Genesis Mission: Education Public Outreach. Developed in partnership by the Jet Propulsion Laboratory, California Institute of Technology, Los Alamos National Laboratory, Lockheed Martin Astronautics, and the Mid-continent Regional Educational Laboratory (Aurora, Colorado). Research team: John T. Sutton (PI), Alice Krueger, Martha Henry, Greg Rawls, Shae Isaacs, Jeff Johnson, Deb Jordan, Arlene Mitchell, David B. Frost, Jana Caldwell, J. Timothy Waters, and Sylvia D. Hall-Ellis. National Aeronautics and Space Administration, \$139,700,000; subcontract award, \$4,750,000 (1997-2007)

North Dakota Mathematics Assessment Project. Developed in partnership by the North Dakota Department of Education and Mid-continent Regional Educational Laboratory (Mid-continent Regional Educational Laboratory). Research team: Ann Clapper, Clarence Bina, Greg Gallagher, North Dakota Department of Education; Don Burger (PI), Hillary Michaels, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). U.S. Office of Education, \$1,618,214; subcontract award, \$389,076 (1997-2001)

Pacific Resources for Education and Learning Distance Education: Project Evaluation. Developed in partnership by the Pacific Educational Community, the Pacific Resources for Education and Learning (PREL), and Mid-continent Regional Educational Laboratory (McREL). Research team: John W. Kofel (PI), Executive Director, PREL; J. Timothy Waters, Executive Director; Joan Buttram, Robert Keller, and Sylvia D. Hall-Ellis, Mid-continent Regional Educational Laboratory (Aurora, Colorado). U.S. Office of Education, Star Schools Program, \$10,000,000; subcontract award, \$500,000 (1997-2002)

Identification of Bilingual Gifted and Talented Children: A Comprehensive School Grants for Bilingual Education. Developed in partnership by Hidalgo (Texas) ISD, Los Fresnos (Texas) CISD, Progreso (Texas) ISD, University of Texas – Pan American (Edinburg, Texas), and Education Service Center, Region One (Edinburg, Texas). Research team: Hilda Medrano, Dean, College of Education, University of Texas – Pan American; Linda Phemister (PI), Janie Navarro, and Sylvia D. Hall-Ellis, Education Service Center, Region One. U.S. Department of Education, Office of Bilingual Education and Minority Languages Affairs, \$1,670,633 (1997-2002)

Academics 2000: First Things First -- The Texas Goals 2000. Developed for Jim Hogg (Hebbronville, Texas) County ISD, Mirando City (Texas) ISD, and San Isidro (Texas) ISD. Research team: Hilda Medrano, Dean, College of Education, University of Texas - Pan American (Edinburg, Texas); Angie Lehmann, Amy Mares, Ellen Gonzalez (PI), and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg, Texas). Texas Education Agency, \$339,987 (1997-2000)

Southwestern Bell's Learning Communities Initiative. Developed for Tech Prep of the Rio Grande Valley, Inc. (Harlingen, Texas); the Center for Professional Teacher Development, University of Texas – Brownsville; Teach for America – Rio Grande Valley (McAllen, Texas); and Education Service Center, Region One (Edinburg, Texas). Research team: Patricia G. Bubb, Executive Director (PI), Tech Prep of the Rio Grande Valley; Martin Winchester, Executive Director, Teach for America – Rio Grande Valley; Aileen Johnson, Director, School of Education, University of Texas – Brownsville; and Sylvia D. Hall-Ellis. Southwestern Bell Foundation, \$100,000 (1997-1998)

Texas School to Work: Regional Implementation. Developed for Tech Prep of the Rio Grande Valley, Inc. (Harlingen), South Texas Community College (McAllen), Texas State Technical College (Harlingen), Texas Southmost College (Brownsville), Empowerment Zone of the Rio Grande Valley (Mercedes), Project VIDA (Weslaco), Youth Fair Chance (McAllen), and Education Service Center, Region One (Edinburg). Research team: Patricia G. Bubb (PI), Tech Prep of the Rio Grande Valley; Stephen Vassberg, Texas State Technical College; Ellen Trevino, Youth Fair Chance; Wanda Garza, Project VIDA; Leonardo Olivares, University of Texas – Pan American; Michael Bell, South Texas Community College; and Sylvia D. Hall-Ellis. Texas Workforce Commission, \$4,250,000 (1997-2002).

Comprehensive Bilingual Education Grant for Hidalgo ISD and Roma ISD. Developed for Hidalgo (Texas) ISD, Roma (Texas) ISD, College of Education, University of Texas – Pan American (Edinburg, Texas), and Education Service Center, Region One (Edinburg, Texas). Research team: Tomas Thomas (PI), Director, Office of Bilingual Education and Sylvia D. Hall-Ellis. U.S. Department of Education, Office of Bilingual Education and Minority Languages Affairs, \$1,531,361 (1997-2002)

Lopez High School, Porter High School, Rivera High School, Central Middle School, and Perkins Middle School, Brownsville (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$1,473,611 (1997-1998)

Donna High School, Todd Middle School, and Solis Middle School, Donna (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$704,052 (1997-1998)

Memorial Middle School and Nellie Schunior Middle School, La Joya Independent School District (Texas). Telecommunications Infrastructure Fund Board, \$293,641 (1997-1998)

Martin High School, Christen Middle School, Cigarroa Middle School, Lamar Middle School, Laredo (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$1,200,000 (1997-1998).

Lasara Middle School, Lasara (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$246,210 (1997-1998)

Los Fresnos High School and Resaca Middle School, Los Fresnos (Texas) Consolidated Independent School District. Telecommunications Infrastructure Fund Board, \$500,000 (1997-1998)

Lyford Junior High School, Lyford (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$354,997 (1997-1998)

Travis Middle School, McAllen (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$269,139 (1997-1998)

Mission High School, Mission (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$297,010 (1997-1998)

Progreso High School, Progreso (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$300,000 (1997-1998)

San Perlita High School, San Perlita (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$293,490 (1997-1998)

Myra Green Junior High School, Raymondville (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$225,000 (1997-1998)

Rio Grande City High School, Ringgold Middle School, Gruella Middle School, Rio Grande City (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$809,934 (1997-1998)

Rio Hondo Junior High School, Rio Hondo (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$297,024 (1997-1998)

Roma High School, Roma (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$333,178 (1997-1998)

San Benito High School, Miller Jordan Junior High School, San Benito (Texas) Consolidated Independent School District. Telecommunications Infrastructure Fund Board, \$547,000 (1997-1998)

Santa Maria High School and Santa Maria Middle School, Santa Maria (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$400,000 (1997-1998)

Salvador High School, United Independent School District (Laredo, Texas). Telecommunications Infrastructure Fund Board, \$250,879 (1997-1998)

Weslaco High School, Cabaza Middle School, Cuellar Middle School, Weslaco (Texas) Independent School District. Telecommunications Infrastructure Fund Board, \$874,242 (1997-1998)

Principals' Assessment and Training Center. Developed for Education Service Center, Region One (Edinburg, Texas). Research team: Roberto Zamora, Leonel Barrera, William H. Parry, and Sylvia D. Hall-Ellis. Texas Principals' Leadership Initiative, Texas Association of Secondary School Principals, Texas Association of Elementary School Principals, and the Sid Richardson Foundation. \$461,439 (1996-1998)

The Texas Library Connection -- Integrating and Sharing Resources. Developed for Hidalgo County Library System (McAllen), Cameron County Library System (Brownsville), South Texas Community College (McAllen), the University of Texas - Pan American (Edinburg), University of Texas - Brownsville, and Education Service Center, Region One (Edinburg). Research team: William R. McGee, Coordinator, Hidalgo County Library System; Joe Garcia, Director, Cameron County Library System; Michael D. Bell, Library Director, South Texas Community College; Eleanor Folger Foster, University Library, University of Texas - Pan American; Jaime Vela (PI), Director of Instructional Technology and Media Services, Ron Pontius, Instructional Technology, and Fabiola Fuentes, Media Services, Education Service Center, Region One; and Sylvia D. Hall-Ellis. Office of Library Media Services, Technology Services, Texas Education Agency. \$8,000 (1996-1997)

Developing Leadership Communities for Improving Algebra I for All Students. Developed for a partnership of the Region One Statewide Systemic Initiative Team. Research team: Noel Villarreal (PI), Eduardo Cancino, and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Statewide Systemic Initiative for Reform in Mathematics, Science and Technology Education to The Charles A. Dana Center for Mathematics and Science Education, The University of Texas at Austin. \$25,000 (1996-1997)

Academics 2000: First Things First -- The Texas Goals 2000. Developed for Edinburg (Texas) CISD. Research team: Hilda Medrano, Dean, College of Education, University of Texas - Pan American (Edinburg); Helen Jones, Director (PI), Gifted and Talented Education, Edinburg CISD; and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Education Agency, \$750,000 (1996-2001)

Texas Teachers Empowered for Achievement in Mathematics (TEXTEAM) Institute for Algebra I. Developed for Hidalgo ISD, Jim Hogg (Hebbronville) County ISD, La Joya ISD, La Villa ISD, Lyford ISD, Mission CISD, Pharr-San Juan-Alamo ISD, Rio Hondo ISD, San Isidro ISD, San Perlita ISD, Santa Maria ISD, Santa Rosa, Sharyland ISD, Valley View ISD, Webb (Laredo) CISD, Weslaco ISD, and Zapata County (Zapata) ISD. Research team: Noel Villarreal (PI), Chuck McInteer, Ellen M. Gonzalez, Education Service Center, Region One (Edinburg); and Sylvia D. Hall-Ellis. Charles A. Dana Center for Mathematics and Science Education, University of Texas - Austin, \$15,975 (1996)

Community Learning Center for La Villa, Texas. Developed for Edcouch-Elsa Independent School District. Research team: Noe Gonzalez (PI), Assistant Superintendent, Edcouch-Elsa Independent School District, and Sylvia D. Hall-Ellis. Delta Region Subzone, Rio Grande Valley (Texas) Rural Empowerment Zone, \$325,000 (1996-1997)

Monte Alto (Texas) Community Learning Center. Developed for Monte Alto Independent School District. Research team: Homero A. Diaz (PI), Superintendent, Monte Alto Independent School District, and Sylvia D. Hall-Ellis. Delta Region Subzone, Rio Grande Valley (Texas) Rural Empowerment Zone, \$300,000 (1996-1997)

Community Learning Center for La Villa, Texas. Developed for La Villa Independent School District. Research team: Sam Gonzalez (PI), Assistant Superintendent, La Villa Independent School District; and Sylvia D. Hall-Ellis. Delta Region Subzone, Rio Grande Valley (Texas) Rural Empowerment Zone, \$325,000 (1996-1997)

Building Project for Taylor Elementary. Developed for Mercedes (Texas) Independent School District. Research team: Mrs. Denise Rivera, Librarian, and Eduardo Infante, Principal, Taylor Elementary School; Ismael S. Cantu (PI), Federal Programs Director, Mercedes Independent School District; and Sylvia D. Hall-Ellis. Delta Region Subzone, Rio Grande Valley (Texas) Rural Empowerment Zone, \$375,000 (1996-1997)

Border Education Network (BEN) - Distance Education through Cable Television. Developed for Edinburg (Texas) Consolidated Independent School District. Research team: Noe Torres (PI), Library Media Specialist, Magdalena Rosas, Library Media and Technology Coordinator, Edinburg Consolidated Independent School District; and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Edinburg (Texas) Consolidated School District, \$250,000 (1996-1997)

Multiservice One-Stop Open Enrollment Charter School. Developed for the Information Referral Resource Assistance, Inc. (McAllen, Texas). Research team: Pablo Perez and Aggie Pena (PI), Executive Director, Information Referral Resource Assistance, Inc.; Roberto Zamora and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Education Agency, \$3,066,000 (1996-2001)

Project OK: A Community Youth Opportunities Grant for Summer, 1996. Developed for McAllen (Texas) Independent School District, St. Joseph the Worker Catholic Church, and the Office of Adult Education, Education Service Center, Region One. Research team: Father Bart Flatt, St. Joseph the Worker Catholic Church; Noe Calvillo (PI), Office of Adult Education; Maria Louisa Garcia, McAllen Independent School District; and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Protective and Regulatory Agency through the Office of the Mayor, City of McAllen, \$350,000 (1996-2001).

Early Childhood: a Time of Discovery. Developed for a partnership of Lasara ISD, Rio Hondo ISD, San Perlita ISD, the School of Education, University of Texas - Brownsville, and Education Service Center, Region One (Edinburg). Research team: Hugo Rodriguez, Dean, School of Education, University of Texas - Pan American; Leonel Barrera and Jack Damron, Field Service Agents, Ellen M. Gonzalez (PI), Administrator for Student Instructional Services, Ruth Solis, Education Specialist in Special Education, and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Education Agency, \$722,090 (1996-2001)

Innovative Gifted and Talented Programs for Early Childhood and Elementary Education Students. Developed for a partnership of Edinburg (Texas) CISD, the School of Education, University of Texas - Pan American (Edinburg), and Education Service Center, Region One (Edinburg). Research team: Hilda Medrano, Dean, School of Education, University of Texas - Pan American; Helen de la Garza (PI), Director of Elementary Curriculum and Instruction, Edinburg CISD; and Sylvia D. Hall-Ellis. Texas Education Agency, \$750,000 (1996-2001)

Reading Recovery in Early Elementary Grades. Developed for a partnership of La Villa (Texas) ISD the School of Education, University of Texas - Pan American (Edinburg), and Education Service Center, Region One (Edinburg). Research team: Hilda Medrano, Dean, School of Education, University of Texas - Pan American; Marcario Salinas (PI), Supervisor of Elementary Curriculum and Instruction, La Villa ISD; and Sylvia D. Hall-Ellis, Education Service Center, Region One. Texas Education Agency, \$750,000 (1996-2001)

Connected Mathematics Project for Middle and Junior High Students. Developed for a partnership of Michigan State University, The Charles A. Dana Center for Mathematics and Science Education, The University of Texas at Austin and Region One Statewide Systemic Initiative Team. Research team: Jack Damron, Chuck McInteer, Noel Villarreal (PI), and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). National Science Foundation through Michigan State University to the Charles A. Dana Center at the University of Texas - Austin, \$539,610 (1996-1999)

Sharing Resources: Testing the Interlibrary Loan Potential of the Texas Library Connection -- Integrating Media Resources. Developed under the sponsorship of the Hidalgo County Library System (McAllen) and Education Service Center, Region One (Edinburg). Research team: William H. McGee, Hidalgo County System Coordinator; Fabiola Fuentes, Library Media; Ronald Pontius (PI), Instructional Technology, Education Service Center, Region One; and Sylvia D. Hall-Ellis. Library Media Services Program, Office of Technology Services, Texas Education Agency, \$25,000 (1996-1997)

State and Federal Adult Education JOBS Program. Developed for Education Service Center, Region One (Edinburg). Research team: Noe Calvillo (PI), Director, Adult Education Program, and Sylvia D. Hall-Ellis. Adult Education Program, Texas Education Agency, \$532,846 (1995-1996)

Creating Safe and Drug-Free Schools and Communities. Developed for a partnership of the Region One Consortium for Safe and Drug-Free Education Environments. Research team: Clara Contreras (PI), Health Specialist, and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Education Agency, \$150,000 (1995-1996)

Developing Leadership Communities for Improving Mathematics Performance for All Students on Title I Campuses. Developed for a partnership of the Region One Statewide Systemic Initiative Team. Research team: Jack Damron, Chuck McInteer, Noel Villarreal (PI), and Sylvia D. Hall-Ellis, Education Service Center, Region One (Edinburg). Texas Statewide Systemic Initiative for Reform in Mathematics, Science and Technology Education to The Charles A. Dana Center for Mathematics and Science Education, The University of Texas at Austin, \$50,669 (1995-1996)

The Impact of Library Resource Centers on Academic Achievement in Selected Public Schools in South Texas. Sylvia D. Hall-Ellis (PI). Developed under the sponsorship of the Department of Library Science, College of Education and Applied Science, Sam Houston State University (Huntsville). Texas Association of School Librarians, Children's Services Round Table, and Young Adults Round Table (Austin, Texas), \$2,500 (1995)

School Library Media Specialists Fellowship Program. Sylvia D. Hall-Ellis (PI). Developed under the sponsorship of the Department of Library Science, College of Education and Applied Science, Sam Houston State University (Huntsville, Texas). U.S. Department of Education, HEA Title II-B, Library Education and Human Resource Development Program, \$44,000 (1995-1996)

Planning for Educational Technology. Research team: Ruth Ann Riggins (PI), Director of Library Media and Technology Services, Donna (Texas) Independent School District; Noe Torres, Education Service Center, Region One; Patricia G. Bubb, Tech Prep of the Rio Grande Valley, Inc; Michael D. Bell, South Texas Community College; and Sylvia D. Hall-Ellis, Sam Houston State University. Developed under the sponsorship of Donna (Texas) Independent School District, Education Service Center, Region One (Edinburg), Tech Prep of the Rio Grande Valley, Inc. (Harlingen), South Texas Community College (McAllen), and the Department of Library Science, Sam Houston State University (Huntsville). Funded through Infusion of Educational Technology Planning Grant Program (H.B. 18: Models). Texas Education Agency, \$18,000 (1993-1994)

The Impact of Library Resource Centers on Academic Achievement in Selected Public Schools in South Texas.

Sylvia D. Hall-Ellis (PI) and Mary Ann Berry. Developed under the sponsorship of the Department of Library Science, College of Education and Applied Science, Sam Houston State University (Huntsville). Sam Houston State University Research Enhancement Fund, \$7,500 (1993-1994)

Electronic Mail Resource Sharing System: Management and Operation of the Iowa Computer-Assisted Network. State Library of Iowa, \$294,000 (1986-1993)

The Iowa Locator: A CD-ROM Resource Sharing Tool. State Library of Iowa, \$567,000 (1986-1992)

Statewide Database Development: An OCLC Tape Analysis To Determine Feasibility. State Library of South Dakota, \$15,000 (1987)

The Iowa Locator: A Feasibility Study. State Library of Iowa, \$50,000 (1986)

Electronic Mail Resource Sharing System: A Feasibility Study for Libraries in the State of Iowa. State Library of Iowa, \$5,000 (1985)

Access Pennsylvania: A Feasibility Study. State Library of Pennsylvania, \$50,000 (1984)

Automating Library Administrative and Management Tasks: Procurement and Distribution of Microcomputer Systems for District Library Centers in the Commonwealth of Pennsylvania. State Library of Pennsylvania, \$495,000 (1982)

Sharing Serial Titles Resources: Procurement and Distribution of Microfiche Readers for 550 Libraries in the Commonwealth of Pennsylvania. State Library of Pennsylvania, \$500,000 (1982)

Electronic Mail System: A Pilot Project for Libraries throughout the Commonwealth of Pennsylvania. State Library of Pennsylvania, \$125,000 (1982)

Literacy Program for Adults in Rural Upstate New York State: Program Outreach and Evaluation - Phase 3. Appalachian Regional Commission, \$50,000 (1981)

Database Building: A Cooperative Project of the Finger Lakes Library System (Ithaca), Four County Library System (Binghamton), and the Southern Tier Library System (Corning). New York State Library, \$450,000 (1980-1985)

Faces of the Southern Tier: A Professional Photographer-in-Residence. New York State National Endowment for the Humanities, \$25,000 (1980)

Literacy Program for Adults in Rural Upstate New York State: Program Implementation - Phase 2. Appalachian Regional Commission, \$50,000 (1980)

Small Business Resources Center: A Pilot Project for Rural Public Libraries. New York State Library, \$50,000 (1980)

Media Programming: A Professional Development Program for Public Librarians in Upstate New York: A Program in Allegheny, Chemung, Schuyler, Steuben, and Yates Counties. New York State Library, \$35,000 (1979)

Information and Library Resources for Inmates and Prisoners in Selected Upstate New York Facilities: A Cooperative Program in Allegheny, Chemung, Schuyler, Steuben, and Yates Counties. New York State Library, \$25,000 (1979)

Library Resources for Homebound Adults in Upstate New York: An Outreach Program in Allegheny, Chemung, Schuyler, Steuben, and Yates Counties. New York State Library, \$40,000 (1979)

Literacy Program for Adults in Rural Upstate New York State: Program Initiation and Establishment - Phase 1. Funded by the Appalachian Regional Commission. Awarded to the Corning (New York) Public Library, \$50,000 (1979)

Information Reference Services to Homebound Adults. New York State Library, \$31,000 (1978)

Books-By-Mail Services to Homebound Adults. New York State Library, \$31,000 (1978)

System Headquarters Services and Programs for Public Libraries in District 10. Funded through Library Services and Construction Act Title I. Texas State Library and Historical Commission, \$880,000 (1976)

County Library Development Grant for Atascosita County. Funded through Library Services and Construction Act Title I. Texas State Library and Historical Commission, \$15,000 (1976)

Spanish Language Materials Collection Development Program. Texas State Library and Historical Commission, \$40,000 (1975)

Establishment of System Headquarters for Alamo Regional Library System (District 10) Headquartered at the San Antonio (Texas) Public Library. Texas State Library and Historical Commission, \$800,000 (1975)

SELECTED CONSULTANTSHIPS

Project Strategic Planning & Funding Proposal Development

Walden University, 2015.
Pikes Peak Library District, 2014.
Douglas County Public Libraries, 2011-2012.
Denver School for Science and Technology, 2008-2011.
Johnson & Wales University, Denver Campus, 2007-2009.
Challenges, Choices, and Images K-12 Charter School, Denver Public Schools, 2007.
Denver Medical Library, Inc., 2006-2010.
Bemis Public Library (Littleton), Ergonomic Design and Facilities Enhancement Consultant, 2003.
Curtis Park Community Center (Denver), Community Technology Center Evaluation and Proposal Development Consultant, 2003.
Colorado Community Based Research Network (Denver), Funding Research Associate, 2002.
Our Lady of the Rosary Academy (Edgewater), Learning Resource Center Development Project Consultant, 2001-2003
University of Southern Colorado (Pueblo). Technology Integration and Curriculum Enhancement into Higher Education Learning Environment. Proposal Development Consultant, 2000.
Jefferson County Library System (Lakewood), 1999-2000.
Southeastern BOCES (Lamar, CO). Distance Learning Curriculum Content Development Project. Proposal Development Consultant, 1998-2004.
Cheyenne Mountain School District 12 (Colorado Springs, CO). Technology Integration into Elementary Writing Curriculum Project. Proposal Development Consultant, 1998.
Telecommunications Infrastructure Fund Board Round #2 Application, 1997. Technical assistance to the following: La Villa (Texas) Independent School District; Mirando City (Texas) Independent School District; Monte Alto (Texas) Independent School District; San Isidro (Texas) Independent School District.
Telecommunications Infrastructure Fund Board Round #1, 1996. Technical assistance to the following: Brownsville (Texas) Independent School District; Donna (Texas) Independent School District; Edinburg (Texas) Consolidated Independent School District; Harlingen (Texas) Consolidated Independent School District; Jim Hogg County Independent School District (Hebbronville, Texas); La Feria (Texas) Independent School District; La Joya (Texas) Independent School District; La Villa (Texas) Independent School District; Los Fresnos (Texas) Consolidated Independent School District; Progreso (Texas) Independent School District; Raymondville (Texas) Independent School District; Rio Hondo (Texas) Independent School District; San Benito (Texas) Independent School District; Sharyland Independent School District (Mission, Texas); Weslaco (Texas) Independent School District; Zapata (Texas) County Independent School District.
South Texas Community College (McAllen). Strategy Development to Meet the Technology Instructional Needs for Vocational, School-To-Work and Academic Programs, 1994-2000. Development Consultant.
Donna (Texas) Independent School District. Planning for the Infusion of Technology in Middle Schools Serving High At-Risk Students, 1994-1995. Research Associate.
Pettus (Texas) Independent School District. Planning for District-wide Automation in School Library Media Centers: Preparation of Data, and CD-ROM Hardware/Software Configuration Evaluation, 1994. Principal Investigator.
Fort Bend Independent School District (Sugar Land, TX). Planning for District-wide Automation in School Library Media Centers, Preparation of Data, and CD-ROM Hardware/Software Configuration Evaluation, 1994-1995. Principal Investigator.
Northern Waters Library Services (Ashland, WI). Professional Consulting Services to Make Recommendations on the Development of System-Wide Efforts of the Northern Waters Library Service, 1988-1989. Research Associate.
State Library of Iowa (Des Moines). The Iowa Locator Compact Disc to Support Multi-Type Libraries Resource Sharing including Database Design, Building, Production, and Distribution, 1986-1991. Project Director.
State Library of Iowa (Des Moines). Iowa Computer-Assisted Network Development, Enhancement, and Operation, 1985-1992. Technical Director.
State Library of South Dakota (Pierre). Statistical Sampling and Analysis of Multi-Institutional OCLC Archive Tape for Statewide Online Database Building, 1985-1986. Research Associate.
District of Columbia Public Library (Washington, DC). Planning Document for the Retrospective Conversion of Bibliographic Records and Automation Issues in the 1990's, 1984-1985. Research Associate.

State Library of Pennsylvania (Harrisburg). Database Development for High School Libraries, 1984-1985. Research Associate.

MINITEX (Minneapolis, MN). Workshops for Retrospective Conversion, Bar Coding, Library Statistics, and OCLC Serials Format, 1985. Presenter and Research Associate.

ABC Film Consortium (Altoona, Bellefonte, Johnstown, PA). Database Building, System Design, and Implementation of Online Film Booking System, 1983-1985. Database Manager.

Library Automation -- System Design & Implementation

Douglas County Library District (Castle Rock, CO). Library Automation Technical and System Performance Specifications, 2001.

Pharr-San Juan-Alamo Independent School District (Pharr, TX). Library Automation Technical and System Performance Specifications, 1997. Project Development Consultant.

Harlingen (Texas) Independent School District. Planning for District-wide Automation in Junior High School Library Media Centers: Preparation of Data, and CD-ROM Hardware/Software Configuration Evaluation, 1996. Principal Investigator.

Sharyland (Texas) Independent School District. Design and Construction of New Elementary School Library and Technology Resources Center, 1995-1996. Principal Investigator.

South Texas Independent School District (Mercedes, TX). Design and Construction of a New High School Library and Technology Resources Center, 1995-1996. Principal Investigator.

Citizens' Library (Washington, PA). Online Community Resources Files: Design and Implementation, 1984. Research Associate.

Altoona (Pennsylvania) Hospital. Integrated Online System Upgrade Study, 1984. Research Associate.

State Library of South Dakota (Pierre). Automation Plan and State Database Development, 1982-1983. Principal Investigator.

State Library of Pennsylvania (Harrisburg). COM Production and Preparation of the Technical Specifications Document, Procurement, and Distribution of Microcomputers in the Commonwealth of Pennsylvania, 1983-1984. Research Associate.

Altoona (Pennsylvania) Area Public Library. Integrated System (Circulation/Online Catalog) Study, 1982-1983. Principal Investigator.

COPSCAULD (Council of Pennsylvania State College and University Library Directors, Edinboro, PA). Design of Online Media Catalog, 1982. Principal Investigator.

Erie (Pennsylvania) County Library System. Operations Research and Design for Automated Circulation, Hardware Upgrade and Re-Retrospective Conversion, 1982. Research Associate.

Michigan Library Consortium (Lansing, MI). Tape Management System Design and Implementation, 1982-1984. Research Associate.

State Library of Pennsylvania (Harrisburg). Preparation of the Technical Specifications Document, Procurement and Distribution of Microfiche Readers in the Commonwealth of Pennsylvania, 1982. Research Associate.

Community College of Allegheny County, Allegheny Campus (Pittsburgh, PA). Integrated Systems Study, 1981. Principal Investigator.

Community College of Allegheny County, South Campus (West Mifflin, PA). Retrospective Conversion Training Program for Handicapped Students, 1981. Technical Director.

Southern Tier Library System (Corning, NY). OCLC Acquisitions Subsystem Evaluation, 1981. Principal Investigator.

South Central Reference and Research Council (Ithaca, NY). South Central Regional Delivery System, 1980. Principal Investigator.

Southern Tier Library System (Corning, NY). Newspapers on Microfilm in the Chemung-Southern Tier Library System, 1979-1981. Principal Investigator.

Cataloging & Bibliographic Database Building

Challenges, Choices, and Images K-12 Charter School, Denver Public Schools, 2007.

Denver Medical Library, Inc., 2006-2010.

Ricks Gifted and Talented School Library, 2005-

American Humane Society (Englewood), 2004-2006.

Fisher Early Learning Center Library, 2004-

Colorado Community Based Research Network (Denver), 2004-
Boulder Valley School District (Boulder), 2002-2003.
Douglas Public Library District (Castle Rock), 2001-2002.

Bibliographic Center for Research, Inc. (Denver). Original Cataloging, 2001-2003 & 1992-1993. Professional Cataloger. Libraries include Arapahoe Library District (Centennial); Clarke College (Clarke, IA); Kaiser Permanente Center for Health Research (Portland, KS); Douglas County Library System (Carson City, NV); Grinnell College (Grinnell, IA); Kansas State University (Manhattan, KS); Kansas State Library (Topeka, KS); McPherson College (McPherson, KS); Newman University (Wichita, KS); Montana Technical University (Helena, MT); Montana State Library (Helena, MT); University of Texas Southwest Medical Center Library (Dallas, TX); Community College of Southern Nevada (Las Vegas, NV); Pikes Peak Library District (Colorado Springs); Mesa Community College (Grand Junction); Coe College (Cedar Rapids, IA); Briar Cliff College (Sioux City, IA); Tri-Care Health Systems (Aurora); The Penrose-St. Francis Healthcare System (Colorado Springs); Westminster Public Library (Westminster); Lutheran Medical Center Medical Library (Wheat Ridge); American Heritage Center, University of Wyoming (Laramie, WY); National Wildlife Research Center Library (Lakewood); University of Colorado Health Sciences Center, Denison Memorial Library (Denver); Water Resources Library, Denver District Office, Bureau of Land Management (Lakewood); Mesa State Community College Learning Resources Center (Pueblo); Front Range Community College Learning Resources Center (Westminster).

Colorado Historical Society Library (Denver). Original Cataloging of Serials for Multi-Institutional Union Listing Project, 1993. Technical Services Associate. Institutional partners: Denver Art Museum, Denver Museum of Natural History Library, and Denver Botanical Gardens Library.

Arapahoe Library District (Centennial). Original Cataloging of Major Media, 1991.

Original Cataloging Projects: Davis and Elkins College (Elkins, WV), 1989-1990; Waldorf College (Forest City, IA), 1989-1990; Kennametal Corporation (Latrobe, PA), 1984-1985; Pennsylvania Public Libraries Film Center (Harrisburg), 1982-1985.

Retrospective Conversion Projects: North Central Regional Library Service (Mason City, IA), 1987-1988; Southeastern Library Services (Davenport, IA), 1986-1987; Virginia Theological Seminary (Alexandria), 1984-1985; California University of Pennsylvania (California, PA), 1984-1985; Kennametal Corporation (Latrobe, PA), 1984-1985; West Virginia University (Morgantown), 1983-1985; Altoona Area Public Library (Altoona, PA), 1983-1984; George Washington University (Washington, DC), 1983-1984; Indiana University of Pennsylvania (Indiana, PA), 1983-1985; Health Education Center (Pittsburgh), 1983-1984; Central Pennsylvania District Library Center (Bellefonte, PA), 1982-1985; Duquesne University Law School Library (Pittsburgh), 1982-1983; Allegheny County Law Library (Pittsburgh), 1982-1984; Calgon Technical Information Center (Pittsburgh), 1982; Dow Corning Corporation, Technical Information Center (Midland, MI), 1982-1983; Tri-System Public Library Retrospective Conversion Project (Binghamton, Corning, and Ithaca, NY), 1978-1981, Technical Project Director.

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