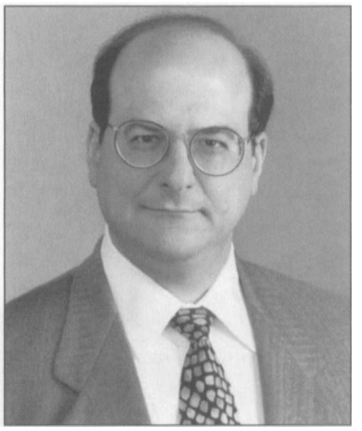
William C. Miller
SMPTE Engineering Vice-President



The theme of this issue of the *SMPTE Journal* is Standards, in recognition of World Standards Day, which is celebrated on October 10. We've tried to give you some perspective on SMPTE's history of and current involvement in national and international standardization. We should acknowledge the staff of the Headquarters engineering department, without whose dedicated efforts none of our standards could be developed or maintained. As it happens, this is also an appropriate time to announce a number of significant changes in standards publication, international coordination, and in our staff. I'll get to that later.

As has been noted in these pages, standards development is central to the mission of SMPTE and the primary reason for its formation. We are not alone in this. Hundreds, if not thousands of standards-developing organizations (SDOs) exist in the world. For a comprehensive review of the development of standards in motion pictures and television, see "Managing the Moving Image—From an Engineering Point of View," by Roland Zavada, which was reprinted in the Feb. 2000 issue of the *SMPTE Journal.*

SMPTE is an SDO headquartered in the U.S., developing standards for an industry that depends on the exchange of programming and interoperability of equipment worldwide. We participate actively in the development of national and international standards. In the U.S., this is done through our membership in and our accreditation by ANSI. Internationally, we work with ISO, IEC, and ITU.

ANSI

The American National Standards Institute (ANSI) coordinates technical standards development. ANSI is a private, non-profit organization. It accredits U.S.-based standards developers, such as SMPTE, and ensures that work is coordinated between organizations that have overlapping scopes. Standards developed by accredited committees and SDOs may be submitted to ANSI for adoption as American National Standards. Many SMPTE Standards are also ANSI Standards; they bear the designation ANSI/SMPTE. In the U.S., all such standards are voluntary; they do not have the force of law, although compliance with such standards (usually safety standards) may be required by federal, state, or local laws or by private agreements such as insurance contracts.

Almost every country has an organization like ANSI with responsibility for coordinating that country's technical standards. In Canada it is SCC; in Britain, BSI; in France, AFNOR; in Germany, DIN. However, there is a real need for international coordination of technical standards, particularly now as the world has become one single global market. Three major international organizations handle this immense task: IEC, ISO, and ITU.

IEC and ISO

IEC is the International Electrotechnical Commission. Founded in 1906, it is the global organization that prepares and publishes international standards for all electrical, electronic and related technologies, and the only one of the three that is older than SMPTE. Its first president was Lord Kelvin. ISO is the Organization for International Standardization. It was founded in 1947; its scope covers virtually everything not covered by IEC. Both organizations are federations of national standards agencies such as ANSI. Generally, they operate under a common set of procedures, although there are minor differences. Both are extremely decentralized, organizing their work under a series of technical committees (TCs), each specializing in a different area of technology. SMPTE is most closely involved with ISO TC 36, Cinematography, and with IEC TC 100, Audio, Video and Multimedia Systems and Equipment. Please refer to the articles in this issue by Carl Girod and Mark Hyman for more information on these technical committees.

SMPTE maintains liaisons with other ISO and ISO/IEC TCs and subcommittees (SCs). Several years ago we established a liaison with the parent group of MPEG, ISO/IEC JTC 1/SC 29. JTC 1 is the Joint Technical Committee on Information Technology; it is part of both ISO and IEC. SC 29 is the Subcommittee on Coding of Audio, Picture, and Multimedia and Hypermedia Information. MPEG is Working Group 11 of SC 29.

We also maintain liaison with ISO TC 46/SC 9. TC 46 is the TC on Information and Documentation; SC 9 covers presentation, identification, and description of documents. What does SMPTE have to do with documents? SC 9's scope also covers identification of audiovisual works, an area in which we have considerable interest. It is through such liaisons that we avoid duplication, and development of overlapping but conflicting standards.

ITU

The third major international standards body is the International Telecommunications Union, or ITU. It has three sectors: ITU-R (Radiocommunications), ITU-T (Telecommunications), and ITU-D (Development). SMPTE works almost exclusively with ITU-R and its Study Group 6 (Broadcasting).

The ITU is a branch of the United Nations. It has three types of members: Administrations (governments), Sector Members, and Associate Members. Until very recently SMPTE provided input to ITU principally via the U.S. and Canadian administrations. However, as a result of recent agreements between SMPTE and ITU-R, there is now a formal liaison directly between the two, and either may adopt the other's standards (which ITU calls recommendations) or directly reference them. In addition, SMPTE has been granted sector membership in ITU-R as an international organization.

In past years, our volunteers have expended considerable effort in redrafting SMPTE standards into ITU form to become the basis for a number of ITU-R Recommendations. Both organizations realized that this energy would be better spent on new work. Moreover, whenever a document is rewritten, the potential exists for differences to creep in, so it was necessary to be especially vigilant to ensure that the SMPTE and ITU-R versions of the documents were technically identical. Allowing each organization to reference or incorporate text from the other's works solves both problems. The text of the agreement is reproduced in its entirety later in this issue; it is also available at the ITU-R site and will be posted on the SMPTE website.

Further Information

No article of this type is complete without URLs. All of the organizations I mentioned above maintain websites. The sites are very large but well organized.

ANSI	www.ansi.org	IEC	www.iec.ch
ISO	www.iso.ch	ITU	www.itu.int
JTC 1	www.jtc1.org		

Changes

As in any organization, we regularly reevaluate our processes to see if we can do better. In the past several years, we've reorganized the television engineering committees to take account of technical developments in the industry and started a major initiative in digital cinema. We've also made significant changes to our standards development procedures, both to shorten development times and bring them into line with new directives from ANSI. With the exception of the release of standards on CD, most of these have been invisible to the general membership. The effects of the changes we announce in this issue, however, will be readily apparent to all.

Trial Publication

One requirement of due-process standards development is a public comment period. Historically, we published our draft standards, recommended practices, and engineering guidelines in the *Journal* to provide an opportunity for public comment prior to final approval. About two years ago, it was recognized that we could significantly shorten approval time by publishing those documents on the Web. We continued to publish the documents in the *Journal* as well, but due to publication timing, it was often the case that the comment period had closed before members received their copies.

Publishing engineering documents in the *Journal,* particularly lengthy ones, is an expensive proposition. It is also of questionable benefit since the documents are available on our website. Consequently, we've decided to discontinue trial publication in the *Journal.* We will, however, print at least the scope and normative references of each document that has been released for trial publication and continue to print notice of approval, revision, reaffirmation, and withdrawal of all engineering documents as they occur.

Document Format

Until now, SMPTE engineering documents have been formatted in two columns, without cover pages, forwards, or prefaces. The two-column format is easy to read on paper but not on a computer screen. It is also difficult to create with standard word-processing software, so we use page-layout software for it. The resulting documents are sometimes impossible to convert back into a standard word-processing format. This creates problems in revising the documents or sharing them with our liaison partners.

We have decided to adopt the ISO/IEC document format. This is a single-column format, easy to read on a computer screen, and straightforward to prepare on a word processor. We're already at work on the first of these; once it is done it can be used as a template. This new format will be available sometime late this year or early next year.

Document Numbering

As anyone trying to follow the development of an engineering document knows, we use committee numbers for documents until they have been approved by the Technology Committees. At that time a new number is assigned from the sequence of Standard, RP, or EG numbers. It can be difficult to correlate the two. Moreover, it is hard to determine the maturity of a document from its number. To resolve this we have decided to adopt a variant of the ISO/IEC numbering system; final details are still being decided. We are also going to switch to a single number space for all new documents, whether Standards, RPs, or EGs. However, we are not planning to renumber any of the existing approved documents, as many of the numbers (SMPTE 259M, SMPTE 12M, EG-1) are so familiar.

Process Improvement

Many people have contributed to the changes described above. Initial discussions took place on the Television Steering Committee, chaired by Peter Symes, Engineering

Director for Television. Subsequently Peter volunteered to head an ad-hoc Process Improvement Group (we don't use the acronym!) where we finalized much of what is announced here. As the Society's nominee to succeed me as Engineering Vice-President, Peter will implement the new procedures; he has my thanks and unqualified support. I also wish to thank the members of the Standards Committee, the Steering Committees, and the Process Improvement Group for their contributions.

I thank Stan Baron, Past SMPTE President and Past Engineering Vice-President, for graciously agreeing to review and revise the Administrative Procedures necessary to document the new guidelines. Stan wrote a great part of the current procedures, and his wisdom and understanding have been invaluable both to the Society and to me personally.

Staff Changes

As I have noted in the past, we have a small but exceptionally dedicated engineering staff at Headquarters. All have been with us for a number of years, but one in particular stands out for both her dedication and her length of service.

Peggy Sullivan Murnane, our National Standards Coordinator, joined SMPTE in 1954. Every SMPTE Standard, Recommended Practice, and Engineering Guideline issued in the 47 years since, has benefited from her direct involvement. Working interactively with the technical experts on our Technology Committees, Peggy has ensured that documents are grammatically correct, contain valid references, and are stylistically consistent. Peggy has also been responsible for the voluminous correspondence required by ANSI in their standards approval process.

Engineering officers and committee volunteers come and go, but Peggy, working quietly in the background, has consistently provided the real measure of consistency and quality control in our engineering documents. It is difficult to imagine SMPTE without her, but we will have to, because Peggy has informed us that she intends to retire by the end of this year.

In recognition of her enormous contributions to the Society, the Board of Governors has voted to award the Society Citation to Peggy Sullivan Murnane. It is fit recognition for someone who has dedicated her entire professional life to the Society, and who has had such a profound influence on its work.

My term as SMPTE Engineering Vice-President ends this December. I'd like to close, therefore, with my own personal thanks to Peggy, Carl Girod, Mark Hyman, Betty Migliore, and all of the other wonderful staff at SMPTE Headquarters. I must also thank the many members of the Executive Committee and Board of Governors, with whom it has been my privilege to work over the past six years, and the more than 300 volunteers who participate on SMPTE's technology committees and do the real work of creating and maintaining the Standards, Recommended Practices, and Engineering Guidelines for which the Society is justly renowned. It has been my privilege to work with these fine men and women over the past 15 years. The experience has enriched my life both personally and professionally. I thank all of the members of SMPTE for giving me the honor of serving you in this role. I must also thank my employer, the ABC Television Network and its parent, the Walt Disney Company, for their unstinting support of SMPTE and of my work for the Society.

—William C. Miller

SMPTE and ITU-R Agree to Mutual Cooperation

On April 12, 2000, SMPTE and the Radiocommunications Sector of the International Communications Union (ITU-R) agreed to a program of mutual cooperation and exchange of documents. SMPTE and ITU-R recognized each other's authoritative role in the development of international standards, and each licensed the other to reproduce and distribute its engineering documents; to cite these documents as normative references; and to incorporate them, whole or in part, into its own documents. The two organizations also agreed to collaborate in developing standards and recommendations where the interests of both organizations overlap, including direct participation by individual members in each other's work.

Subsequent to signing the agreement, ITU-R granted SMPTE sector membership as an international organization. SMPTE participated directly in the September 2001 meetings of ITU-R Study Group 6: Broadcasting.

ITU-R is now licensed to directly provide its members with relevant SMPTE engineering documents; SMPTE is licensed to reproduce and distribute relevant ITU-R recommendations and reports on its standards CDs. ITU-R has long been a sustaining member of the Society. We are pleased that under this agreement we will be able to work together even more closely.

Agreement for Mutual Cooperation and Exchange of Documentation between

the International Telecommunication Union

and

the Society of Motion Picture and Television Engineers

AGREEMENT made this 21 day of MARCH, 2001, by and between the INTERNATIONAL TELECOMMUNICATION UNION, an intergovernmental organization and a specialized agency of the United Nations having its Headquarters at Place des Nations, CH-1211 Geneva 20, Switzerland (hereinafter referred to as "ITU"), and the SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS, an international technical society and standards developer having its principal place of business at 595 West Hartsdale Avenue, White Plains, NY 10607 (hereinafter referred to as "SMPTE") (hereinafter collectively referred to as the "Parties")

WITNESSETH

WHEREAS, the ITU Radiocommunication Sector (ITU-R) is responsible, inter-alia, for studying and issuing recommendations on radiocommunication questions;

WHEREAS, the SMPTE is an international technical society devoted to advancing the theory and application of motion-imaging technology including film, television, video, computer imaging and telecommunications;

WHEREAS, Resolution ITU-R 9-1 authorizes ITU-R Study Groups to refer to standards formulated by other recognized standard setting bodies; and the SMPTE is an authoritative organization developing standards, consensus-based recommended practices (RPs) and engineering guidelines (EGs);

WHEREAS, by an exchange of communications between the ITU-R and the SMPTE, the Board of Governors of the SMPTE has unanimously endorsed the establishment of a closer working relationship with the ITU;

WHEREAS, the SMPTE, if admitted as Sector Member in the ITU-R, will become eligible to participate in relevant ITU-R meetings, to make technical contributions to ITU-R work, and to assist the ITU-R in developing Recommendations and Reports;

WHEREAS, the ITU and the SMPTE have a strong interest in each other's work, with the goal of reducing duplication of efforts and ensuring the development of appropriate standards responsive to global market needs;

WHEREAS, the Parties recognize the benefits of free or low-cost distribution of technical standards and recommendations to society in general and the developing world in particular;

WHEREAS, the Parties recognize the need to cooperate on the basis of reciprocity;

NOW THEREFORE, in consideration of the mutual covenants and undertakings set out herein, the Parties agree as follows:

SMPTE AND ITU -R AGREEMENT

1. Definitions

Unless otherwise indicated, the terms listed below shall have the following meanings for purposes of this Agreement:

1.1. "Study Group 6 Participants" means Participants in the work of ITU-R Study Group 6, its Working Parties, Task Groups, Special Rapporteur Groups or any of its sub-groups.

1.2. "ITU-R Document" means any ITU-R Report, Recommendation or related document.

1.3. "ITU-R Recommendation" means an answer to a Question or part(s) of a Question which, within the scope of existing knowledge and studies, gives specifications, data or guidance; the recommended way or ways of undertaking a specified task; or a recommended procedure or procedures for a specified application and which is considered to be sufficient to serve as a basis for international cooperation, Adopted by the Study Group and Approved by the Member States for publication.

1.4. "Draft ITU-R Recommendation" means any Recommendation that has been proposed for Adoption and further Approval.

1.5. "SMPTE Document" means any SMPTE Standard, Recommended Practice and Engineering Guideline duly approved in accordance with SMPTE Administrative Practices.

1.6. "SMPTE Deliverable" means a final SMPTE Document adopted by ballot for which no comments are received after it has been published on the SMPTE Web Site for forty-five (45) days.

1.7. "Draft SMPTE Deliverable" means a SMPTE Document with an assigned Standards Committee number, which has achieved consensus at the Technological Committee level and is subject to approval by the Standards Committee according to SMPTE Administrative Practices.

2. Authorization of Use of Documents

2.1. The SMPTE authorizes the ITU to use all SMPTE Documents for internal use through a complimentary subscription from SMPTE Standards Service; and the ITU is hereby authorized to reproduce, translate and distribute these documents free of charge, as working documents, for the use of ITU-R Study Group 6 Participants to contribute to ITU meetings dealing with matters of common interest.

2.2. The ITU authorizes the SMPTE to use, within its Technical Committees and related working groups, ITU-R Recommendations and SMPTE is hereby authorized to reproduce and distribute these documents free of charge, as working documents, only for the use of members of these SMPTE bodies.

3. Scope of Use

3.1. ITU-R Study Groups, in particular Study Group 6, may include in their documents or refer to current versions of SMPTE Documents. The SMPTE will provide the ITU-R with the Scopes of all SMPTE Documents, which may be used as summaries and referred to in ITU-R Documents. Subsequent versions of these SMPTE Documents, which have not been approved as Study Group 6 documents, will be subject to an ITU disclaimer. For such subsequent versions of SMPTE Documents, the ITU-R will refer the reader to the SMPTE Web Site.

3.2. The ITU may distribute copies of SMPTE Documents, which are referenced or to be referred to in any ITU-R Report, Recommendation or similar documents, to Study Group 6 Participants on the same terms that the ITU-R make its own Documents available to these Participants.

3.3. Notwithstanding Section 2.1, upon a request by the ITU, the SMPTE will grant the ITU-R on a case-by-case basis a licence to reproduce and distribute SMPTE Documents, that are either referenced or to be referenced in ITU-R Documents.

3.4. Notwithstanding Section 2.2, upon a request by the SMPTE, the ITU will grant the SMPTE on a case-by-case basis a licence to reproduce and distribute ITU-R Documents that either reference SMPTE Documents or ITU-R Documents that are either referenced or to be referenced by SMPTE Documents, singly or on its CD-ROM standards sets.

3.5. The reproduction of the above texts by the receiving Party shall be subject to the copyright arrangements set out in Section 5 below.

4. Acceptance of Texts

The Parties agree that referencing a document that has not yet been approved by the referenced body can lead to confusion; thus normative referencing will be usually limited to approved documents. If absolutely necessary, such a reference can be made where the ITU-R and the SMPTE are approving cooperative work requiring cross-references approximately in the same time frame. However the Parties agree to take into consideration the degree of stability or maturity of the document and its relationship with other existing or emerging documents. Neither party will reference a document, which has not yet been approved, without the originating party's consent.

4.1. Draft SMPTE Deliverables

4.1.1. The SMPTE will adopt Administrative Practices defining which documents are appropriate to contribute to the ITU-R. The Parties agree that the SMPTE will contribute no document for consideration by the ITU-R until the document has at least achieved consensus at the Technology Committee level. On a case by case basis, the SMPTE may make liaison contributions related to work in progress in order to keep the ITU-R fully appraised of the SMPTE work.

4.1.2. The ITU-R may accept, in whole or in part, the text of Draft SMPTE Deliverables as all or part of the text of a draft or final ITU-R Recommendation, with or without modification to the SMPTE Document. The acceptance of such texts shall be subject to the reservation that if the SMPTE Document undergoes major modifications by SMPTE, or if it is withdrawn as a result of public comments, or fails a vote or SMPTE Membership ballot, SMPTE shall immediately notify the ITU and the Parties shall discuss the consequences. If, following such discussions, the ITU-R still decides to accept texts from the modified or withdrawn Draft SMPTE Deliverable, it shall not acknowledge SMPTE as the source.

4.2. SMPTE Deliverables

The ITU may accept, in whole or in part, the text of adopted and published SMPTE Deliverables as all or part of the text of a draft or final ITU-R Recommendation, with or without modification to the SMPTE text. If the ITU-R changes the substance of any SMPTE Deliverable or otherwise substantially modifies its form or text, the ITU-R shall not acknowledge SMPTE as the source.

4.3. ITU-R Recommendations

The SMPTE may accept, in whole or in part, the text of a final ITU-R Recommendation as all or part of the text of a draft or approved SMPTE Document, with or without modification to the ITU-R text. If the SMPTE changes the substance of any ITU-R Recommendation, or otherwise substantially modifies its form or text, the SMPTE shall not acknowledge ITU-R as the source.

5. Copyrights and Other Intellectual Property Arrangements

5.1. When a Party hereto accepts texts from the other Party, as described in Section 4 above, the accepting Party shall so notify the other Party, which shall grant, in its capacity as the originating Party, a non-exclusive royalty-free copyright licence on the accepted texts to the accepting Party for sale, reproduction or translation by the latter, but the originating Party shall fully retain the copyright on its texts. In the case of a grant to the ITU, such a licence shall be granted in the six official languages of the ITU.

5.2. Any documents or publications covered by such licences shall acknowledge the copyright of the originating Party, and shall identify with an appropriate degree of prominence those parts of the document or publication to which such copyright applies, under a format to be mutually agreed by the Parties.

5.3. Where the original text of one Party is modified by the other for its own publication, the published document shall contain an indication of which parts of the original text have been so modified. No licence shall be required if (i) the substance of the original text is altered, (ii) the form or text is otherwise substantially modified or (iii) the text comes from a modified or withdrawn Draft SMPTE Deliverable.

5.4. The Parties shall keep each other informed about their current policy with respect to intellectual property rights, which may be contained in the documents defined in Section 1. The originating Party shall inform the accepting Party if intellectual property rights of another entity have been asserted for any of the documents or texts provided under Section 4 above. The recipient of the deliverables provided by the other Party shall undertake to respect the conditions stated in the intellectual property policy that has been adopted by the originating Party, which shall be binding as to the text or document exchanged.

6. Electronic Document Exchange

6.1. The Parties will provide to each other the documents covered by this Agreement via the Internet. Accordingly, if a document to be referenced is available on the Web, it is sufficient to provide its hyperlink. If the document is not available in this manner, a full copy of the document must be provided in electronic format and, where possible, with no reformatting necessary.

6.2. For purposes of making SMPTE Documents available, the ITU-R Secretariat will establish an FTP area to enable free downloads of SMPTE Documents licensed to the ITU. The ITU will allow access to the FTP area only through the TIES account of Study Group 6 Participants. ITU will include a disclaimer regarding the unauthorized use or misuse of these documents. The objective is to have referenced documents available at no cost so that the Study Group 6 Participants may proceed with their evaluation of SMPTE Documents.

6.3. The ITU will include hyperlinks to SMPTE Documents on its Web Site.

6.4. Future modifications to the electronic links to facilitate such document exchange shall be agreed upon by the Secretariats of the ITU-R and the SMPTE.

7. Working Arrangements

7.1. An ITU representative will act as liaison between SMPTE's Technology Committees and the ITU-R. The SMPTE agrees to provide ITU's representative with copies of all correspondence from all SMPTE Technology Committees through e-mail reflectors, and with access to all work in progress of Technology Committees, including all Committee ballots, through an SMPTE FTP area. The ITU representative is authorized to distribute the above documents through the ITU FTP area referred to in Section 6.2 above.

7.2. Subject to its rules for participation, the SMPTE will invite members of ITU-R Study Group 6, including Working Parties and Rapporteur's Groups to participate directly and without charge in the work of relevant SMPTE Technology Committees and their subgroups.

7.3. The SMPTE representation at ITU-R meetings will depend on its status as a Sector Member or Associate Member of the ITU-R. However, in accordance with Article 20, provision 248A of the ITU Convention, the Director of the ITU's Radiocommunication Bureau in consultation with the Chairman of Study Group 6, may invite the SMPTE to participate pending its accession to ITU-R membership.

7.4. To ensure the continued quality of ITU-R Recommendations, the ITU-R will evaluate the SMPTE document being proposed for reference in an ITU-R Recommendation in the context of SMPTE Administrative Practices. This evaluation will include the process by which the SMPTE output document is published and regularly maintained (i.e. reaffirmed, revised, withdrawn, etc.) and the document change control process (e.g. a clear, unambiguous document numbering scheme where updated versions of a given document are distinguishable from the earlier versions).

7.5. Cooperation between the Parties will be a matter for the relevant ITU-R Study Group and the SMPTE Technical Committee concerned, or for the competent body within their respective structures. Therefore, further informal arrangements for the implementation of this Agreement shall be developed, as necessary, by representatives of the Parties as provided in Section 11.2 below.

8. Term

This Agreement shall be effective from the date of the last signature below and shall expire five (5) years from the date of the last signature below. The Term of this Agreement shall automatically be renewed for successive five-year terms, unless terminated by one of the Parties in accordance with the terms set forth in Section 9.1 below.

9. Termination and Post Termination Right

9.1. Either Party may terminate this Agreement at any time prior to its expiration upon sending written notice to the other Party one hundred and eighty (180) days prior to the effective date of termination.

9.2. After the expiration or termination of this Agreement, the Parties shall immediately cease using their respective documents and shall not sell, distribute or otherwise deal in their respective copyrighted documents except as hereinafter provided.

9.3. Notwithstanding the foregoing, upon expiration or termination of this Agreement, the Parties shall have the post termination right to sell their existing inventory of documents until their stock is depleted.

10. Dispute Resolution

Any dispute between the Parties arising out of or in connection with this Agreement shall be settled directly and amicably by them through mutual negotiations. If necessary, a committee composed of equal numbers of representatives from the Secretariats of both Parties shall consider the matter. If no amicable and joint settlement of the dispute is possible, the dispute shall be settled by a sole arbitrator to be nominated at the request of either of the Parties by the Court of Arbitration of the International Chamber of Commerce of Paris. The place of arbitration shall be Geneva. The language of arbitration shall be English. The arbitration shall be carried out in accordance with the Rules of Conciliation and Arbitration of the International Chamber of Commerce, as at present in force. Besides, and only supplementary to, the provisions of the Agreement, the applicable law shall be Swiss substantive law, with the exception of the provisions of Article 190 of the Swiss federal law on private international law of 18 December 1987. The arbitrator's ruling shall be binding and final upon the Parties hereto.

11. Integration, Modification and Interpretation

11.1. This Agreement constitutes the entire agreement and understanding between the Parties hereto and terminates and supersedes any prior agreement or understanding, written or oral, relating to the subject matter hereof. There are no representations, promises, agreements warranties, covenants or undertakings other than those expressly contained in this Agreement.

11.2. None of the provisions of this Agreement can be waived or modified except in a written document signed by the Parties. Amendments to this Agreement may be mutually agreed to, in writing, by the authorized representatives of both Parties, as necessary and appropriate. Such amendments shall be attached to the Agreement of which they shall form an integral part.

11.3. The headings of any Section are for convenience only and shall not be used to construe or affect the meaning or interpretation of this Agreement.

12. Privileges, Immunities and Facilities of the ITU

Nothing in this Agreement shall constitute a waiver of the privileges, immunities and facilities, which the ITU enjoys by virtue of international agreements and national laws applicable to it.

IN WITNESS WHEREOF, the ITU and the SMPTE, have caused this Agreement to be executed in two (2) duplicate originals by their duly authorized representatives as of the date written beneath their respective signatures.

INTERNATIONAL TELECOMMUNICATION UNION

By: R.W. Jones

Name: ROBERT W. JONES

Title: DIRECTOR - RADIO COMMUNICATION BUREAU

Date: 12 April 2001

Place: Geneva, Switzerland

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

By: [signature]

Name: WILLIAM C. MILLER

Title: EXECUTIVE VICE-PRESIDENT

Date: 21 MARCH 2001

Place: MUNICH, GERMANY