

# Standards and Recommended Practices

## Proposed SMPTE Standards

Five Proposed SMPTE Standards are published for your information. The first page of each standard is shown:

**SMPTE 343M**, Television – Declarative Data Essence – Local Identifier (lid:) URI Scheme

**SMPTE 357M**, Television – Declarative Data Essence – Internet Protocol Multicast Encapsulation

**SMPTE 361M**, Television – NTSC IP and Trigger Binding to VBI

**SMPTE 363M**, Television – Declarative Data Essence – Content Level 1

**SMPTE 366M**, Television – Declarative Data Essence – Document Object Model Level 0 (DOM-0) and Related Object Environment

SMPTE 343M is available from Society Headquarters for \$20.00; SMPTE 357M for \$24.00; SMPTE 361M for \$15.00; and SMPTE 363M and 366M for \$32.00 each.

## Approved SMPTE Standards

Several SMPTE Standards were recently approved by the Society:

**SMPTE 111-2001**, Motion-Picture Film (35-mm) – Prints Made on Continuous Contact Printers – Exposed Areas for Picture and Audio

**SMPTE 117M-2001**, Motion-Picture Film – Photographic Audio Record – Spectral Diffuse Density

**SMPTE 146M-2001**, Motion-Picture Film – 16- and 8-mm Reversal Color Camera Films – Determination of Speed

**SMPTE 153-2001**, Motion-Picture Film (8-mm Type S) – 16-mm Film Perforated 8-mm Type S (1-4) – Printed Areas

**SMPTE 159.1-2001**, Motion-Picture Film (8-mm Type S) – Model 1 Camera Cartridge – Cartridge-Camera Interface and Take-Up Core Drive

**SMPTE 159.2-2001**, Motion-Picture Film (8-mm Type S) – Model 1 Camera Cartridge – Aperture, Profile, Film Position, Pressure Pad and Flatness

**SMPTE 168-2001**, Motion-Picture Film (16-mm) – Perforated 8-mm Type S, (1-4)

**SMPTE 171-2001**, Motion-Picture Film (35-mm) – Perforated 16-mm, 3R (1-3-0)

**SMPTE 181-2001**, Motion-Picture Film (8-mm Type S) – 16-mm Film Perforated 8-mm Type S (1-3) – Printed Areas

**SMPTE 211M-2001**, Motion-Picture Film – 16- and 35-mm Variable-Area Photographic Audio Records – Signal-to-Noise Ratio

**SMPTE 223M-2001**, Motion-Picture Film – Safety Film

**SMPTE 279M-2001**, Digital Video Recording – ½-in Type D-5 Standard-Definition Component Video and Type HD-D5 High-Definition Video Compressed Data

**SMPTE 294M-2001**, Television – 720 x 483 Active Line at 59.94-Hz Progressive Scan Production – Bit-Serial Interfaces

The standards are available from Headquarters: SMPTE 117M, SMPTE 146M, SMPTE 153, SMPTE 171, and SMPTE 223M for \$15.00; SMPTE 111, SMPTE 159.1, SMPTE 168, and SMPTE 181 for \$20.00; SMPTE 159.2 and SMPTE 211M for \$22.00; SMPTE 279M for \$80.00 and SMPTE 294M for \$30.00.

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## SMPTE Standards Subscription Service

The Society provides a Standards Subscription Service to assist firms, libraries, and individuals in establishing and maintaining a complete and current file of approved American National Standards, SMPTE Recommended Practices, and SMPTE Engineering Guidelines in the motion picture, television, and video magnetic recording fields. Through this service, the Society makes automatic distribution to standards subscribers of all new and revised standards, recommended practices, and guidelines that are approved during the calendar year in these fields. Documents are also available either in printed form or on CD-ROM.

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**PROPOSED  
SMPTE STANDARD**

SMPTE 343M

for Television —  
**Declarative Data Essence —  
Local Identifier (lid:) URI Scheme**

Page 1 of 4 pages

**Table of contents**

- 1 Scope
- 2 Normative references
- 3 Introduction
- 4 Definition of local identifier (lid:) URI scheme
- 5 Resolution rules
- 6 Normalization and equivalence
- 7 Local identifier syntax BNF
- 8 Security considerations
- Annex A Converting other URI schemes to lid:
- Annex B Bibliography

**1 Scope**

This standard defines the lid: uniform resource identifier (URI), and describes how it is used to identify instances of resources, such as web pages and graphics files, that are transmitted through unidirectional means, such as a television broadcast.

**2 Normative references**

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

IETF RFC 2396, Uniform Resource Identifiers (URI): Generic Syntax

ISO/IEC 11578:1996, Information Technology — Open Systems Interconnection — Remote Procedure Call (RPC), Annex A, Universal Unique Identifier

**3 Introduction**

Content resources delivered by a one-way broadcast must be identified, stored in a storage system used by the receiver as they are received, and referenced by a uniform scheme for access by applications and systems. Broadcast receivers may use different types of storage devices; therefore, content broadcasters and application developers need a standard syntax for resource storage and reference that does not depend on the specific device or directory syntax, such as the file: URI scheme. A lid: can be bound to a resource entity during authoring and distribution, and may be used to name a device-independent storage location for the entity. The lid: scheme is syntactically similar to the http: scheme, but it is not intended to resolve lid: identifiers to locations outside the broadcast stream or local storage system, as is the case for http: DNS and resource resolution.

The lid: URI scheme enables content creators to assign an authority value that is globally unique. The lid: scheme supports relative paths for resource retrieval, so the authority component can be separately identified in applications to allow relative path references similar to http: and other URI references.

A single lid: can be used to identify different resource instances over time, and will resolve in a receiver to the last instance received with an equivalent lid:. Appropriate lid: identifiers can reduce the storage of redundant instances of resources for better memory efficiency. Storage management for lid: entities is implementation specific and beyond the scope of this specification, but it can be assumed that memory will be finite, and so will the period of persistence of any lid: entity. Applications using lid: should be designed to handle the case where resources have been deleted over time due to storage limitations.

**PROPOSED  
SMPTE STANDARD**

SMPTE 357M

for Television —  
**Declarative Data Essence —  
Internet Protocol Multicast  
Encapsulation**

Page 1 of 8 pages

**Table of contents**

- 1 Scope and application
- 2 Normative references
- 3 Announcement protocol
- 4 Trigger protocol
- 5 Resource transfer: UHTTP
- Annex A Using enhanced television
- Annex B Example broadcast
- Annex C Glossary

**1 Scope and application****1.1 Scope**

This standard defines the encapsulation of declarative data essence using internet protocol (IP) multicast. This is done in a transport-independent manner and relies solely on standard IP multicast techniques.

**1.2 Application**

This standard defines the transmission of declarative content across terrestrial (over the air), cable, and satellite systems as well as over the Internet. In addition, it will also bridge between networks — for example, data on an analog terrestrial broadcast must easily bridge to a digital cable system. This design goal was achieved through the definition of a transport-independent content format and the use of IP. Since IP bindings already exist for each of these video systems, the advantages of this work may be useful.

IP multicast is the mechanism for broadcast data delivery. Content creators should assume IP addresses may be changed downstream and, therefore, should not use them in their content. The transport operator is responsible only for making sure that an IP address is valid on the physical network where they broadcast it (not for any rebroadcasting). When

possible, content creators should use valid IP multicast addresses to minimize the chance of collisions. Some systems may have two-way Internet connections. Capabilities in those systems are outside the scope of this standard and are described by the appropriate Internet standards.

Transport operators should use the standard IP transmission system for the appropriate medium (IETF, ATSC, DVB, etc.). It is assumed that when the user tunes to a television channel, the receiver automatically locates and delivers IP datagrams associated with the television broadcast. The mechanism for tuning video and connecting to the appropriate data stream is implementation and delivery standard specific and is not specified in this framework.

**2 Normative references**

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

SMPTE 363M, Television — Declarative Data Essence — Content Level 1

SMPTE 364M-2001, Television — Declarative Data Essence — Unidirectional Hypertext Transport Protocol

IETF RFC 768, User Datagram Protocol (UDP)

IETF RFC 791, Internet Protocol — DARPA Internet Program Protocol Specification

IETF RFC 1112, Host Extensions for IP Multicasting