

|  |
| --- |
| Click and select subcommittee from drop-down list |

Click and select document status from drop-down list

Click here to enter document number and revision.

Click here to select the date.

Click here to enter Title.

# NOTICE

The Society of Cable Telecommunications Engineers (SCTE) Standards and Operational Practices (hereafter called “documents”) are intended to serve the public interest by providing specifications, test methods and procedures that promote uniformity of product, interoperability, interchangeability, best practices, and the long term reliability of broadband communications facilities. These documents shall not in any way preclude any member or non-member of SCTE from manufacturing or selling products not conforming to such documents, nor shall the existence of such standards preclude their voluntary use by those other than SCTE members.

SCTE assumes no obligations or liability whatsoever to any party who may adopt the documents. Such adopting party assumes all risks associated with adoption of these documents and accepts full responsibility for any damage and/or claims arising from the adoption of such documents.

NOTE: The user’s attention is called to the possibility that compliance with this document may require the use of an invention covered by patent rights. By publication of this document, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the standards developer. SCTE shall not be responsible for identifying patents for which a license may be required or for conducting inquiries into the legal validity or scope of those patents that are brought to its attention.

Patent holders who believe that they hold patents which are essential to the implementation of this document have been requested to provide information about those patents and any related licensing terms and conditions. Any such declarations made before or after publication of this document are available on the SCTE web site at https://scte.org.

All Rights Reserved

© Society of Cable Telecommunications Engineers, Inc. 2021

140 Philips Road

Exton, PA 19341

# Document Types and Tags

*{Delete these instructions:* Select the proper document type from the drop-down list and each applicable document tag by double clicking the square box in front of the tag. See definitions on page 10.}

Document Type: Choose an item.

Document Tags:

|  |  |  |
| --- | --- | --- |
| [ ]  Test or Measurement | [ ]  Checklist | [ ]  Facility |
| [ ]  Architecture or Framework | [ ]  Metric | [ ]  Access Network |
| [ ]  Procedure, Process or Method | [ ]  Cloud | [ ]  Customer Premises |

# Document Release History

*{Delete these instructions: Do not delete any information within the table. Authors may add editorial revision history lines to the bottom of the table if desired. SCT staff will review and finalize this section prior to ballot, including deleting editorial revision history and confirming that all dates correspond to the Engineering Committee approval dates. Note: If this is a new document, this section will be deleted prior to ballot.}*

|  |  |
| --- | --- |
| Release | Date |
| SCTE XXX 20xx | *Date* |
| SCTE XXX 20xx | *Date* |
| SCTE XXX 20xx | *Date* |
| SCTE XXX 20xx | *Date* |
| SCTE XXX 20xx | *Date* |

Note: Standards that are released multiple times in the same year use: a, b, c, etc. to indicate normative balloted updates and/or r1, r2, r3, etc. to indicate editorial changes to a released document after the year.

# Table of Contents

Title Page Number

[NOTICE 2](#_Toc62581208)

[Document Types and Tags 3](#_Toc62581209)

[Document Release History 3](#_Toc62581210)

[Table of Contents 4](#_Toc62581211)

[1. Introduction 6](#_Toc62581212)

[1.1. Executive Summary 6](#_Toc62581213)

[1.2. Scope 6](#_Toc62581214)

[1.3. Benefits 6](#_Toc62581215)

[1.4. Intended Audience 6](#_Toc62581216)

[1.5. Areas for Further Investigation or to be Added in Future Versions 6](#_Toc62581217)

[2. Normative References 6](#_Toc62581218)

[2.1. SCTE References 7](#_Toc62581219)

[2.2. Standards from Other Organizations 7](#_Toc62581220)

[2.3. Other Published Materials 7](#_Toc62581221)

[3. Informative References 7](#_Toc62581222)

[3.1. SCTE References 7](#_Toc62581223)

[3.2. Standards from Other Organizations 7](#_Toc62581224)

[3.3. Other Published Materials 7](#_Toc62581225)

[4. Compliance Notation 8](#_Toc62581226)

[5. Abbreviations and Definitions 8](#_Toc62581227)

[5.1. Abbreviations 8](#_Toc62581228)

[5.2. Definitions 8](#_Toc62581229)

[6. Replace This Sample Text With Your Text 9](#_Toc62581230)

[Instructions and Sample Text - Delete This ENTIRE SECTION Before Publication 10](#_Toc62581231)

[1. Deleting Instructions and Sample Text 10](#_Toc62581232)

[2. Cover Page Document Status 10](#_Toc62581233)

[3. Document Types and Document Tags 10](#_Toc62581234)

[4. Usage of Styles 11](#_Toc62581235)

[5. Initial Usage of Abbreviations 11](#_Toc62581236)

[6. Copying Text From Other Sources 12](#_Toc62581237)

[7. Updating Document Fields 12](#_Toc62581238)

[8. Figure Example 12](#_Toc62581239)

[9. Table Example 13](#_Toc62581240)

[10. This Section Contains Sample Text to Show the Use of Styles 13](#_Toc62581241)

[10.1. Nunc Viverra Imperdiet Enim 13](#_Toc62581242)

[10.2. Fusce Est 13](#_Toc62581243)

[10.2.1. Vivamus A Tellus 13](#_Toc62581244)

[10.2.2. Proin Semper 14](#_Toc62581245)

[Appendix A Sample Appendix Headings 14](#_Toc62581246)

[A.1 Heading 14](#_Toc62581247)

[A.1.1 Subordinate Heading 14](#_Toc62581248)

[A.1.1.1 Subordinate Heading 14](#_Toc62581249)

[Annex A. Sample Annex Heading 14](#_Toc62581250)

List of Figures

Title Page Number

[Figure 1 - Word Dialog Box Shown When Updating Fields 12](#_Toc62581251)

[Figure 2 - Example Figure Caption (goes below figure) 12](#_Toc62581252)

List of Tables

Title Page Number

[Table 1 - Example Table Caption (goes above table) 13](#_Toc62581253)

## Introduction

### Executive Summary

{Delete these instructions: The text in this section should contain a brief description of what this document is and what it accomplishes.}

Replace this sample text with your text.

### Scope

{Delete these instructions: The text in this section should contain the scope of the document, including areas, architectures, operations or equipment to which it applies and to which it does not apply.}

Replace this sample text with your text.

### Benefits

{Delete these instructions: The text in this section should contain a description of the benefits of this document:

* Describe why it’s needed.
* Describe what happens when it’s implemented and what happens if it’s not implemented.
* Describe if the benefits are short term or long term and how they are achieved.
* Describe the potential impact on the broadband industry.}

Replace this sample text with your text.

### Intended Audience

{Delete these instructions: The text in this section should contain a description of the intended audience for this document such as development engineers, corporate engineers, technical operations, financial operations, installers, technicians, etc. Be as specific as possible.}

Replace this sample text with your text.

### Areas for Further Investigation or to be Added in Future Versions

{Delete these instructions: The text in this section should contain a description of area that could be added or enhanced in future versions of this document.}

Replace this sample text with your text.

## Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this document. The editions indicated were valid at the time of subcommittee approval. All documents are subject to revision and, while parties to any agreement based on this document are encouraged to investigate the possibility of applying the most recent editions of the documents listed below, they are reminded that newer editions of those documents might not be compatible with the referenced version.

{Delete these instructions: List all normative references in the appropriate section below. The preferred method of listing references is an abbreviated reference followed by the long reference, utilizing the “Refstyle” style. See sample below:

The abbreviated reference (e.g. [SCTE xxx]) can be used in this document as a unique identifier cross reference throughout the document.

Delete the sample and “No normative references are applicable.” text if references are listed in that section.}

### SCTE References

[SCTE xxx] ANSI/SCTE xxx 2020, title of the document

### Standards from Other Organizations

[ITU-T H.xxx] ITU-T Rec. H.xxx, title of document

### Other Published Materials

No normative references are applicable.

## Informative References

The following documents might provide valuable information to the reader but are not required when complying with this document.

{Delete these instructions: List all informative references in the appropriate section below. The preferred method of listing references is an abbreviated reference followed by the long reference. See sample below:

The abbreviated reference (e.g. [SCTE yyy]) can be used in this document as a unique identifier cross reference throughout the document. .

Delete the sample and the “No informative references are applicable.” text if references are listed in that section.}

### SCTE References

[SCTE yyy] ANSI/SCTE yyy 2020, title of the document

### Standards from Other Organizations

No informative references are applicable.

### Other Published Materials

No informative references are applicable.

## Compliance Notation

|  |  |
| --- | --- |
| ***shall*** | This word or the adjective “***required***” means that the item is an absolute requirement of this document. |
| ***shall not*** | This phrase means that the item is an absolute prohibition of this document. |
| ***forbidden*** | This word means the value specified ***shall*** never be used. |
| *should* | This word or the adjective “*recommended*” means that there *may* exist valid reasons in particular circumstances to ignore this item, but the full implications *should* be understood and the case carefully weighed before choosing a different course. |
| *should not* | This phrase means that there *may* exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications *should* be understood and the case carefully weighed before implementing any behavior described with this label. |
| *may* | This word or the adjective “*optional*” indicate a course of action permissible within the limits of the document. |
| deprecated | Use is permissible for legacy purposes only. Deprecated features *may* be removed from future versions of this document. Implementations *should* avoid use of deprecated features. |

## Abbreviations and Definitions

### Abbreviations

{Delete these instructions: Put all abbreviations in this section. Words should not be capitalized unless they are formal names. See examples below.

Examples below should be deleted if they are not contained in this document.}

|  |  |
| --- | --- |
| AP | access point |
| bps | bits per second |
| FEC | forward error correction |
| HD | high definition |
| Hz | hertz |
| K | kelvin |
| SCTE | Society of Cable Telecommunications Engineers |

### Definitions

Definitions of terms used in this document are provided in this section. Defined terms that have specific meanings are capitalized. When the capitalized term is used in this document, the term has the specific meaning as defined in this section.

{Delete these instructions: Examples below should be deleted if they are not contained in this document.}

|  |  |
| --- | --- |
| downstream | The direction of signal transmission from the headend or hub site to the subscriber. Also called forward. |
| upstream | The direction of signal transmission from the subscriber to the hub site or headend. Also called return or reverse. |
| Network | When used as a capitalized term in this document, Network refers to the network from the north-bound interface of the CMTS to the customer interface of the cable modem. |

## Replace This Sample Text With Your Text

{Delete these instructions: Put the body of your document in this and subsequent sections. See “Instructions and Sample Text” later in this template for detailed instructions in how to format the document.

Replace this sample text with your text.

# Instructions and Sample Text - Delete This ENTIRE SECTION Before Publication

## Deleting Instructions and Sample Text

Throughout this template, instructions for using the template are shown in red italics. Such instructions always begin and end with brackets {}. Those instructions ***shall*** always be deleted before publication of the document.

## Cover Page Document Status

The cover page contains a drop-down list to select the proper document status. Please refer to the following definitions when selecting the appropriate document status:

|  |  |
| --- | --- |
| Preliminary – Draft – Not Yet Adopted | Document is under development and/or has not yet been approved and is not public.  |
| SCTE STANDARD | Document has passed Engineering Committee ballot and all comments have been resolved.  |
| AMERICAN NATIONAL STANDARD | Document has received ANSI approval.  |
| SCTE DOCUMENT | Document is approved for use but is not an official standard. |
| {blank} | No other status type is applicable. |

## Document Types and Document Tags

The third page contains a drop-down list to select the proper document type and check boxes to indicate all applicable document tags.

Please refer to the following definitions when selecting the appropriate document type:

|  |  |
| --- | --- |
| Specification | Document contains requirements to be satisfied by a material, design, product, system, or service. |
| Operational Practice | Document outlines procedures or practices that *should* be followed. |
| Industry Reference | Document has useful information or guidance but no specific requirements, procedures or practices that *should* be followed. |
| Technical Report | Document describes the results of scientific research.  |
| {blank} | No other status type is applicable. |

Please refer to the following definitions when selecting all the relevant document tags:

|  |  |
| --- | --- |
| Test or Measurement | Defines tasks to determine the level of performance or compliance to specified parameters. |
| Architecture or Framework | Defines a solution or provides a template and necessary vocabulary to solve a problem. |
| Procedure, Process, or Method | Defines methods to accomplish tasks.  |
| Checklist | Contains items to ensure or measure consistency and completeness. |
| Metric | Defines specific units or methods of measurement. |
| Cloud | Applies to scalable network resources in large data centers. |
| Facility | Applies to buildings large enough for at least one person to enter, such as data centers, headends and hubs.  |
| Access Network | Applies to infrastructure between the service provider facility and the customer premises.  |
| Customer Premises | Applies to the customer’s location or facility. |

## Usage of Styles

Use the following Styles. To apply a style, click on the name of a style in the Styles group on the Home ribbon.

|  |  |
| --- | --- |
| Heading 1 | For all major section headings. Not usually used in standards. |
| Heading 2 through 5 | For all subordinate section headings. |
| Normal | For all normal text. The Normal style automatically provides a blank line between paragraphs. |
| Norm-No Space Above | For all normal text for which you do not want a blank line above the paragraph. This style is useful for bulleted lists and inside tables, where blank lines above each paragraph are not desired. |
| Figure | For the paragraph containing a figure. |
| FigureCaption | For the caption below all figures. |
| TableCaption | For the title above all tables. |
| Table-Heading | For the first row in a table. |
| Table-Left | Left-justifies text in a table. |
| Table-Center | Center-justifies text in a table. |
| Table-Body | For text within in the table. |
| Appx style | For Appendix major section headings. |
| Appx style 2 through 4  | For all subordinate appendix section headings. |
| Annex style | For Annex major section headings. |

## Initial Usage of Abbreviations

Spell out each abbreviation the first time it is used in your paper. For example: “Turn on the access point (AP) before proceeding.”

Words *should* *not* be capitalized unless they are formal names. Every abbreviation used in the document *should* be included in the abbreviation list.

Usage of International System of Units: Ensure to utilize the correct abbreviations, capitalization and spacing for metrics. Common usage to consider is: include a space between a value and a symbol or abbreviation (e.g., 100 MHz or 10 Mbps); ensuring the the “g” in gigabits or gigahertz is lowercase; keeping the “k” in “kelvin” lowercase when referring to thermodynamic temperature (but the symbol K uppercase, with no degree symbol); and a space between the temperature value and symbol (e.g., 25 °C or 72 °F). For further information see: <https://physics.nist.gov/cuu/pdf/sp811.pdf>

## Copying Text From Other Sources

When copying text from other sources, make sure to “Paste Special”, “Unformatted Text” or “Paste Options”, “Keep Text Only” so you don’t alter the styles used in this document. Cut and paste figures individually so they match the style of this document as well. If any text or figure comes from another source, make sure to reference the original source.

## Updating Document Fields

After inserting headings, tables or figures, select all text in the document with control-A and then update the fields with F9 on Windows or with Command-A and then Option-fn-F9 on a Mac. When prompted, select “Update entire table” (this question could pop up several times).



Figure 1 - Word Dialog Box Shown When Updating Fields

This will re-sequence all title and figure numbers and will update the table of contents.

## Figure Example



Figure 2 - Example Figure Caption (goes below figure)

When inserting a figure, the paragraph containing the figure *should* use the style “Figure.” This style will center the figure and make sure it’s on the same page as the caption below it.

Captions:

* Every figure needs a caption and title below it. The easiest way to do this is to copy the entire Figure line sample above (including the hidden paragraph marker at the end of the line) and paste it into your text below your figure.
* The figure number will automatically sequence when you update the fields in the document with control-A and then F9 on Windows or with Command-A and then Option-fn-F9 on a Mac.
* The figure caption uses the style “FigureCaption,” which formats the text correctly.
* When referring to figures by number in the text, it is best to insert a cross-reference (on the References ribbon) rather than referencing explicitly by number. Cross-references will stay synchronized with the captions when you update the document fields.

## Table Example

Table 1 - Example Table Caption (goes above table)

| Table Heading | Column 2 | Column 3 | Column 4 |
| --- | --- | --- | --- |
| Table Body | Information | Information | Information |
| Table Body | Information | Information | Information |

When using a table, the first row in the table *should* use a style of “Table-Heading.”

All other rows in the table *should* use a style of “Table-Body.”

Always make the first row of the table (the heading row) repeat, by right-clicking in the heading row, selecting “Table Properties,” and checking “Repeat as header row at the top of each page option.” Alternatively, make sure that the table never spans more than one page.

Captions:

* Every table needs a caption and title above it. The easiest way to do this is to copy the entire Table line sample above (including the hidden paragraph marker at the end of the line) and paste it into your text above your figure.
* The table number will automatically sequence when you update the fields in the document with control-A and then F9 on Windows or with Command-A and then Option-fn-F9 on a Mac.
* The table caption uses the style “TableCaption,” which formats the text correctly and assures that the caption prints on the same page as the table.
* When referring to tables by number in the text, it is best to insert a cross-reference (on the References ribbon) rather than referencing explicitly by number. Cross-references will stay synchronized with the captions when you update the document fields.

## This Section Contains Sample Text to Show the Use of Styles

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Maecenas porttitor congue massa. Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna.

Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus:

* Uses “Norm-No Space Above” style
* Aenean nec lorem. In porttitor. Donec laoreet nonummy augue.

### Nunc Viverra Imperdiet Enim

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede. Mauris et orci.

### Fusce Est

#### Vivamus A Tellus

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

##### Proin Pharetra Nonummy Pede

Aenean nec lorem.

##### Pellentesque Porttitor

Cras non magna vel ante adipiscing rhoncus. Vivamus a mi. Morbi neque. Aliquam erat volutpat. Integer ultrices lobortis eros. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

#### Proin Semper

Donec elit est, consectetuer eget, consequat quis, tempus quis, wisi.

See

1. Sample Appendix Headings
	1. Heading

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede. Mauris et orci.

* + 1. Subordinate Heading

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede. Mauris et orci.

* + - * 1. Subordinate Heading

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede. Mauris et orci.

1. Sample Annex Heading