



**Society of Cable
Telecommunications
Engineers**

ENGINEERING COMMITTEE
Construction and Maintenance Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 87-1 2008

Graphic Symbols
For Cable Systems Part 1:
HFC Symbols

NOTICE

The Society of Cable Telecommunications Engineers (SCTE) Standards are intended to serve the public interest by providing specifications, test methods and procedures that promote uniformity of product, interchangeability and ultimately 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, whether used domestically or internationally.

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

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. 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 standard 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 <http://www.scte.org>.

All Rights Reserved

© Society of Cable Telecommunications Engineers, Inc. 2008
140 Philips Road
Exton, PA 19341

TABLE OF CONTENTS

Introduction.....	1
1. Poles.....	2
2. Cable Support Elements.....	3
3. Anchoring and Guying	3
4. Miscellaneous Symbols	4
5. Underground Designations	4
6. House Drop Designations	5
7. Make Ready or Pole Line Preparation	5
8. Amplifiers	6
9. Splitting Devices	6
10. Powering Devices	7
11. Line Devices.....	7
12. Subscriber Taps	8
13. Line Terminators	8
14. Signal Processing Locations	9
15. Coaxial Cables.....	9
16. Optical Devices.....	10
17. Optical Splice Symbols	11
18. Miscellaneous Optical Symbols	11
19. Data Blocks.....	12
20. End of Line Blocks.....	12
21. Wireless Devices.....	13
22. FTTX Symbols	14

GRAPHIC SYMBOLS FOR CABLE SYSTEMS

Introduction

Basic Considerations

The symbols for devices do not indicate types or model numbers of any manufacturer. They represent the function of the device operated within a cable system. The symbols permit easy addition of model or type numbers within or near their outline. If such model or type designations are used, an explanation of these designations should be placed on a legend sheet for the drawing on which the symbols appear.

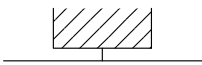
Proposed Drafting Practices

- The orientation of a symbol on a drawing, including a mirror image presentation, does not alter the meaning of the symbol.
- Line width does not affect the meaning of a symbol. In specific cases, a wider line may be used for emphasis. Generally, lines must be made sufficiently wide to avoid loss of resolution during photocopy reduction.
- Symbols shown in this text are in the approximate correct size and proportion. This relationship should be maintained as nearly as possible on any particular drawing regardless of the symbol scale.
- Symbols may be drawn to any proportional size that suits a particular drawing, depending upon reduction or enlargement anticipated. If essential for purposes of contrast, some symbols may be drawn relatively smaller than the other symbols on a drawing. The Standard recommends the use of no more than two sizes on a given drawing.
- For simplification or clarification of a drawing, parts of a symbol for devices, such as amplifiers, may be separated. If this is done, suitable designations to show proper correlation of the parts must be provided.

The Symbols

Due to the necessary crowding of symbols onto cable system mapping and grid diagrams, some symbols are structured differently than those used in electrical and electronic diagrams.

1. POLES

POWER POLE	×
TELEPHONE POLE	○
JOINT USAGE (power and telephone pole)	⊗
CABLE SYSTEMS POLE	●
CONCRETE POLE	⬡ C
STEEL POLE	⬡ S
FIBER REINFORCED POLE	⬡ F
POWER TRANSFORMER POLE	⊠
JOINT USE WITH POWER TRANSFORMER	⊠
POWER TRANSFORMER PLATFORM	⊠⊠
TRANSMISSION LINE CONTACT	⊙
OTHER SUPPORTING TYPE STRUCTURES Show approximate structure outline or a portion thereof in this manner.	
RISER POLE Use of a number indicates vertical distance from aerial connection to ground level.	⊗ R20
(alternate)	⊗ R
DROP POLE	⊙ D
(alternate) Add "DP" by any pole	⊗ DP

NOTES:

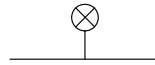
In this section, riser and drop poles are shown as joint use because this occurs most frequently.

Unless otherwise specified, the standard considers wooden poles.

The Standard states that unless otherwise specified on drawings or referenced documents, pole usage and ownership are the same. For modification, a designation may be shown adjacent to the pole symbol.

2. CABLE SUPPORT ELEMENTS

EXTENSION ARM
(used by cable systems)



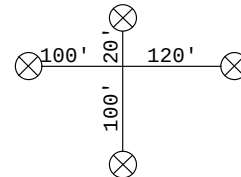
TENSION STRAND



SLACK SPAN STRAND



MID-SPAN CROSSOVER



NOTES:

In this section, poles are shown as joint because this occurs most frequently.

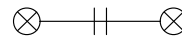
3. ANCHORING AND GUYING

PUSH BRACE

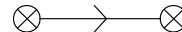
To show a push brace, the support pole is a smaller symbol.
It shall be drawn in its actual supporting location relative to the pole it is bracing.



OVERHEAD GUY



POLE-TO-POLE GUY



DOWN GUY WITH ANCHOR

"<" symbol added to anchor
symbol indicates "Set Anchor"



Existing cable system anchor -



Set cable system anchor -



SIDEWALK DOWN GUY WITH ANCHOR

"<" symbol added to anchor
symbol indicates "Set Anchor"



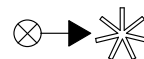
Existing cable system anchor -



Set cable system anchor -



TREE GUY



ROCK GUY



BUILDING GUY



NOTES:

In this section, poles are shown as joint use because this occurs most frequently.