Society of Cable Telecommunications Engineers

ENGINEERING COMMITTEE
Interface Practices Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 87 2017

Graphic Symbols for Cable Systems

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Table of Contents

Title **Page Number**

1. Introduction

1.1. Executive Summary

1.1.1. 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.

1.1.2. 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.

1.2. Scope

The scope of this documentation is to illustrate the symbols recommended for Telecommunication drafting needs. It also provides recommendations for attributes both visible on the drafted map as well as embedded in the symbol when building a database mapping application. This will provide better data capturing and provide a better source of record for internal and external users.
It will provide much better benefit when moving to a mobile solutions to our boundary partners.
With the need for a cleaner and more intuitive maps the data captured is needed in more granular detail of information with embedded attributes or extended symbol attributes which allows for more comprehensive data. Due to the necessary crowding of symbols onto telecommunication system mapping and grid diagrams, some symbols are structured differently than those used in electrical and electronic diagrams

1.3. Benefits

The need for this is to provide a much better view at the system drafted maps and provide the designers and drafters a consistent input. This will support when developing a Rulebook for their drafting application that would assist in developing drafting standards and rules.

The benefit using this will assistance to make better engineering decisions, help with reports and easier to make transitions into other tools that rely on consistence data integrity. It also provides the benefit to make the data more consistence across the industry.

The benefits for this are long term this is a living and growing document. It will constantly grow and change but the core symbols and fundamentals are mostly consistence, attribute could change more often which would help streamline data input and improve reporting and decision planning.

The benefit for this on the industry would help align all companies with more consistency, support job sharing with Design and Drafting within markets, aid the field technicians both locally and when traveling to another market and this will help with joining forces when companies need to come together and provide tie points for national backbone connections

1.4. Intended Audience

The intended audience initially for this would be for the Design & Drafting then all Field personnel with a mobile mapping viewer (or plotted maps when needed), Business Services, Dispatch, Network Operation Centers, as the data is captured and consistently placed the more need for other departments will rely on this data.

1.5. Areas for Further Investigation or to be Added in Future Versions

Areas that will need to be further investigated would be the attribute needed or required for each symbol. As newer technology is introduced we will need to update the type of symbols and attributes required.

2. Normative References

The following documents contain provisions, which, through reference in this text, constitute provisions of this document. At the time of Subcommittee approval, the editions indicated were valid. 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.

2.1. SCTE References

- No informative references are applicable.

2.2. Standards from Other Organizations

- No normative references are applicable.

2.3. Published Materials

- No normative references are applicable.

3. Informative References

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

- No normative references are applicable.

3.1. SCTE References

- No informative references are applicable.

3.2. Standards from Other Organizations

- No informative references are applicable.

3.3. Published Materials

- No informative references are applicable.

4. 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 weighted 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*" means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.
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.

5. Abbreviations and Definitions

5.1. Abbreviations

Aer	Aerial
Amp	Amplifier
APC	Angled Physical Contact
BNC	Bayonet Neill–Concelman
Cab	Cabinet
CB	(Cox) Business Customer
CLLI	Common Language Location Identifier
CPE	Customer Premise Equipment
dB	Decibel
EDFA	Erbium-Doped Fiber Amplifier
EMT	Electric Metallic Tube
Ftg	Footage

FTTX	Fiber To The X (Service Area)
GHz	Gigahertz
GIG	Gigabit
ITU	International Telecommunication Union
km	Kilometer
LCP	Local Convergence Point
m	Meter
MDU	Multiple Dwelling Unit
mi	Mile
MN	Micro Node
NAP	Network Access Point
NE	Network Element Name
NIU	Network Interface Unit
OCC	Optical Cross Connect
ODN	Optical Distribution Network
OLT	Optical Line Terminal
ONU	Optical Network Unit
OTE	Optical Terminal Enclosure
OTN	Optical Transition Node
PON	Passive Only Network
PS	Power Supply
RC	Reverse Conditioner
Regen	Regeneration
Resi	Residential Customer
RF	Radio Frequency
RFOG	RF Over Glass
RME	Rack Mounted Equipment
RX	Receive Transmitter
SC	Snap in Connector
SCTE	Society of Cable Telecommunications Engineers
TA	Terminal Access
TE	Terminal Enclosure
Telco	Telecommunication
TX	Transmitter
U/G	Underground
UPC	Ultra Physical Contact
WiFi	Wireless Device

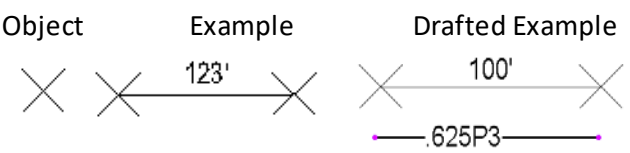
5.2. Definitions

Poles	To support Aerial Route Network
Underground Route	Show where underground routing is located
Pedestals/Vaults	Underground structures to house equipment
Guys/Anchors	Helps support and guide the Aerial Route Network
Riser	Displays where Aerial to Underground transitions
Conduit	Tubing that is placed to housed and protect the network
Amplifier	Amplifies the RF signal in the network
Splitter/Coupler	A device to divide a single line network into two or three
Optical Node	A device to receive lightwaves and convert to RF

Channel Inserter	A device to remove a certain channel and insert local channel
Optical Splitter	A device to divide a single line network into two to many
Rack Mounted Equipment (RME)	Used to display the connects from the Inside network to the field network

6. Pole Types

1. Power Pole

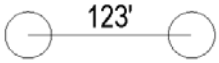
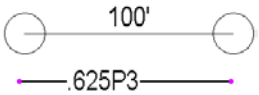


Power Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

2. Telephone Pole

Object	Example	Drafted Example
		

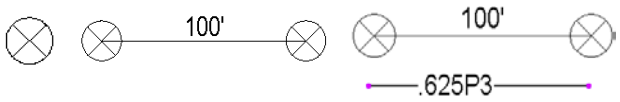
Telephone Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

3. Joint Use Pole
(Power and Telephone)

Object Example Drafted Example



Joint Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

4. Cable System Pole

Object Example Drafted Example

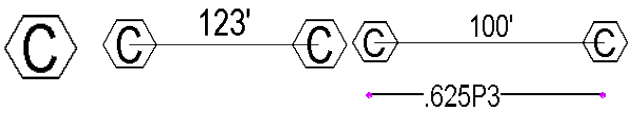
Cable Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

5. Concrete Pole

Object Example Drafted Example



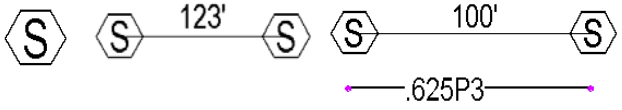
Concrete Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

6. Steel Pole

Object Example Drafted Example



Steel Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

7. Fiber Reinforced Pole	Object	Example	Drafted Example
			

Fiber Reinforced Pole Attributes:

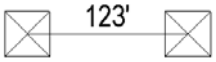
- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

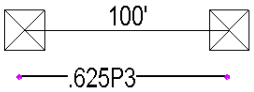
8. Power Transformer Pole

Object

Example



Drafted Example



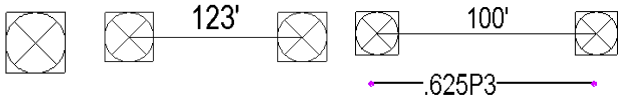
Power Transformer Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

9. Joint Use With Power Transformer Pole

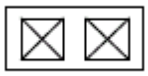
Object Example Drafted Example



Joint Use With Power Transformer Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

10. Power Transformer Platform	Object	Example	Drafted Example
			

Power transformer Platform Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

11. Transmission Line Contact	Object	Example	Drafted Example
			

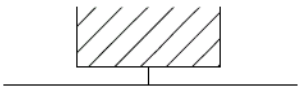
Transmission Line Contact Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

12. Other Support Type Structures

Object



Example

Drafted Example

Other Support Attributes:

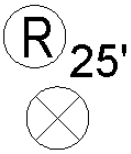
- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

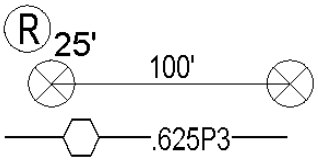
13. Riser Pole With Footage

Object

Example



Drafted Example



Riser Pole Attributes:

- Construction Status
- Height

Alternative Symbols:

14. Drop Pole	Object	Example	Drafted Example

Drop Pole Attributes:

- Construction Status
- Type
- Owner
- Cox Pole Tag Number
- Power Pole Tag
- Telco Pole Tag
- Attachments
- Drop pole
- Extension Arm
- Ground Status
- Ground Type
- Material Type
- Pole Config. Type
- Latitude
- Longitude
- Mountable? Example - True/False - To place a WiFi or Small Cell Device
- Location Number
- Grid Number
- Date Installed
- Application Number

Alternative Symbols:

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.

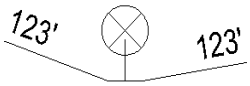
The Standard states that unless otherwise specified on drawings or referenced documents, pole usage and ownership are the same. For modification, a designation may be shown adjacent to the pole symbol.

7. Cable Support Elements

1. Extension Arm
(Telecommunication Industry)

Object | Example | Drafted Example





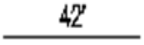
Extension Arm Attributes:

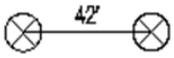
- Construction Status
- Specification
- Size
- Type/Material
- Model #
- Manufacture (This could be tracked by Spec)

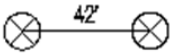
Alternative Symbols:

2. Tension Strand
(Aerial Strand Route)

Object | Example | Drafted Example







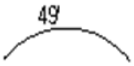
Tension Strand Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Drop Route?
- Guy Type
- Current Tension
- Strand Size
- Grounded

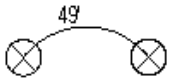
Alternative Symbols:

3. Slack Span

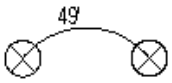
Object



Example



Drafted Example



Slack Span Attributes:

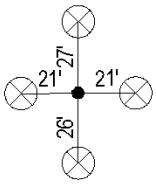
- Construction Status
- Measure Length
- Calculated Length
- Strand Size

Alternative Symbols:

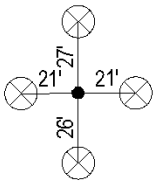
4. Mid Span Crossover

Object

Example



Drafted Example



Mid Span Crossover Attributes:

- Construction Status
- Type

Alternative Symbols:

Note: In this section, Poles are shown as Joint because this occurs most frequently

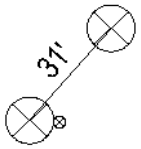
8. Anchoring and Guying

1. Push Brace

Object

Example

Drafted Example



Push Brace Attributes:

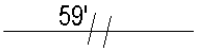
- Construction Status
- Type
- Size
- Material

Alternative Symbols:

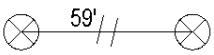
2. OverHead Guy

Object

Example



Drafted Example



OverHead Guy Attributes:

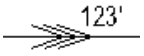
- Construction Status
- Type

Alternative Symbols:

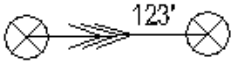
3. Pole to Pole Guy

Object

Example



Drafted Example



Pole to Pole Guy Attributes:

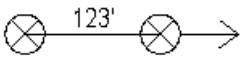
- Construction Status
- Type

Alternative Symbols:

4. Down Guy With Anchor

Object 

Example 

Drafted Example 

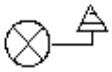
Down Guy With Anchor Attributes:

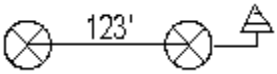
- Construction Status
- Type

Alternative Symbols: 

5. Side Walk Down Guy with Anchor - Existing

Object 

Example 

Drafted Example 

Side Walk Down Guy with Anchor Attributes:

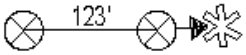
- Construction Status
- Type

Alternative Symbols:

6. Tree Guy

Object 

Example 

Drafted Example 

Tree Guy Attributes:

- Construction Status
- Type

Alternative Symbols:

7. Rock Guy

Object Example Drafted Example

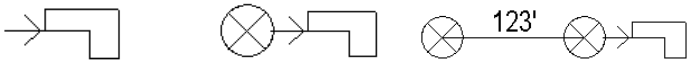
Rock Guy Attributes:

- Construction Status
- Type

Alternative Symbols: 

8. Building Guy

Object Example Drafted Example



Building Guy Attributes:

- Construction Status
- Type

Alternative Symbols: 

9. Set Cable Anchor

Object Example Drafted Example

- used for SideWalk CATV

Set Cable Anchor Attributes:

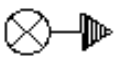
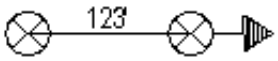
- Construction Status
- Type

Alternative Symbols:

Existing 

Set Cable Anchor 

10. Existing Anchor Object Example Drafted Example

Existing Anchor Attributes

- Construction Status
- Type

Alternative Symbols:

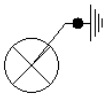
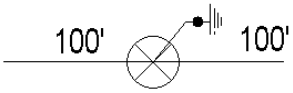
9. Miscellaneous Symbols

Note: In this section, Poles are shown as Joint because this occurs most frequently

4. MISCELLANEOUS SYMBOLS

Attachments, Routing and Structures

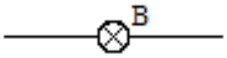
1. BOND Object Example Drafted Example

Bond Attributes

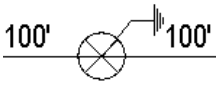
- Construction Status
- Type

Alternative Symbols:



2. GROUND Object Example Drafted Example

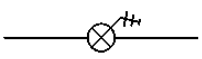




Ground Attributes:

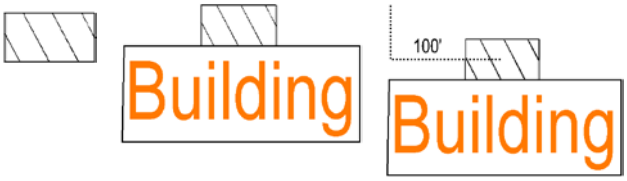
- Construction Status
- Type

Alternative Symbols:



3. LockBox
Surface Utility Mount

Object | Example | Drafted Example



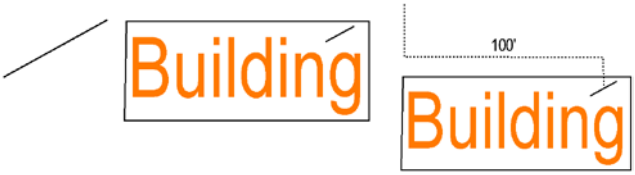
LockBox Attributes:

- Construction Status
- Specification
- Owner
- Drop Terminal?
- Ground Status
- Ground Type
- Label
- Location Number

Alternative Symbols:

4. BackBoard
Surface Utility Mount

Object | Example | Drafted Example



BackBoard Attributes:

- Construction Status
- Specification
- Owner
- Drop Terminal?
- Ground Status
- Ground Type
- Label
- Location Number

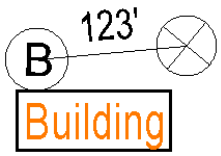
Alternative Symbols:

5. Building Bracket

Object

Example

Drafted Example



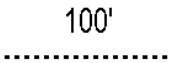
Building Bracket Attributes:

- Construction Status
- Specification
- Owner
- Location Number

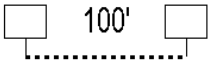
Alternative Symbols:

1.A. Underground Routing Trench

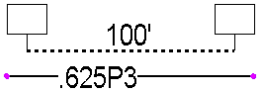
Object



Example



Drafted Example



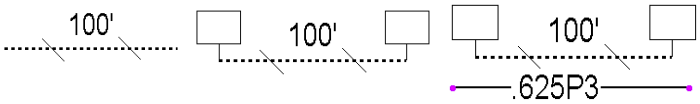
Trench - Underground Routing Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Type = Example: Trench
- Drop Route
- Private
- Telco-Only Conduits

Alternative Symbols:

1.B. Underground Routing Bore

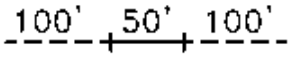
Object Example Drafted Example



Bore - Underground Routing Attributes:

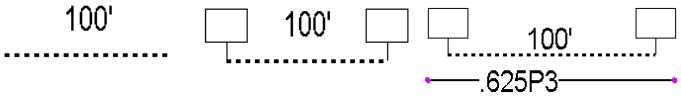
- Construction Status
- Measure Length
- Calculated Length
- Type = Example: Bore
- Drop Route
- Private
- Telco-Only Conduits

Alternative Symbols:



1.C. Underground Routing Building Riser

Object Example Drafted Example



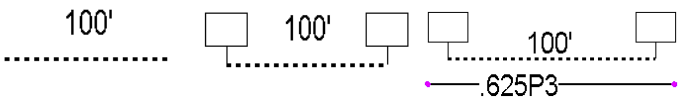
Building Riser - Underground Routing Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Type = Example: Building Riser
- Drop Route
- Private
- Telco-Only Conduits

Alternative Symbols:

1.D. Underground Routing Internal

Object Example Drafted Example



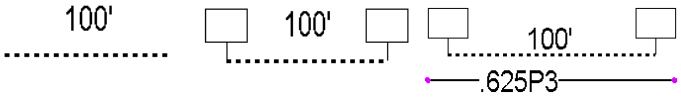
Internal - Underground Routing Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Type = Example: Internal
- Drop Route
- Private
- Telco-Only Conduits

Alternative Symbols:

1.E. Underground Routing Plow

Object Example Drafted Example



Plow - Underground Routing Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Type = Example: Plow
- Drop Route
- Private
- Telco-Only Conduits

Alternative Symbols:

2. Conduit Routing

Object	Example	Drafted Example
- - - - - - - - - - - -	100' Conduit (1-1.")	Conduit (1-1.") 100'

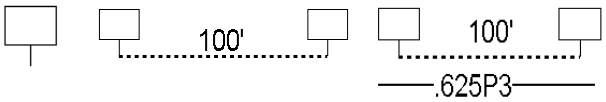
Conduit Route Attributes:

- Construction Status
- Measure Length
- Calculated Length
- Number Of Conduits
- Size Of Conduits
- Owner
- Telco?
- Status Example: Availability, Used, Vacant and Unknown
- Type Example: Core Extraction, Conduit, Microduct, EMT….etc.
- Contains Innerduct?
- Innerduct Number and Size
- Contains Microduct?
- Microduct Number and Size
- Date Installed
- Notes

Alternative Symbols: ———— = Direct Buried Conduit Routing

3. Pedestal

Object Example Drafted Example



Pedestal Attributes:

- Construction Status
- Specification
- Owner
- Drop Pedestal?
- Ground Status
- Ground Type
- Latitude
- Longitude
- Location Number
- Grid Number

Alternative Symbols:

4. Manhole

Underground Utility Box

Object Example Drafted Example

Manhole Attributes:

- Construction Status
- Specification
- Owner
- Drop Vault?
- Ground Status
- Ground Type
- Latitude
- Longitude
- Location Number
- Grid number

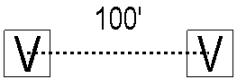
Alternative Symbols:

5. Vault

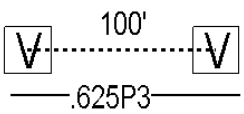
Underground Utility Box

Object

Example



Drafted Example



Vault (UUB) Attributes:

- Construction Status
- Specification
- Owner
- Drop Vault?
- Ground Status
- Ground Type
- Latitude
- Longitude
- Location Number
- Grid number

Alternative Symbols:

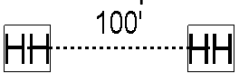
* = Optional user Defined attribute

6. HandHole

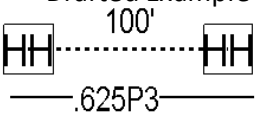
Underground Utility Box

Object

Example



Drafted Example



HandHole Attributes:

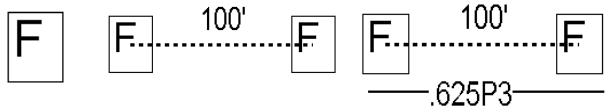
- Construction Status
- Specification
- Owner
- Drop Vault?
- Ground Status
- Ground Type
- Latitude
- Longitude
- Location Number
- Grid number

* = Optional user Defined attribute

Alternative Symbols:

7. Fiber Vault Object Example Drafted Example

Underground Utility Box



Fiber Vault Attributes:

- Construction Status
- Specification
- Owner
- Drop Vault?
- Ground Status
- Ground Type
- Latitude
- Longitude
- Location Number
- Grid number

Alternative Symbols:

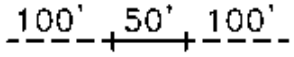
8. Road Bore Object Example Drafted Example

See above Underground Routing

Road Bore Attributes:

- Construction Status
- Type

Alternative Symbols:



9. Existing Power Transformer	Object	Example	Drafted Example
Other Utility Feature No Longer Used by Cox			
Existing Power Transformer Attributes: • Construction Status • Type			
Alternative Symbols: No Longer Used by Cox			

10. Punch Down Block	Object	Example	Drafted Example
Other Utility Feature No Longer Used by Cox			
Punch Down Block Attributes • Construction Status • Type			
Alternative Symbols: No Longer Used by Cox			

11. Telephone Pedestal	Object	Example	Drafted Example
Other Utility Feature No Longer Used by Cox			
Telephone Pedestal Attributes • Construction Status • Type			
Alternative Symbols: No Longer Used by Cox			

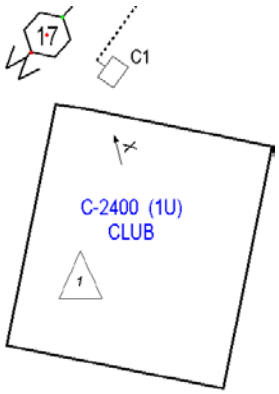
10. House Drop Designations

1. House Count

Object: R1, M1, V1, C1

Example: C1

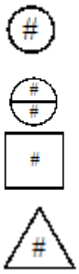
Drafted Example:



House Count Attributes:

- Residential
- Commercial
- MDU
- Vacant Lot

Alternative Symbols:



= (#) Number of Actual House Counts/Drops at this location

= (#) On Top Actual House Counts/Drops at this location

(#) On Bottom potential Counts/Drops at this location

= MDU - (#) Number of dwelling Units

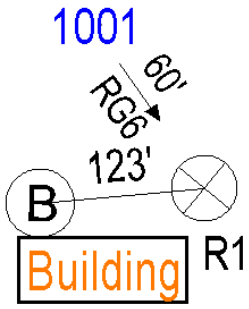
= Commercial - (#) Number of actual drops

2. Drop

Object:

Example:

Drafted Example:



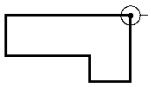
Drop Attributes:

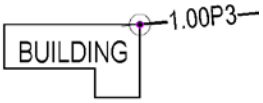
- Construction Status
- Specification
- Type
- Drop Code
- In Conduit?
- Length

Alternative Symbols:

2. Building Object Example Drafted Example

Commercial and Institutional





 = Cable/Sheath Attachment

Type =

- Church
- Commercial
- Government
- Hospital
- Hotel/Motel
- INET
- MDU
- Residential
- SDU
- School
- Wireless Site

Building Attributes:

- Name
- Type = Note all Buildings are under Type
- Commercial Count
- MDU Count
- Internal Node?

Alternative Symbols:  = (*) Type of Building e.g. School, Church, Police, etc.

11. Make Ready or Pole Line Preparation Symbols

1. Make Ready	Object	Example	Drafted Example
			

(*) = Optional User Defined Attribute

Note: Pole type shown is used for example only

Make Ready Attributes:

- Utility Reason
- Violation
- Notes

Alternative Symbols:

CONSTRUCTION NOTE

12. Amplifiers

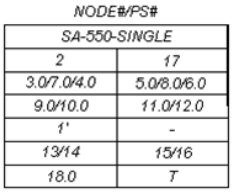
1. SINGLE OUTPUT AMPLIFIER

Object

Example

No Name Set

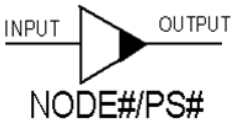
Drafted Example



NODE#/PS#	
SA-550-SINGLE	
2	17
3.0/7.0/4.0	5.0/8.0/6.0
9.0/10.0	11.0/12.0
1'	-
13/14	15/16
18.0	T

* = Optional User Defined

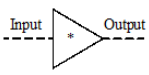
• = Hot Output when Internal DC is used



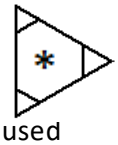
Amplifier Attributes:

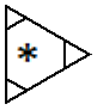
- Construction Status
- Specification
- Name
- Total Footage from Last Active/Split
- Cascade
- Forward Input At High Frequency
- Forward Input At Low Frequency
- Forward Output At High Frequency
- Forward Output At Low Frequency
- Set-Up Level Input
- Set-Up Level Output
- Reverse Input At High Frequency
- Reverse Input At Low Frequency
- Reverse Output At High Frequency
- Reverse Output At Low Frequency
- Forward Equalizer
- Reverse Equalizer
- Forward Pad
- Reverse Pad
- Splice Code
- Power Supply Name
- Amplifier Voltage
- Powering Mode
- Flipped?
- Underground?
- Node Number
- Optical Hub Feed
- Optical Node Leg Feed
- Part Number
- Date Installed

Alternative Symbols:

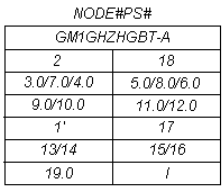


2. MULTIPLE OUTPUT AMPLIFIER Object Example Drafted Example





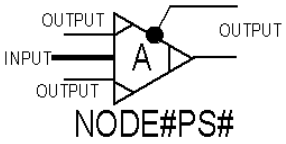
No Name Set



* = Optional User Defined

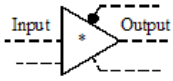
● = Hot Output when Internal DC is used

Amplifier Attributes:



- Construction Status
- Specification
- Name
- Total Footage from Last Active/Split
- Cascade
- Forward Input At High Frequency
- Forward Input At Low Frequency
- Forward Output At High Frequency
- Forward Output At Low Frequency
- Set-Up Level Input
- Set-Up Level Output
- Reverse Input At High Frequency
- Reverse Input At Low Frequency
- Reverse Output At High Frequency
- Reverse Output At Low Frequency
- Forward Equalizer
- Reverse Equalizer
- Forward Pad
- Reverse Pad
- Splice Code
- Power Supply Name
- Amplifier Voltage
- Powering Mode
- Flipped?
- Underground?
- Node Number
- Optical Hub Feed
- Optical Node Leg Feed
- Part Number
- Date Installed

Alternative Symbols:

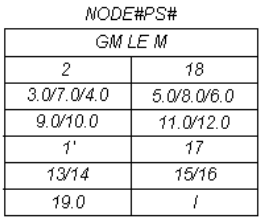


3. LINE EXTENDER

Object

Example

Drafted Example



Line Extender Attributes:

- Construction Status
- Specification
- Name
- Total Footage from Last Active/Split
- Cascade
- Forward Input At High Frequency
- Forward Input At Low Frequency
- Forward Output At High Frequency
- Forward Output At Low Frequency
- Set-Up Level Input
- Set-Up Level Output
- Reverse Input At High Frequency
- Reverse Input At Low Frequency
- Reverse Output At High Frequency
- Reverse Output At Low Frequency
- Forward Equalizer
- Reverse Equalizer
- Forward Pad
- Reverse Pad
- Splice Code
- Power Supply Name
- Amplifier Voltage
- Powering Mode
- Flipped?
- Underground?
- Node Number
- Optical Hub Feed
- Optical Node Leg Feed
- Part Number
- Date Installed

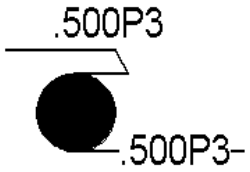
Note: Above - Labels "Input" and "Output" are only shown in example

Alternative Symbols:

13. Splitting Devices

1. 2-Way Splitter

Object Example Drafted Example

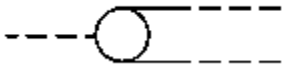


2-Way Splitter Attributes

- Construction Status
- Specification
- Flipped
- Part Number
- Date Installed

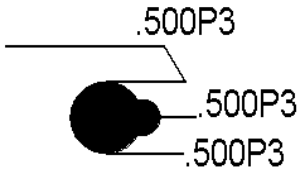
Internal Coupler - Cox

Alternative Symbols:



2. 3-Way Splitter

Object Example Drafted Example



3-Way Splitter Attributes

- Construction Status
- Specification
- Flipped
- Part Number
- Date Installed

Internal Coupler - Cox

Alternative Symbols:

3. Directional Coupler

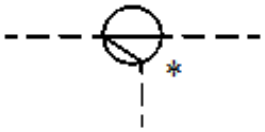
Object Example Drafted Example

* = Denotes value

Directional Coupler Attributes

- Construction Status
- Specification
- Flipped
- Part Number
- Date Installed

Alternative Symbols:



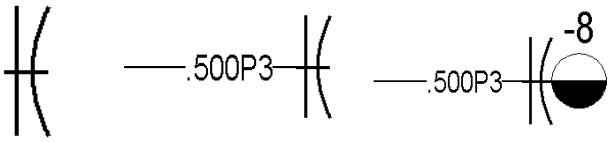
Internal Coupler - Cox

Notes:
Indoor drops splits may have additional user defined symbols

14. Powering Devices

1. Power Block

Object Example Drafted Example



Power Block Attributes

- Construction Status
- Specification

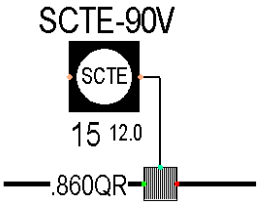
Alternative Symbols:

2. Power Inserter

Object

Example

Drafted Example



Power Inserter Attributes

- Construction Status
- Specification
- Flipped
- Part Number

Alternative Symbols:

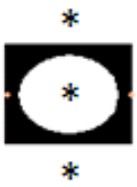
* = Optional user defined Attribute

3. SB Power Supply - With Housing

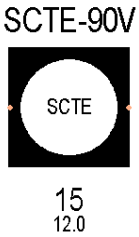
SB = StandBy

* = Optional Information:
Voltage, Current Load,
PS name, Status monitor

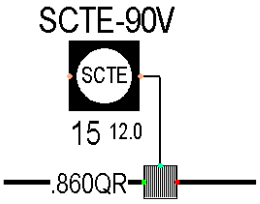
Object



Example



Drafted Example



Power Supply Module Attributes

- Construction Status
- Specification
- Name
- Total Current Draw
- StandBy
- Power Supply Batteries
- Electric Meter Number
- Top Hat
- Generator
- Transponder No.
- Account No.
- Power Co
- Underground
- Feeds Node #
- Part Number
- Date Installed

Power Supply Housing Attributes

- Construction Status
- Name
- Type
- Address
- Node Number
- Power Supply Position

Alternative Symbols:

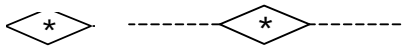
15. Line Devices

1. **IN-LINE EQUALIZERS**

Object Example Drafted Example

In-Line Equalizer Attributes:

- Construction Status
- Specification
- RC Value
- Bypass?
- Flipped?
- Part Number

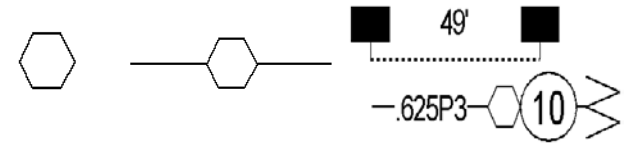


Alternative Symbols:

"*" = Optional User defined/Value

2. **COAXIAL SPLICE**

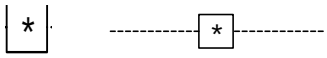
Object Example Drafted Example



Coaxial Splice Attributes:

- Construction Status
- Specification
- Part Number

Alternative Symbols:



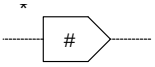
"*" = Optional User defined/Value

16. Subscriber Taps

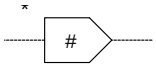
1. **1-Output Directional Tap**

Object

Example



Drafted Example



"#" = Represents value of tap

"*" = May be shown inside symbol. Represents value of pad, cable equalizer, addressable or telephony tap, or fiber color (optical tap). Indoor taps may have additional user defined symbols.

Tap Attributes:

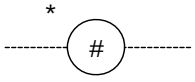
- Construction Status
- Specification
- Hot Tap?
- Part Number
- Power Passing

Alternative Symbols: NA

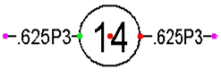
2. **2-Output Directional Tap**

Object

Example



Drafted Example



"#" = Represents value of tap

"*" = May be shown inside symbol. Represents value of pad, cable equalizer, addressable or telephony tap, or fiber color (optical tap). Indoor taps may have additional user defined symbols.

Tap Attributes:

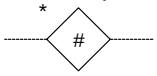
- Construction Status
- Specification
- Hot Tap?
- Part Number
- Power Passing

Alternative Symbols: NA

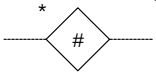
3. **3-Output Directional Tap**

Object

Example



Drafted Example



"#" = Represents value of tap

"*" = May be shown inside symbol. Represents value of pad, cable equalizer, addressable or telephony tap, or fiber color (optical tap). Indoor taps may have additional user defined symbols.

Tap Attributes:

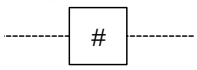
- Construction Status
- Specification
- Hot Tap?
- Part Number
- Power Passing

Alternative Symbols: NA

4. **4-Output Directional Tap**

Object

Example



Drafted Example

"#" = Represents value of tap

"*" = May be shown inside symbol. Represents value of pad, cable equalizer, addressable or telephony tap, or fiber color (optical tap). Indoor taps may have additional user defined symbols.

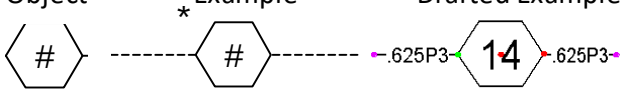
Tap Attributes:

- Construction Status
- Specification
- Hot Tap?
- Part Number
- Power Passing

Alternative Symbols: NA

5. **8-Output Directional Tap**

Object Example Drafted Example



"#" = Represents value of tap

"*" = May be shown inside symbol. Represents value of pad, cable equalizer, addressable or telephony tap, or fiber color (optical tap). Indoor taps may have additional user defined symbols.

Tap Attributes:

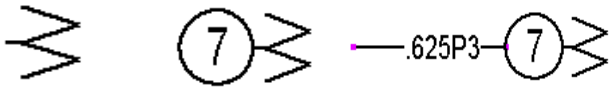
- Construction Status
- Specification
- Hot Tap?
- Part Number
- Power Passing

Alternative Symbols: NA

17. Line Terminators

1. **RF Terminator**

Object Example Drafted Example



Terminator Attributes:

- Construction Status

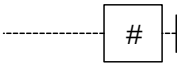
Alternative Symbols: NA

2. **Self Terminating Tap**

Object

Example

Drafted Example

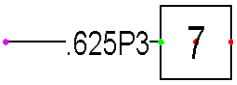


"#" = Represents value of tap

Self Terminating Tap Attributes:

- Construction Status

Alternative Symbols:

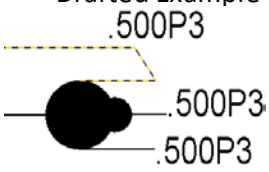


3. **Hot Dot/Hi-Leg**

Object

Example

Drafted Example



Hot Dot/Hi-Leg Attributes:

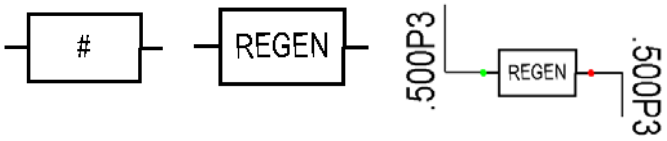
- Construction Status

Alternative Symbols:

4. **Channel Insertion**

"#" = User Defined Type

Object Example Drafted Example



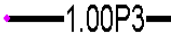
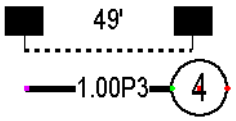
Channel Insertion Attributes:

- Channel Insertion Type = Inserter, Regen
- Construction Status
- Specification
- Customer Type = CB, Resi/Bulk
- Name
- Device Address
- Install Date
- Type
- Model Number
- Firmware Version
- Remote Access IP Address
- Cox Part Number
- Number of Analog Channels
- Number of Services
- Type of Services 1
- Type of Services 2
- Type of Services 3
- Type of Services 4
- Type of Services 5
- Type of Services 6
- Property Channel 1
- Property Channel 2
- Property Channel 3
- Property Channel 4
- Property Channel 5
- Property Channel 6
- RF Level In
- RF Level Out
- Physical Location within Building

Alternative Symbols: NA

18. Coaxial Cables

1. **1.000 INCH (25.4MM)**

Object	Example	Drafted Example
		

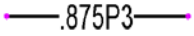
Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

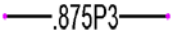
Alternative Symbols:

2. .875 **INCH (22.2MM)**

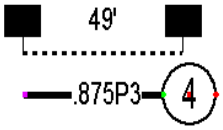
Object



Example



Drafted Example



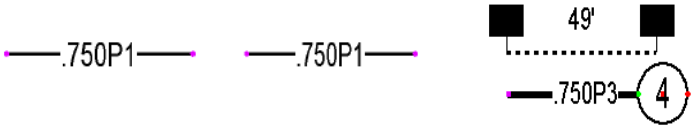
Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

Alternative Symbols:

3. .750 **INCH (19.1MM)**

Object Example Drafted Example

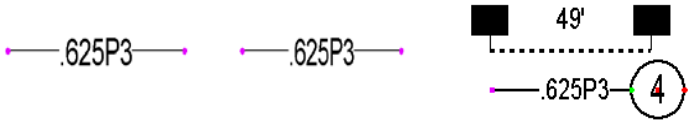


Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

Alternative Symbols:

4. .625 **INCH (15.9MM)** Object Example Drafted Example

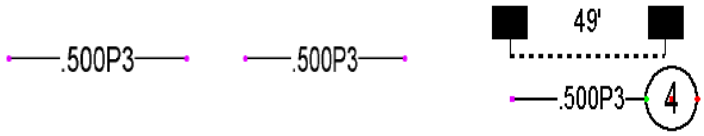


Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

Alternative Symbols:

5. .500 **INCH (12.7MM)** Object Example Drafted Example



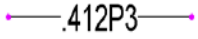
Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

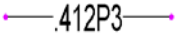
Alternative Symbols:

6. .412 **INCH (10.5MM)**

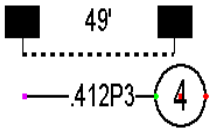
Object



Example



Drafted Example

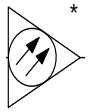
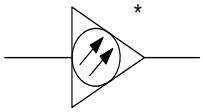


Note: Cox uses the Specification attribute to determine Type and Size:
Coaxial Cable Attributes:

- Construction Status
- Specification
- Measured Length
- Calculated Length
- Cable Category (From Lode Data Design)
- Cable Use (Power Feed, Status Monitor, Unknown)
- Auto Terminate? = True/False
- Cable Size
- Part Number
- Date Installed
- In Counduit?

Alternative Symbols:

19. Optical Devices

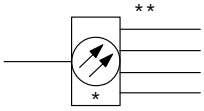
1. **Optical Amplifier**	Object	Example	Drafted Example
* = Indicates the gain (db)			

Optical Amplifier Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Aerial
- Underground
- Map Location
- Part Number

Alternative Symbols:

2. **Demultiplexer** Object Example Drafted Example



* = Indicates number of outputs

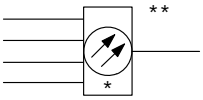
** = Optional user defined attributes

Demultiplexer Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Aerial
- Underground
- Map Location
- Part Number

Alternative Symbols:

3. **Multiplexer** Object Example Drafted Example



* = Indicates number of inputs

** = Optional user defined attributes

Multiplexer Attributes:

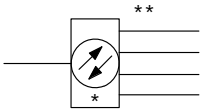
- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Aerial
- Underground
- Map Location
- Part Number

Alternative Symbols:

4. **Bi-Directional Mux/Demux**

Object

Example



Drafted Example

* = Indicates number of outputs

** = Optional user defined attributes

Bi-Directional Mux/Demux Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Aerial
- Underground
- Map Location
- Part Number

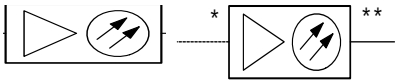
Alternative Symbols:

5. **Optical Transmitter**

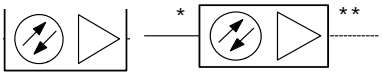
Object Example Drafted Example

* = Input RF level

** = Output Optical Power



Forward Only



Forward / Reverse

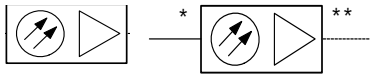
Optical Transmitter Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Aerial
- Underground
- Map Location
- Part Number

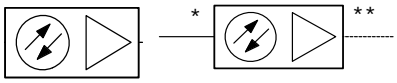
Alternative Symbols:

6. **Optical Node**

Object Example Drafted Example



Forward Only



Forward / Reverse

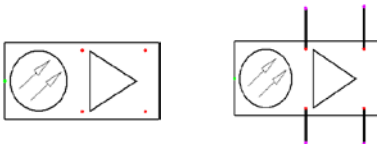
* = Input Optical Power

** = Output RF level

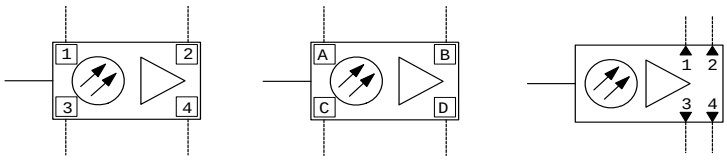
Optical Node Attributes:

- Construction Status
- Specification
- Node Number
- Address
- Power Supply Name
- Input Voltage
- Input Reverse High
- Input Reverse Low
- ITU Receiver Channel
- ITU Return Channel
- Recevier Wavelength
- Return Wavelength
- Primary Fiber/OTDR Footage
- Primary Fiber/Lightpath Footage
- Secondary Fiber/OTDR Footage
- Signal Forward High
- Signal Forward Low
- Underground = True/False
- Map Location
- Optical Hub Feed
- Part Number
- Position in Housing
- Date Installed

Alternative Symbols:

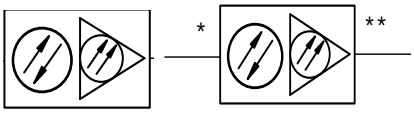


ex. Multiple RF Output Examples Showing Various Label Choices



7. Fiber Node

Object Example Drafted Example



Forward / Reverse

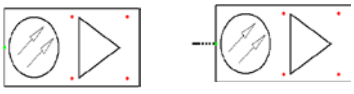
* = Input Optical Power

** = Output Optical Power

Fiber Node Attributes:

- Construction Status
- Specification
- Node Number
- Address
- Power Supply Name
- Input Voltage
- Input Reverse High
- Input Reverse Low
- ITU Receiver Channel
- ITU Return Channel
- Recevier Wavelength
- Return Wavelength
- Primary Fiber/OTDR Footage
- Primary Fiber/Lightpath Footage
- Secondary Fiber/OTDR Footage
- Signal Forward High
- Signal Forward Low
- Underground = True/False
- Map Location
- Optical Hub Feed
- Part Number
- Position in Housing
- Date Installed

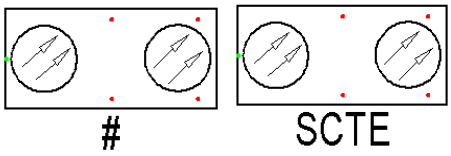
Alternative Symbols:



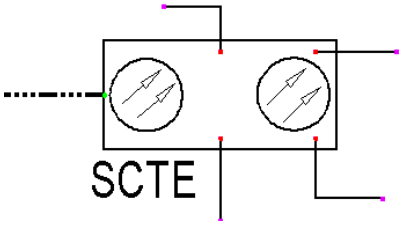
8. RFoG Node

Object Example

= User Defined Name



Drafted Example



RFoG Node Attributes:

- Construction Status
- Specification
- Node Number
- Type = RFoG, EDFA
- Power Supply Name
- Address
- Input Voltage
- Primary Fiber/OTDR Footage
- Primary Fiber/LightPath Footage
- Secondary Fiber/OTDR Footage
- Receiver Wavelength
- Return Wavelength
- ITU Receiver Channel
- ITU Return Channel
- Optical Hub Feed
- Map Location
- Underground? = True/False
- Position in Housing
- Part Number
- Date Installed

Alternative Symbols:

20. Optical Splice Symbols

1. **2 - Way Splice**	Object	Example	Drafted Example
			

2 Way Splice Attributes:

- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

Suggested Attributes

- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

Alternative Symbols: 

2. **3 - Way Splice**

Object 

Example 

Drafted Example 

3 Way Splice Attributes:

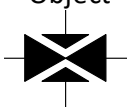
- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

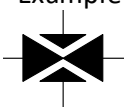
Suggested Attributes

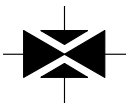
- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

Alternative Symbols: 

3. 4 - **Way Splice**

Object 

Example 

Drafted Example 

- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

Suggested Attributes

- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

Alternative Symbols: 

4. >4 - **Way Splice**

Object 

Example 

Drafted Example 

>4 - Way Splice Attributes:

- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

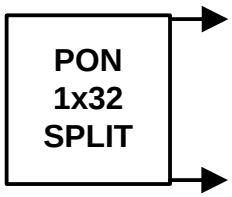
Suggested Attributes

- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

Alternative Symbols: 

5. **PON 32 Way Optical Splice** Object Example Drafted Example

1x32 Split



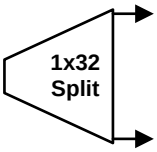
PON 1x32 Splitter

- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

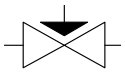
Suggested Attributes

- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

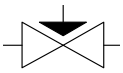
Alternative Symbols:



6. **Mid Entry Splice / Ring Cut**

Object 

Example 

Drafted Example 

Mid Entry Splice/Ring Cut Attributes:

- Construction Status
- Name
- Specification
- Function
- Address
- Part Number

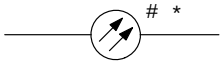
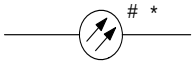
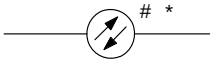
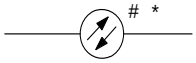
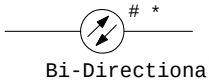
Suggested Attributes

- Grounding Method
- Internal/External
- Leased
- Notes
- Aerial
- Underground
- Map Location

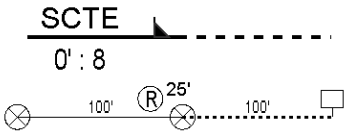
Alternative Symbols: 

21. Miscellaneous Optical Symbols

1. **Optical Fiber Cable**

Object	Example	Drafted Example
		
Uni-Directional	Uni-Directional	Uni-Directional
		
Bi-Directional	Bi-Directional	Bi-Directional

* Denotes User define attributes



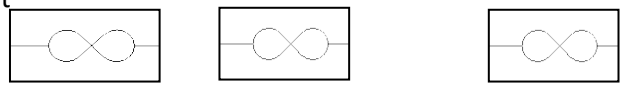
Optical Fiber Cable Attributes:

- Construction Status
- Specification
- Sheath ID
- Tethered = True/False
- Tethered Specification = OCC value
- Company Owned? Example Cox Owned = True
- Jumper Type = Connectorized/Non-Connectorized
- Jumper Length
- Sheath Length
- Measured Fiber Length
- Measure Length (Feet)
- Calculated Length
- Aerial Footage
- Underground Footage
- Riser Footage
- Notes
- Part Number
- Date Installed
- In Conduit?

Alternative Symbols:

2. **Optical Storage Loop** Object Example Drafted Example

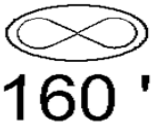
Alternat name = Fiber Figure Eight



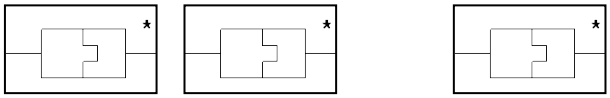
Optical Storage Loop Attributes:

- Construction Status
- Length
- Type

Alternative Symbols:



3. **Connector** Object Example Drafted Example



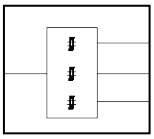
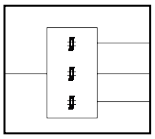
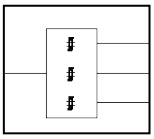
Connector Attributes:

- Construction Status
- Specification
- Aerial/UG
- In Conduit
- Owner
- Jumper Type
- Jumper Length
- Sheath Length
- Measured Fiber Length
- Aerial Ftg.
- Underground Ftg.
- Notes
- Part Number

Alternative Symbols:

* Denotes connector Type

4. **Splitter**

Object	Example	Drafted Example
		

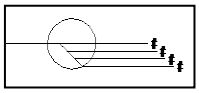
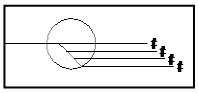
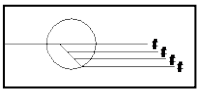
Splitter Attributes:

- Construction Status
- Specification
- Aerial/UG
- In Conduit
- Owner
- Jumper Type
- Jumper Length
- Sheath Length
- Measured Fiber Length
- Aerial Ftg.
- Underground Ftg.
- Notes
- Part Number

Alternative Symbols:
# Denotes Percentage or dB loss

5. **Alternate** Object Example Drafted Example

# Denotes = ?

Alternate Attributes:

- Construction Status
- Specification
- Aerial/UG
- In Conduit
- Owner
- Jumper Type
- Jumper Length
- Sheath Length
- Measured Fiber Length
- Aerial Ftg.
- Underground Ftg.
- Notes
- Part Number

Alternative Symbols:

6. **Fiber Sheath Transition** Object Example Drafted Example

Transition Marker



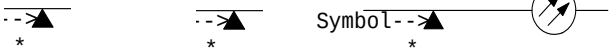
* Indicates footage stamp number

Fiber Sheath Transition Attributes:

- Transition Type = Aerial-> Underground / Underground->Aerial

Alternative Symbols:

7. **Fiber Footage/Seq.Marker** Object Example Drafted Example



* Indicates footage stamp number

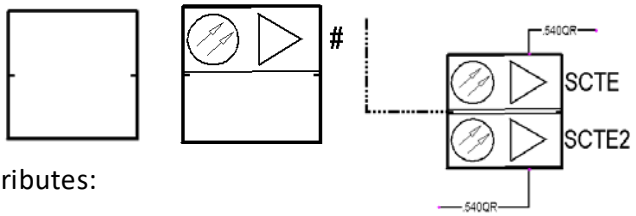
Fiber Footage/Sequential Marker Attributes:

- NA

Alternative Symbols:

8. **Dual Segmented Node Housing** Object Example Drafted Example

= Node Name



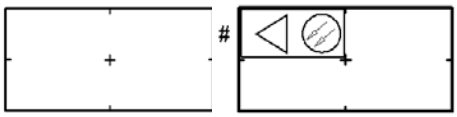
Dual Segmented Node Housing Attributes:

- Node A
- Node B

Alternative Symbols:

9. **Quad Segmented Node Housing** Object Example

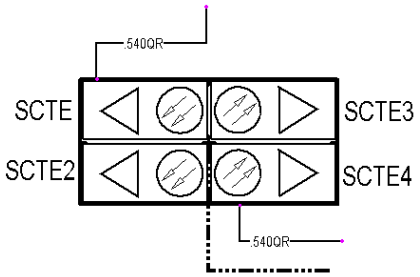
= User defined Name



Drafted Example

Dual Segmented Node Housing Attributes:

- Node A
- Node B
- Node C
- Node D



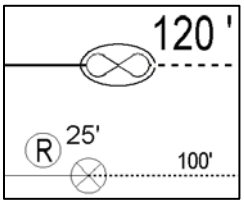
Alternative Symbols:

10. **FootStamp**

Object

Example

Drafted Example



FootStamp Attributes

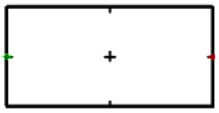
- Marker Value

Alternative Symbols:

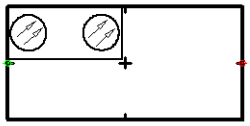
Note: Footstamps Are on either side of Fiber Figure Eight Slack Loop object

11. **Optical Cabinet**

Obiect



Example

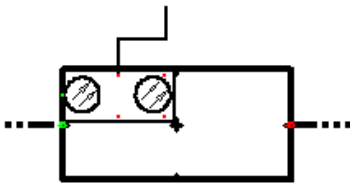


Optical Cabinet Attributes

- Name
- Specification
- Type = RFoG Housing / Remote RFoG Cab
- Address
- RFoG Node Position
- Date Installed

Alternative Symbols:

Drafted Example



12. **Optical Cross Connect**

Object | Example | Drafted Example

* = Tap Value
# = User defined Name

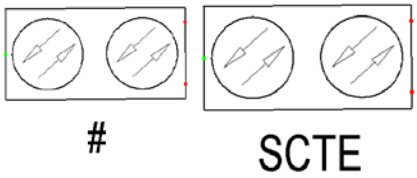
Optical Cross Connect Attributes

- Construction Status
- Specification
- Name
- Notes
- Address
- Grounding Method = Bond, Ground Rod..
- Map Location
- Underground? = True/False
- Flipped? = True/False
- Cox Part Number
- Part Number

Alternative Symbols:

13. **Optical Housing**

Object | Example

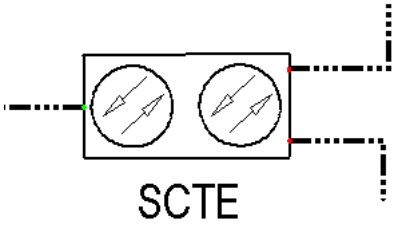


= User defined Name

Optical Housing Attributes

- Construction Status
- Specification
- Node Number
- Name
- Address
- Power Supply Name
- Input Voltage
- Power Mode
- Location Number
- Underground?
- Map Location
- Part Number
- Date Installed

Drafted Example



Alternative Symbols:

14. **OTN Mini Bay**

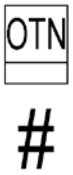
= User defined Name

Optical Housing Attributes

- Construction Status
- Specification
- Name
- Address
- Notes
- CLLI

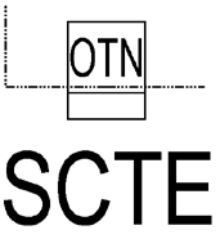
Alternative Symbols:

Object



Example

Drafted Example



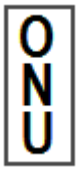
15. **ONU (Optical Network Unit)**

Optical Housing Attributes

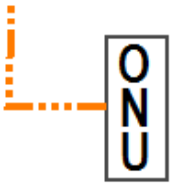
- Construction Status
- Specification
- Name
- Address
- Notes
- CLLI

Alternative Symbols:

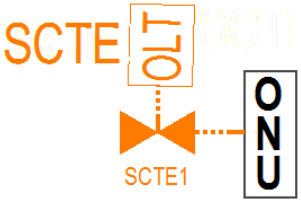
Object



Example



Drafted Example

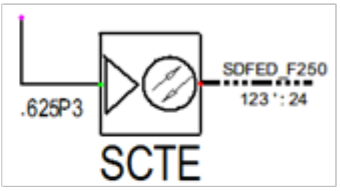


16. RF Optical RX/TX

Object

Example

Drafted Example



RF Optical RX/TX Attributes:

- Construction Status
- Specification
- Name
- Total From Last Active
- Cascade
- Forward Input At High Frequency
- Forward Input At Low Frequency
- Optical RX Input
- Optical TX Output
- Set-Up Level Input
- Set-Up Level Output
- Reverse Output At High Frequency
- Reverse Output At Low Frequency
- Forward Pad
- Reverse Pad
- Power Supply Name
- Voltage
- Power Mode
- Underground? = True/False
- Node Number
- Part Number (Company Part Number)
- Date Installed

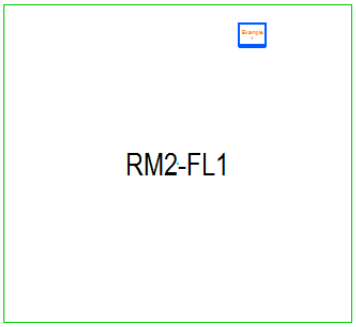
Alternative Symbols:

22. Rack Mounted Equipment (RME) Symbols

1. **BAY**

Object

Example



Drafted Example

Bay Attributes:

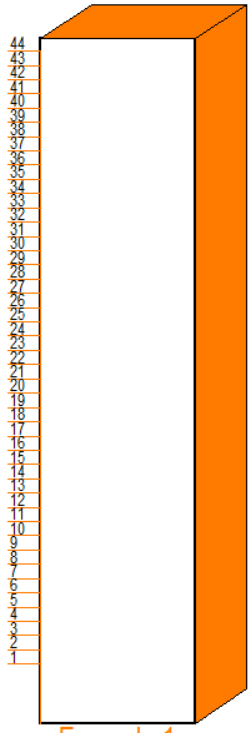
- Construction Status
- Specification
- Description
- Number
- Account Code
- Installed Cost
- Date Installed
- Installer Name
- Barcode Number
- Serial Number
- Acceptance Date
- Acceptance Name

Alternative Symbols:

2. **Rack** Object Example Drafted Example

Rack Attributes:

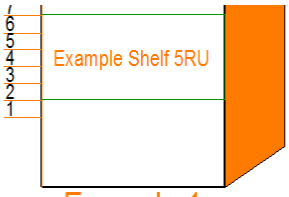
- Construction Status
- Specification
- Description
- Number
- Account Code
- Installed Cost
- Date Installed
- Installer Name
- Barcode Number
- Serial Number
- Acceptance Date
- Acceptance Name



Example 1
Room (2, Commercial)

Alternative Symbols:

3. **Shelf** Object Example Drafted Example



Example 1
Room (RM2-FL1, Commercial)

Shelf Attributes:

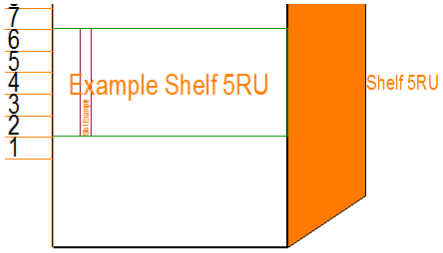
- Construction Status
- Specification
- Description
- NE Name
- ENID Name
- Date Installed
- Installer Name
- Firmware Version
- Software Version
- Barcode Number
- Serial Number
- Acceptance Date
- Acceptance Name
- Account Code
- Installed Cost

Alternative Symbols:

4. **Slot**

Object

Example



Example 1
Room (RM2-FL1, Commercial)

Drafted Example

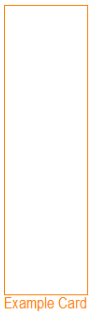
Slot Attributes:

- Description
- Construction Status
- Account Code
- Installed Cost
- Date Installed
- Installer Name
- Barcode Number
- Serial Number
- Acceptance Date
- Acceptance Name

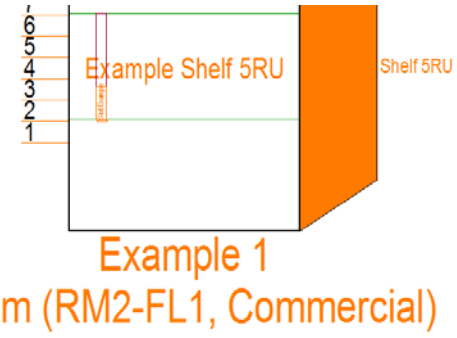
Alternative Symbols:

5. **Card**

Object



Example



Drafted Example

Card Attributes:

- Construction Status
- Specification
- Description
- NE Name
- ENID Name
- Account Code
- Installed Cost
- Date Installed
- Installer Name
- Firmware Version
- Software Version
- Barcode Number
- Serial Number
- Acceptance Date
- Acceptance Name
- ITU Receiver Channel
- ITU Return Channel
- Optical Input Signal

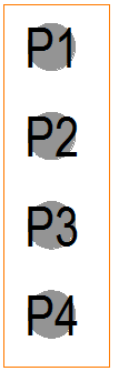
Example Cox Owned = True

Alternative Symbols:

6. **Port**

Object

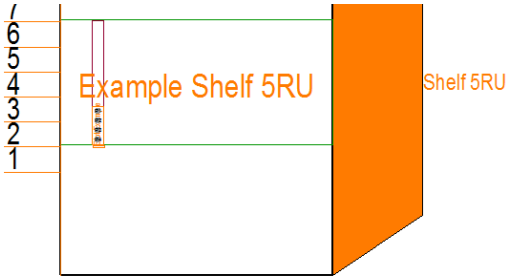
Example



Port Attributes:

- Specification
- Description
- Sort Order
- Type or Use — e.g. 1GIG, CB, Micro Node, WiFi, AC Current, Signal..
- Service Level — e.g. Fiber, Powering, Coaxial, Undefined, Copper
- Physical Status — e.g. In Service, Faulty, Reserved, Spare
- Connector Type — e.g. SC, APC, BNC, UPC, etc….
- Name

Drafted Example



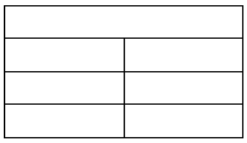
Example 1
Room (RM2-FL1, Commercial)

Alternative Symbols:

23. Amp Datablocks

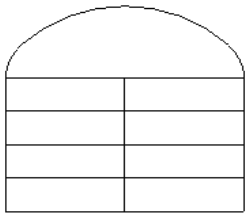
1. **Data Blocks** Object Example Drafted Example

Suggested Styles

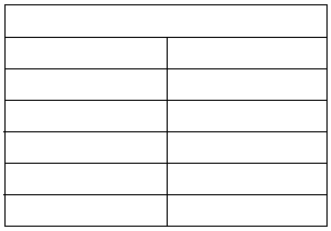


Data Block Attributes:

- Name
- Amplifier Model
- Cascade
- Power Supply Number
- Forward Input at High Frequency
- Forward Input at Low Frequency
- Forward Output at High Frequency
- Forward Output at Low Frequency
- Set-Up Level Input
- Set-Up Level Output
- Reverse Input at High Frequency
- Reverse Input at Low Frequency
- Reverse Output at High Frequency
- Reverse output at Low Frequency
- Total Footage from Last Active
- Splice Code
- Forward Equalizer
- Reverse Equalizer
- Forward Pad
- Reverse Pad
- Amplifier Voltage
- Powering Mode



Alternative Symbols:

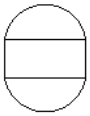


End of Line Datablocks

1. **End of Line Data Blocks**

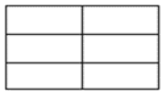
Suggested Styles

End of Line DataBlock Attributes:



- Footage to Last Active
- High Forward Tap Output
- Low Forward Tap Output
- High Return Tap Input - Drop Side
- Low Return Tap Input - Drop Side
- Set Up Level Output
- High Toal Cable Loss to Last Avtive
- High Digital Signal
- High Analog Signal
- Low Analog Signal
- AC Voltage

Alternative Symbols:

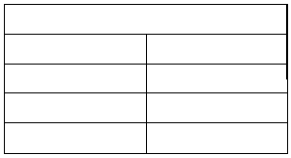


WiFi Datablocks

1. **WiFi Data Blocks**

Suggested Styles

WiFi DataBlock Attributes:



- Name
- Voltage
- Forward Input at High Frequency
- Set-Up Level Input
- Forward Input at Low Frequency
- Forward Pad
- Reverse Pad

Alternative Symbols:

Terminal Access Datablocks

1. **Terminal Access Data Blocks**

Suggested Styles

Terminal Access DataBlock Attributes:

- Name
- Voltage
- Forward Input at High Frequency
- Set-Up Level Input
- Forward Input at Low Frequency
- Forward Pad
- Reverse Pad

Alternative Symbols:

16. RF Optical RX/TX Datablock Object Example Drafted Example

RF Optical RX/TX Datablock Attributes:

- Name
- Model
- Cascade
- Total Footage From Last Active
- Power Supply Name
- Forward Input At High Frequency
- Forward Input At Low Frequency
- Optical RX Input
- Optical TX Output
- Set-Up Level Input
- Set-Up Level Output
- Reverse Output At High Frequency
- Reverse Output At Low Frequency
- Forward Pad
- Reverse Pad
- Voltage
- Power Mode

Suggested Styles

Alternative Symbols:

Alternative Symbols:

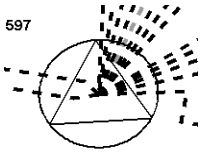
24. Signal Processing Locations

1. **Headend**	Object	Example	Drafted Example
			

Headend Attributes:

- Construction Status
- Type
- Name
- Hub Code
- Address
- Use
- State
- Latitude
- Longitude
- CLLI
- Notes
- Map Location

Alternative Symbols: NA

2. **Primary Hub**	Object	Example	Drafted Example
			

"*" = Optional User Defined Attributes

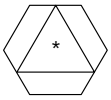
Primary Hub Attributes:

- Construction Status
- Type
- Name
- Hub Code
- Address
- Use
- State
- Latitude
- Longitude
- CLLI
- Notes
- Map Location

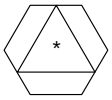
Alternative Symbols: NA

3. **Secondary Hub**

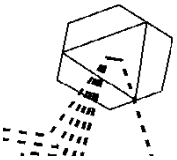
Object



Example



Drafted Example



"*" = Optional User Defined Attributes

Secondary Hub Attributes:

- Construction Status
- Type
- Name
- Hub Code
- Address
- Use
- State
- Latitude
- Longitude
- CLLI
- Notes
- Map Location

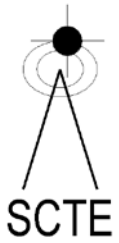
Alternative Symbols: NA

4. **Tower**

Object

Example

Drafted Example



"#" = User Defined Name

Tower Attributes:

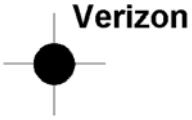
- Construction Status
- Specification
- Name
- Owner
- Address
- Date Installed
- Notes
- Latitude
- Longitude

Alternative Symbols: NA

5. **Microwave Antenna**

Object

Example



Drafted Example

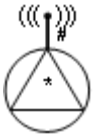
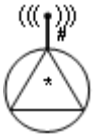
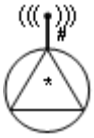
"#" = User Defined Name

Microwave Antenna Attributes:

- Construction Status
- Specification
- Name
- CLLI
- Owner
- Notes

Alternative Symbols: NA

25. Wireless Devices

1. **Omni-Directional Wireless Hub**	Object	Example	Drafted Example
			

Omni-Directional Wireless Hub Attributes:

- Construction Status
- Specification
- Name
- Location Type
- Indoor/Outdoor
- Address
- MAC Address Modem
- MAC Address Wireless
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude

Alternative Symbols: NA

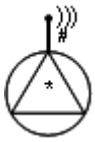
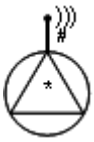
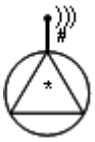
* Optional user defined attributes (e.g. polarization; modulation type

# Denotes Over the air frequency (e.g. 5.8GHz)

) = Range < 150m (~55ft.) (e.g. WiFi hotspot)

)) = Range between 150m and 3km inclusive (~500ft. And ~2mi.)
(e.g. wireless plant extension)

))) = Range > 3km (~2mi.) (e.g. long range microwave)

2. **Directional Wireless Hub**	Object	Example	Drafted Example
			

Directional Wireless Hub Attributes:

- Construction Status
- Specification
- Name
- Location Type
- Indoor/Outdoor
- Address
- MAC Address Modem
- MAC Address Wireless
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude

Alternative Symbols: NA

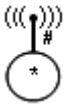
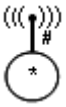
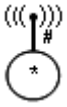
* Optional user defined attributes (e.g. polarization; modulation type

# Denotes Over the air frequency (e.g. 5.8GHz)

) = Range < 150m (~55ft.) (e.g. WiFi hotspot)

)) = Range between 150m and 3km inclusive (~500ft. And ~2mi.)
(e.g. wireless plant extension)

))) = Range > 3km (~2mi.) (e.g. long range microwave)

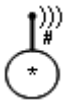
3. **Omni-Directional Customer Premises Equipment (CPE)**	Object	Example	Drafted Example
			

Omni-Directional Customer Premises Equipment (CPE) Attributes:

- Construction Status
- Specification
- Name
- Location Type
- Indoor/Outdoor
- Address
- MAC Address Modem
- MAC Address Wireless
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude

Alternative Symbols: 

* Optional user defined attributes (e.g. polarization; modulation type
# Denotes Over the air frequency (e.g. 5.8GHz)
) = Range < 150m (~55ft.) (e.g. WiFi hotspot)
)) = Range between 150m and 3km inclusive (~500ft. And ~2mi.)
(e.g. wireless plant extension)
))) = Range > 3km (~2mi.) (e.g. long range microwave)

4. **Directional Customer Premise Equipment (CPE)**	Object	Example	Drafted Example
* Denotes =			

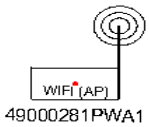
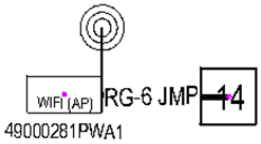
Directional Customer Premises Equipment (CPE) Attributes:

- Construction Status
- Specification
- Name
- Location Type
- Indoor/Outdoor
- Address
- MAC Address Modem
- MAC Address Wireless
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude

Alternative Symbols:

* Optional user defined attributes (e.g. polarization; modulation type
# Denotes Over the air frequency (e.g. 5.8GHz)
) = Range < 150m (~55ft.) (e.g. WiFi hotspot)
)) = Range between 150m and 3km inclusive (~500ft. And ~2mi.)
(e.g. wireless plant extension)
))) = Range > 3km (~2mi.) (e.g. long range microwave)

5. **Wireless Access Point**

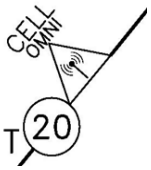
Object	Example	Drafted Example
		

WiFi Name

Wireless Access Point Attributes:

- Construction Status
- Specification
- Fiber Feeds WiFi ?
- Name
- Location Type
- Location Category
- Mount Type
- Indoor?
- Forward Input at High Frequency
- Forward Input at Low Frequency
- Set-Up Level Input
- Forward Pad
- Reverse Pad
- Power Supply Name
- Voltage
- Primary Street
- Primary Address
- MAC Address (Modem)
- MAC Address (Wireless)
- Root AP Name
- Access Point
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude
- CLLI
- WSL?
- Date Installed

Alternative Symbols:



26. FTTX Symbols

1. **Central Office Node** (CDT-Central Digital Terminal)

Object  Example  Drafted Example 

Central Office Node Attributes:

- Construction Status
- Specification
- Type
- Name
- Address
- Use

Alternative Symbols: 

2. **Main Transition Splice Closure** (Transition To PONS)

Object  Example  Drafted Example 

Main Transition Splice Closure Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Internal?
- Leased?
- Notes
- Useable?
- Owner
- Aerial/Underground
- Location
- Part Number

Alternative Symbols: 

3. **Branch Splice Closure**	Object	Example	Drafted Example
			

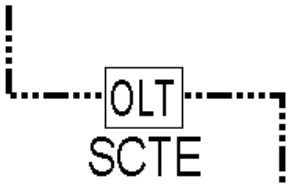
Branch Splice Closure Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Internal?
- Leased?
- Notes
- Useable?
- Owner
- Aerial/Underground
- Location
- Part Number

Alternative Symbols: 

4. **Optical Line Terminal (OLT)** Object Example Drafted Example

Remote Digital Terminal (RDT)



Optical Line Terminal Attributes:

- Construction Status
- Specification
- OLT Name
- ODN Name 1
- ODN Name 2
- Service Type Example Resi, CB Only, Resi/CB
- Address
- Notes
- Channel Insertion?
- CLLI
- Primary Fiber/OTDR Footage
- Scondary Fiber/OTDR Footage
- Date Installed

Alternative Symbols:

Cox Uses a container and builds RME

RME = Rack Mounted Equipment

5. **Network Access Point** Object Example Drafted Example

(NAP) Aerial

Network Access Point Attributes:

- Construction Status
- Specification
- Type
- Name
- Address
- Use

Alternative Symbols:

* = Optical Coupler Value

6. **Network Access Point** (NAP) Aerial	Object	Example	Drafted Example
			

Network Access Point Attributes:

- Construction Status
- Specification
- Type
- Name
- Address
- Use

Alternative Symbols: 

* = Optical Coupler Value

6. **Network Access Point** (NAP) Aerial	Object	Example	Drafted Example
			

Network Access Point Attributes:

- Construction Status
- Specification
- Type
- Name
- Address
- Use

Alternative Symbols: 

* = Optical Coupler Value

7. **Passive Optical Network (PON)** Object Example Drafted Example

Local Convergence Point (LCP)

Passive Optical Network Attributes:

- Construction Status
- Specification
- Type
- Name
- Address
- Use

Alternative Symbols: NA

* = Service Size

** = Coupler Configuration

9. ODN **(PON)** Object Example Drafted Example

Optical Distribution Network

Passive Optical Network Attributes:

- Construction Status
- Specification
- ODN Name
- Addres
- Notes
- Channel Insertion?
- CLLI
- Primary Fiber/OTDR Footage
- Scondary Fiber/OTDR Footage
- Date Installed

Alternative Symbols:

8. **Network Interface Device**	Object	Example	Drafted Example
Optical Network Unit Optical Network Terminal			

Network Interface Device Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Owner
- Location
- Part Number

Alternative Symbols:

9. **Network Interface Device**	Object	Example	Drafted Example
Optical Network Unit Optical Network Terminal			

Network Interface Device Attributes:

- Construction Status
- Specification
- Name
- Address
- Grounding Method
- Notes
- Owner
- Location
- Part Number

Alternative Symbols:

10. Optical Terminal Enclosure

OTE

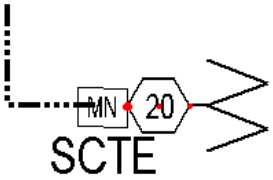
= Denotes - MN or 1x8

* = Denotes User Defined Text

Object

Example

Drafted Example



Optical Terminal Enclosure Attributes:

- Name
- Construction Status
- Specification
- Type = MN (MicroNode), 1x8
- Account Code
- Installed Cost
- Notes
- Map Location
- Address
- Part Number

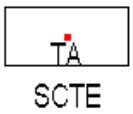
Alternative Symbols:

11. **Terminal Access**

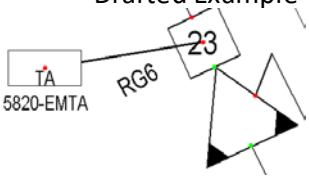
"#" = User Defined Name

Object

Example



Drafted Example



Network Interface Device Attributes:

- Construction Status
- Specification
- Name
- Location Type
- Location Category
- Forward Input at High Frequency
- Forward Input at Low Frequency
- Set-Up Level Input
- Forward Pad
- Reverse Pad
- Power Supply Name
- Voltage
- Primary Street
- PrimaryAddress
- MAC Address Modem
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude
- CLLI

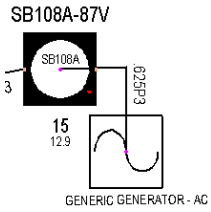
Alternative Symbols:

27. Miscellaneous

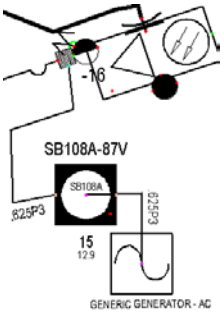
1. **Generator**

Object

Example



Drafted Example



Generator Attributes:

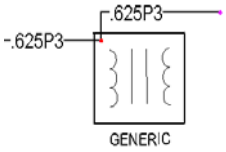
- Construction Status
- Specification
- Address
- Fuel Provider
- Fuel Source
- Output Type
- Wattage Capacity
- Date Installed

Alternative Symbols: NA

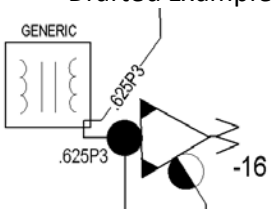
2. **Power Booster**

Object

Example



Drafted Example



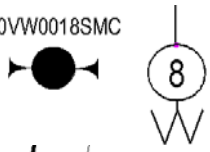
Power Booster Attributes:

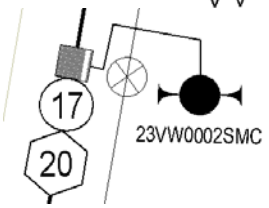
- Construction Status
- Specification

Alternative Symbols: NA

3. **Small Cell**

Object	Example	Drafted Examples
#	20VW0018SMC	20VW0018SMC





Defined Naming standard

Small Cell Attributes:

- Construction Status
- Specification
- Name
- Modem/Router?
- Frequency
- Radio Mount Type
- Backhaul
- Antenna 1
- Antenna 1 Mount Type
- Antenna Drop Cable Type
- Antenna Drop Splitter
- Antenna 2
- Antenna 2 Mount Type
- Antenna 3
- Antenna 3 Mount Type
- Customer
- Customer Site Name
- Delivery
- Owner
- Power Transformer?
- GPS Tracker?
- Power Source
- Power Supply Name
- Input Voltage
- Primary Address
- Primary Street
- City
- State
- Zip Code
- Node Number
- Latitude
- Longitude
- Indoor?
- CLLI

Alternative Symbols: NA