A E R I A L Fiber Distribution Hub

Installation Instructions
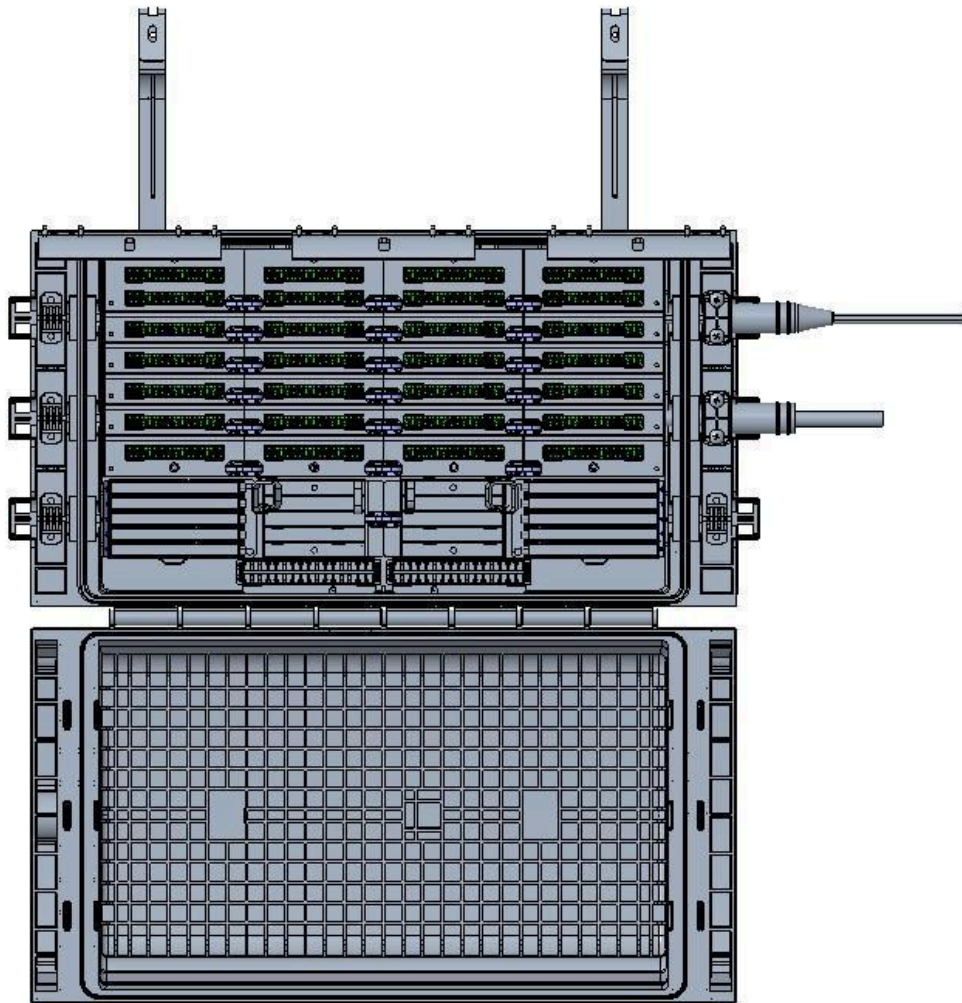
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Product Description/Overview

STL's Aerial FDH (Fiber Distribution Hub) is a critical component in fiber FTTH (Fiber to the Home) PON deployments. It acts as a central point for connecting and distributing fiber optic cables, containing optical splitters. The Aerial FDH facilitates the connection between feeder and distribution cables, enabling the delivery of high-speed internet and other services to homes and businesses. Service connections, reconfigurations and testing in the outside plant network are greatly simplified and faster. Designed for those applications where mounting to the pole is prohibitive and ground mount cabinets are not possible, STL's Aerial FDH uses an offset bracket which mounts directly on the messenger strand allowing the FDH to hang below lashed telecommunications cabling. By attaching to the strand, many permitting restrictions can be avoided as well as gaining increased security vs. traditional ground mount cabinets. The Aerial FDH may be used in both centralized and distributed split architectures.

Features:

- Equipped with 100-foot IBR (Intermittently Bonded Ribbon) factory terminated and tested feeder and distribution cables for simplified field installation. 12, 24 or 48 fiber feeder cable options.
- Available in either 144 or 288 output distribution ports.
- 10 splitter slots available.
  a. 1x16, 1x32 or 1x64 splitters may be used
- Splitters are either factory installed based on customer specifications or installed by customer as needed.
- Intuitive fiber routing paths with bend radius protection.
- Slack storage.
- A2 bend insensitive fiber is used on all splitter tails (1.2mm).
- Integrated parking lot feature for up to 64 fibers.
- Molded IP55 hinged case.
- Dimension – [21" X 11" X 8"] 540 x 288 x 205mm
- LC connections with pull tabs.

Technical Specifications

Dimensions	21" x 11" x 8" (540 x 288 x 205)
Weight	~20lbs (9kg)
Feeder Ports	12-48
Distribution Ports	96-288
Cable Entrances	6
Mounting Options	Aerial, Pedestal
Splitter Slots	10
Connector Types	LC/APC
Cable Types	12-48F IBR Flat, 96-288 IBR Round

Components
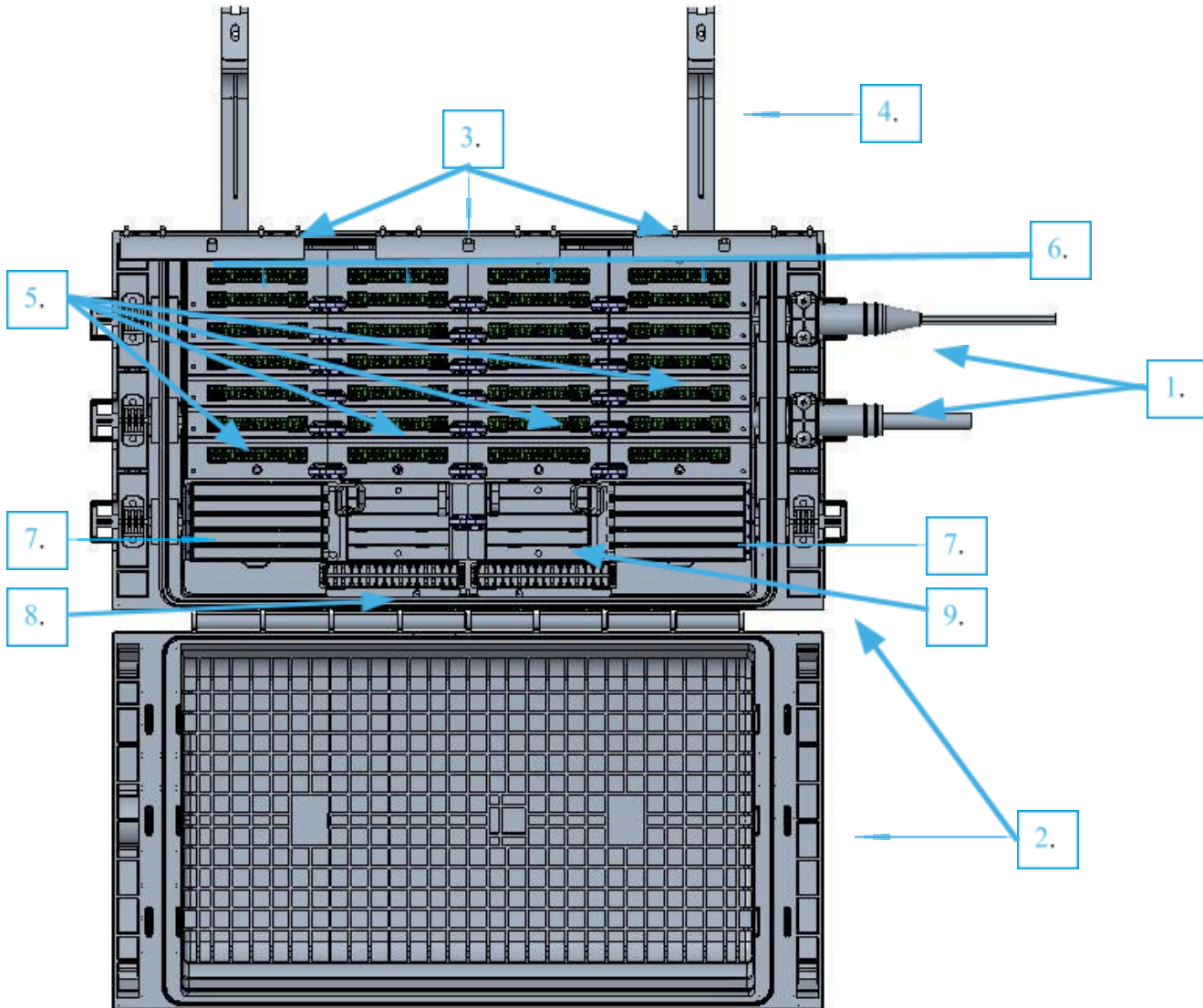
1. Fiber Feeder and Distribution Cables
2. Closure Base and Lid
3. Clasps for Sealing Closure
4. Aerial Strand Mount Bracket
5. FDH Distribution Ports
6. FDH Feeder Ports
7. Splitter Slots
8. Parking Lot
9. Splitter Pigtail Storage

Aerial Strand Mounting

The Aerial FDH is designed for easy installation to the messenger strand. Secure the aerial mount bracket to the back of the base of the closure with 4 provided screws. The brackets have a slotted opening allowing for height adjustment in relation to the strand.
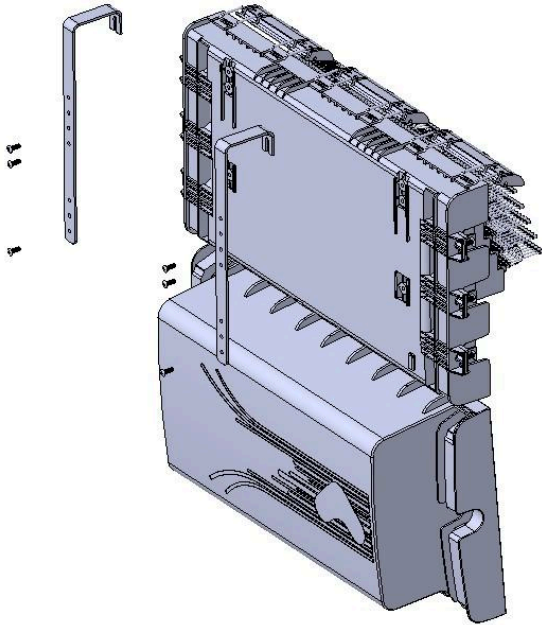
Loosen the outer nut on the bug nut and position on the messenger strand. Secure to the strand by tightening the outer nut with a can wrench or socket wrench.

Feeder and Distribution Cables

Feeder cables are available with either a 12, 24 or 48-fiber IBR (intermittently bonded ribbon) all dielectric fiber optic cable or Loose Buffer Tube (LBT) style cable. The standard length for both the Feeder and Distribution cables is 100-feet and will enter the FDH on the right-hand side as shown in the Components diagram.

Both Feeder and Distribution cables are factory spliced to the Feeder and Distribution ports (see Component layout diagram).

Feeder and Distribution cables are to be spliced in a splice case per industry standard and specific manufacturer guidelines for the splice case being used.

Opening and Closing

STL's Aerial FDH is equipped with 3 latches for securing the lid to the base of the closure.

To open, simply release the latches and allow the lid to swing down gently. Reverse for closing.

Labeling
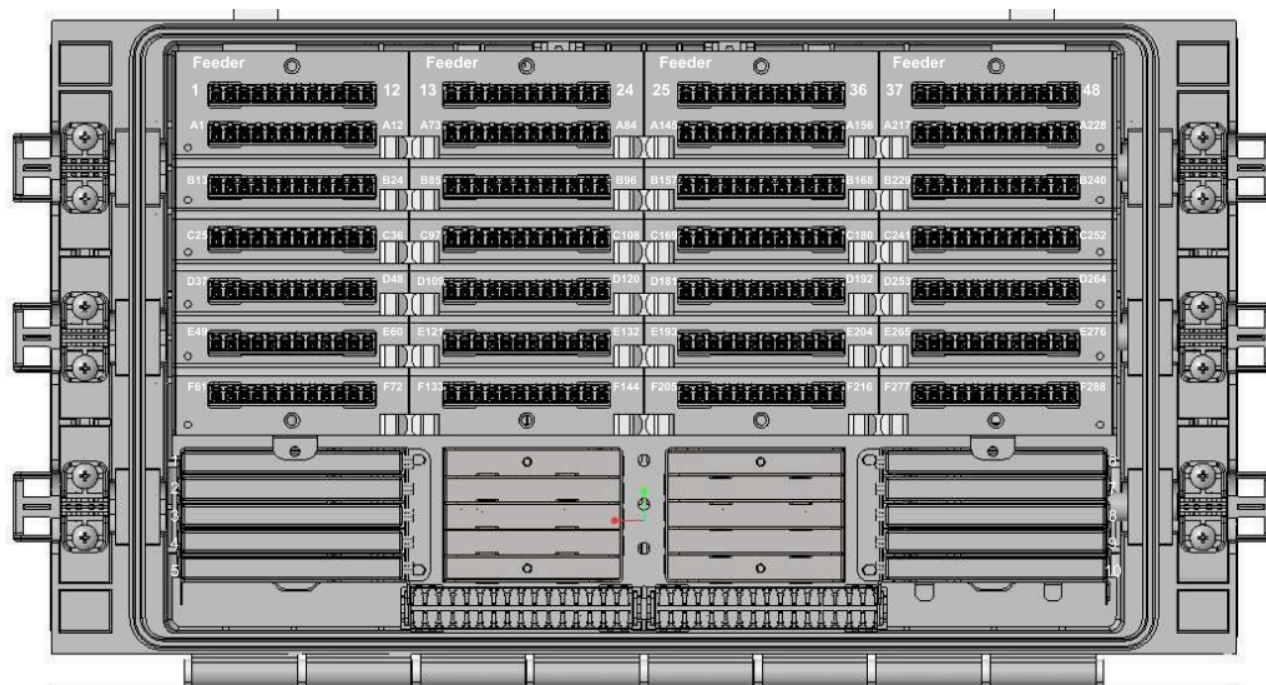
Diagram above shows the FDH as it would hang on the strand.

The top row of LC adapters in labeled 1–48 for the Feeder ports. The number of active feeder ports is determined by the Feeder fiber count chosen, 12, 24 or 48.

Below the Feeder ports are the Distribution ports labeled either 1– 144 or 1-288 depending on which version of the Aerial FDH is being deployed.

Splitter slots are found on the bottom left and right of the closure with slots 1-5 on the left and 6-10 on the right. It is recommended to start with the first splitter installed in slot 1.

Splitter Installation

10 splitter slots are available in the Aerial FDH. 1X32 Splitter outputs comprised of 1.2mm cordage come connected to a parking lot for easy storage within the closure. There are parking slots for 2 splitters (1X32). Single red fiber indicates the splitter input. All output fibers are individually labeled. It is recommended to install the first splitter in slot #1, second splitter in slot #6, third splitter in slot #2. Continue populating in this manner working left to right and top to bottom.
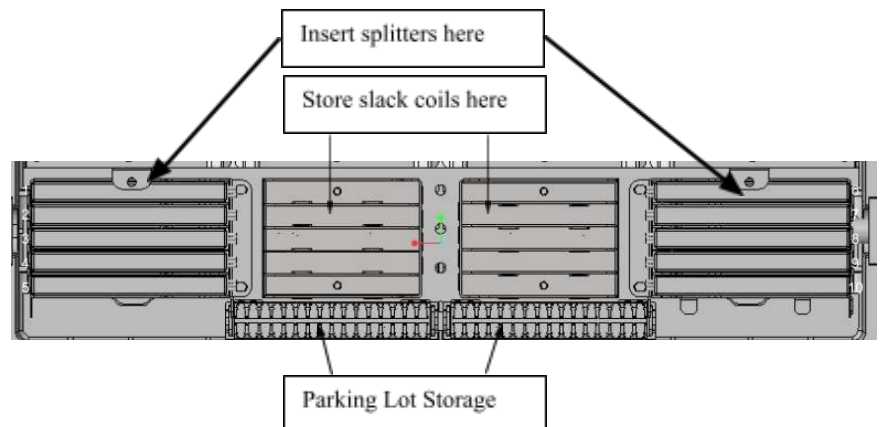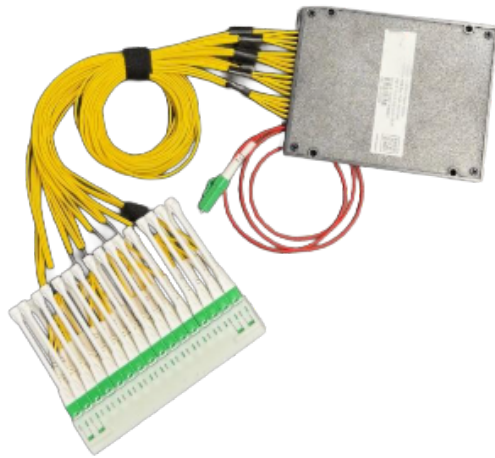
Splitter Pigtail Routing

Install splitters staring with the top left slot (#1). Route and connect red input fiber of the splitter to Feeder port #1. Route and connect yellow output fibers from the splitter to Distribution ports as needed with any unused splitter output fibers stored in the Parking Lot. Follow branch and tree method shown in the diagram above utilizing the fiber management rings. Keep excess slack from the splitter output fibers coiled in the slack storage slots. It is recommended to install the first splitter in slot #1, second splitter in slot #6, third splitter in slot #2. Continue populating in this manner working left to right and top to bottom

Splicing

Feeder (12, 24 or 48 fiber) and Distribution (144 or 288 fiber) cables are available in either STL's RapidTube, which is a standard loose buffer tube type cable or Celesta Intermittently Bonded Ribbon (IBR) fiber cable.

RapidTube
MLT OFC - Duct & Armored

Single Jacket Dielectric Design   Single Jacket Armored Design

1 OUTER JACKET   2 STRENGTH MEMBER   3 LOOSE TUBES   4 WATER BLOCKING TAPE

5 RIPCORD(S)   6 CORRUGATED STEEL TAPE

Fiber Color Sequence (as per EIA/TIA 598C)											
Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
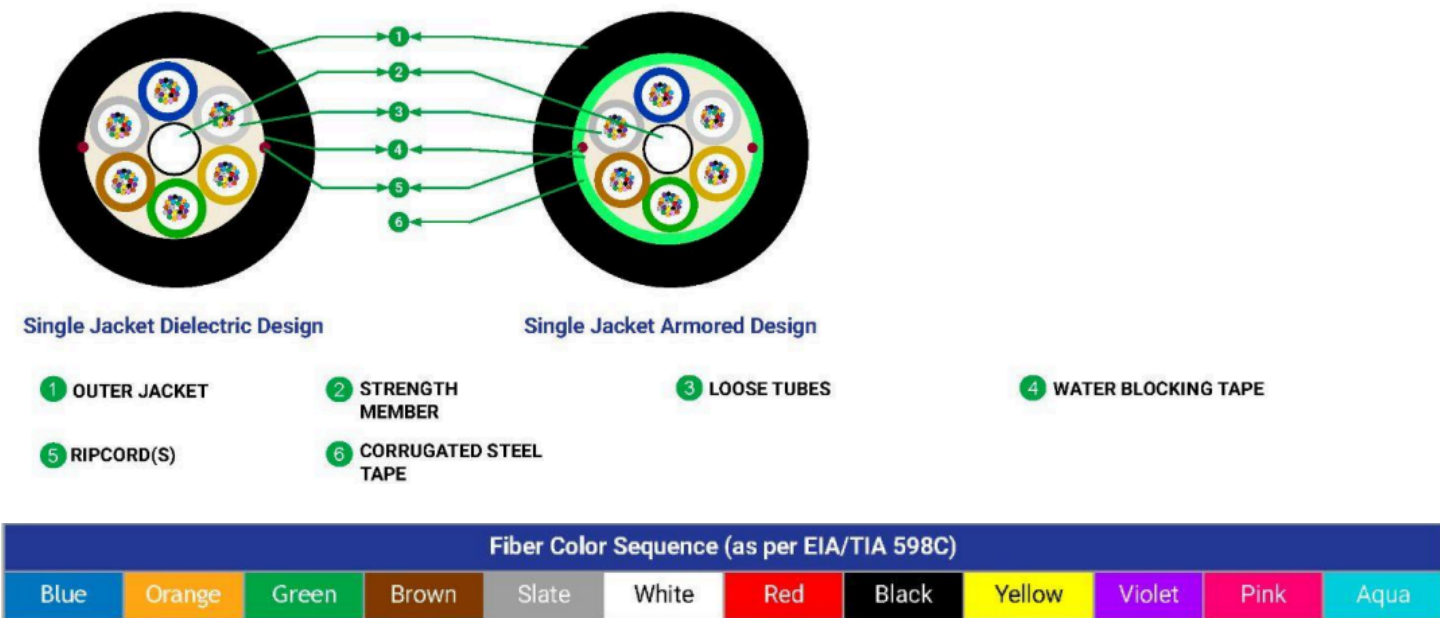
Celesta (IBR)
Intermittently Bonded Ribbon OFC
Single Sheath Duct
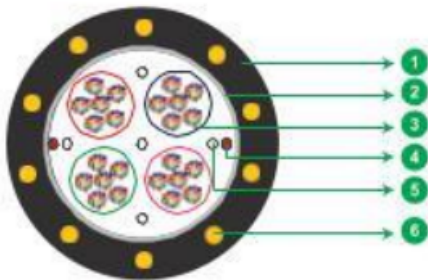
48F-576F

SPLICING TABLE

APPENDIX A

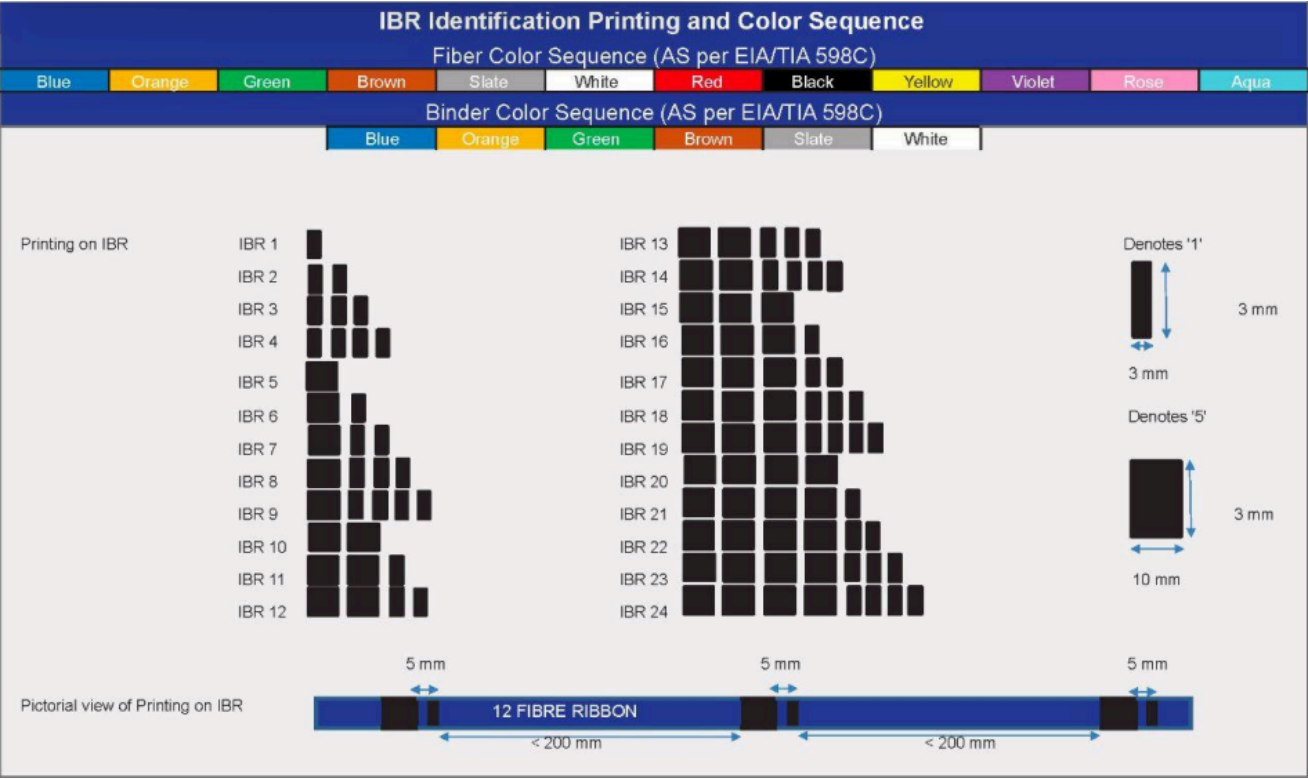| Port Number	Multi-Loose Tube Cable Buffer Tube Color	Fiber Color		Uni-Tube Matrix Ribbon Ribbon Number	Fiber Color		Multi-tube Matrix Ribbon Buffer Tube Color	Ribbon Number	Fiber Color		IBR Ribbon Cable Buffer Tube Color	Binder Color	Ribbon Marking	Fiber Color
1	Blue	Blue		1	Blue		Blue	1	Blue		Blue	Blue		Blue
2		Orange			Orange				Orange					Orange
3		Green			Green				Green					Green
4		Brown			Brown				Brown					Brown
5		Slate			Slate				Slate					Slate
6		White			White				White					White
7		Red			Red				Red					Red
8		Black			Black				Black					Black
9		Yellow			Yellow				Yellow					Yellow
10		Violet			Violet				Violet					Violet
11		Rose			Rose				Rose					Rose
12		Aqua			Aqua				Aqua					Aqua
13	Orange	Blue		2	Blue			2	Blue					Blue
14		Orange			Orange				Orange					Orange
15		Green			Green				Green					Green
16		Brown			Brown				Brown					Brown
17		Slate			Slate				Slate					Slate
18		White			White				White					White
19		Red			Red				Red					Red
20		Black			Black				Black					Black
21		Yellow			Yellow				Yellow					Yellow
22		Violet			Violet				Violet					Violet
23		Rose			Rose				Rose					Rose
24		Aqua			Aqua				Aqua					Aqua
25	Green	Blue		3	Blue			3	Blue		Green			Blue
26		Orange			Orange				Orange					Orange
27		Green			Green				Green					Green
28		Brown			Brown				Brown					Brown
29		Slate			Slate				Slate					Slate
30		White			White				White					White
31		Red			Red				Red					Red
32		Black			Black				Black					Black
33		Yellow			Yellow				Yellow					Yellow
34		Violet			Violet				Violet					Violet
35		Rose			Rose				Rose					Rose
36		Aqua			Aqua				Aqua					Aqua
37	Brown	Blue		4	Blue			4	Blue					Blue
38		Orange			Orange				Orange					Orange
39		Green			Green				Green					Green
40		Brown			Brown				Brown					Brown
41		Slate			Slate				Slate					Slate
42		White			White				White					White
43		Red			Red				Red					Red
44		Black			Black				Black					Black
45		Yellow			Yellow				Yellow					Yellow
46		Violet			Violet				Violet					Violet
47		Rose			Rose				Rose					Rose
48		Aqua			Aqua				Aqua					Aqua

Port Number	Buffer Tube Color	Fiber Color	Ribbon Number	Fiber Color	Buffer Tube Color	Ribbon Number	Fiber Color	Buffer Tube Color	Binder Color	Ribbon Marking	Fiber Color
49	Slate	Blue	5	Blue	Blue	5	Blue	Orange	Blue		Blue
50		Orange		Orange			Orange				Orange
51		Green		Green			Green				Green
52		Brown		Brown			Brown				Brown
53		Slate		Slate			Slate				Slate
54		White		White			White				White
55		Red		Red			Red				Red
56		Black		Black			Black				Black
57		Yellow		Yellow			Yellow				Yellow
58		Violet		Violet			Violet				Violet
59		Rose		Rose			Rose				Rose
60		Aqua		Aqua			Aqua				Aqua
61	White	Blue	6	Blue		6	Blue				Blue
62		Orange		Orange			Orange				Orange
63		Green		Green			Green				Green
64		Brown		Brown			Brown				Brown
65		Slate		Slate			Slate				Slate
66		White		White			White				White
67		Red		Red			Red				Red
68		Black		Black			Black				Black
69		Yellow		Yellow			Yellow				Yellow
70		Violet		Violet			Violet				Violet
71		Rose		Rose			Rose				Rose
72		Aqua		Aqua			Aqua				Aqua
73	Red	Blue	7	Blue	Orange	7	Blue		Green		Blue
74		Orange		Orange			Orange				Orange
75		Green		Green			Green				Green
76		Brown		Brown			Brown				Brown
77		Slate		Slate			Slate				Slate
78		White		White			White				White
79		Red		Red			Red				Red
80		Black		Black			Black				Black
81		Yellow		Yellow			Yellow				Yellow
82		Violet		Violet			Violet				Violet
83		Rose		Rose			Rose				Rose
84		Aqua		Aqua			Aqua				Aqua
85	Black	Blue	8	Blue		8	Blue				Blue
86		Orange		Orange			Orange				Orange
87		Green		Green			Green				Green
88		Brown		Brown			Brown				Brown
89		Slate		Slate			Slate				Slate
90		White		White			White				White
91		Red		Red			Red				Red
92		Black		Black			Black				Black
93		Yellow		Yellow			Yellow				Yellow
94		Violet		Violet			Violet				Violet
95		Rose		Rose			Rose				Rose
96		Aqua		Aqua			Aqua				Aqua

Port Number	Buffer Tube Color	Fiber Color		Ribbon Number	Fiber Color		Buffer Tube Color	Ribbon Number	Fiber Color		Buffer Tube Color	Binder Color	Ribbon Marking	Fiber Color
97	Yellow	Blue		9	Blue		Orange	9	Blue		Brown	Blue		Blue
98		Orange			Orange				Orange					Orange
99		Green			Green				Green					Green
100		Brown			Brown				Brown					Brown
101		Slate			Slate				Slate					Slate
102		White			White				White					White
103		Red			Red				Red					Red
104		Black			Black				Black					Black
105		Yellow			Yellow				Yellow					Yellow
106		Violet			Violet				Violet					Violet
107		Rose			Rose				Rose					Rose
108		Aqua			Aqua				Aqua					Aqua
109	Violet	Blue		10	Blue			10	Blue					Blue
110		Orange			Orange				Orange					Orange
111		Green			Green				Green					Green
112		Brown			Brown				Brown					Brown
113		Slate			Slate				Slate					Slate
114		White			White				White					White
115		Red			Red				Red					Red
116		Black			Black				Black					Black
117		Yellow			Yellow				Yellow					Yellow
118		Violet			Violet				Violet					Violet
119		Rose			Rose				Rose					Rose
120		Aqua			Aqua				Aqua					Aqua
121	Rose	Blue		11	Blue			11	Blue			Green		Blue
122		Orange			Orange				Orange					Orange
123		Green			Green				Green					Green
124		Brown			Brown				Brown					Brown
125		Slate			Slate				Slate					Slate
126		White			White				White					White
127		Red			Red				Red					Red
128		Black			Black				Black					Black
129		Yellow			Yellow				Yellow					Yellow
130		Violet			Violet				Violet					Violet
131		Rose			Rose				Rose					Rose
132		Aqua			Aqua				Aqua					Aqua
133	Aqua	Blue		12	Blue			12	Blue					Blue
134		Orange			Orange				Orange					Orange
135		Green			Green				Green					Green
136		Brown			Brown				Brown					Brown
137		Slate			Slate				Slate					Slate
138		White			White				White					White
139		Red			Red				Red					Red
140		Black			Black				Black					Black
141		Yellow			Yellow				Yellow					Yellow
142		Violet			Violet				Violet					Violet
143		Rose			Rose				Rose					Rose
144		Aqua			Aqua				Aqua					Aqua

Port Number	Buffer Tube Color	Fiber Color
145	Blue	Blue
146		Orange
147		Green
148		Brown
149		Slate
150		White
151		Red
152		Black
153		Yellow
154		Violet
155		Rose
156		Aqua
157	Orange	Blue
158		Orange
159		Green
160		Brown
161		Slate
162		White
163		Red
164		Black
165		Yellow
166		Violet
167		Rose
168		Aqua
169	Green	Blue
170		Orange
171		Green
172		Brown
173		Slate
174		White
175		Red
176		Black
177		Yellow
178		Violet
179		Rose
180		Aqua
181	Brown	Blue
182		Orange
183		Green
184		Brown
185		Slate
186		White
187		Red
188		Black
189		Yellow
190		Violet
191		Rose
192		Aqua

Buffer Tube Color	Ribbon Number	Fiber Color
Green	13	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
	14	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
	15	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
	16	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua

Buffer Tube Color	Binder Color	Ribbon Marking	Fiber Color
Slate	Blue		Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
			Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
	Green		Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
			Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua

Port Number	Buffer Tube Color	Fiber Color
193	Slate	Blue
194		Orange
195		Green
196		Brown
197		Slate
198		White
199		Red
200		Black
201		Yellow
202		Violet
203		Rose
204		Aqua
205	White	Blue
206		Orange
207		Green
208		Brown
209		Slate
210		White
211		Red
212		Black
213		Yellow
214		Violet
215		Rose
216		Aqua
217	Red	Blue
218		Orange
219		Green
220		Brown
221		Slate
222		White
223		Red
224		Black
225		Yellow
226		Violet
227		Rose
228		Aqua
229	Black	Blue
230		Orange
231		Green
232		Brown
233		Slate
234		White
235		Red
236		Black
237		Yellow
238		Violet
239		Rose
240		Aqua

Buffer Tube Color	Ribbon Number	Fiber Color
Green	17	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
	18	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
Brown	19	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua
	20	Blue
		Orange
		Green
		Brown
		Slate
		White
		Red
		Black
		Yellow
		Violet
		Rose
		Aqua

Buffer Tube Color	Binder Color	Ribbon Marking	Fiber Color
White	Blue		Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
			Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
	Green		Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua
			Blue
			Orange
			Green
			Brown
			Slate
			White
			Red
			Black
			Yellow
			Violet
			Rose
			Aqua