

CFFP Charles Fiber Flexibility Pedestal Series with Factory-Installed Cable Stubs Pedestal Preparation and Fiber Splitter General Description and Installation

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1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides two sets of installation instructions for the Charles CFFP Series of Fiber Flexibility Pedestals. The first set is for the pedestal base installation, and the other is for the fiber splitters to be installed in the pedestal backboard. Figure 1 shows an interior, dome-off view of a typical CFFP pedestal. Figure 2 shows a typical CFFP application. A separate reference document is shipped in the pedestal base.

1.2. Product Purpose

The pedestal is a protective enclosure for above-grade fiber splitter connections at a distribution point between the CO feed cable and the customer distribution cables. The pedestal provides protection against floods, fire, dirt, weather, insects, and impact. The pedestal base is a square-shaped, expanded-capacity, 2-piece, split base designed to open and easily install around the factory-attached feed and distribution cable stubs, which come in 100-foot lengths. The top section is covered by inner and outer domes that house the interior backboard that holds high capacity fiber splitters and is equipped with a large capacity bulkhead with SC/APC adapters for 36 to 288 subscribers. Install the splitters and connect the input side pigtail connector to the CO adapter. Store the distribution side pigtail connectors in the storage area at the bottom of the pedestal.

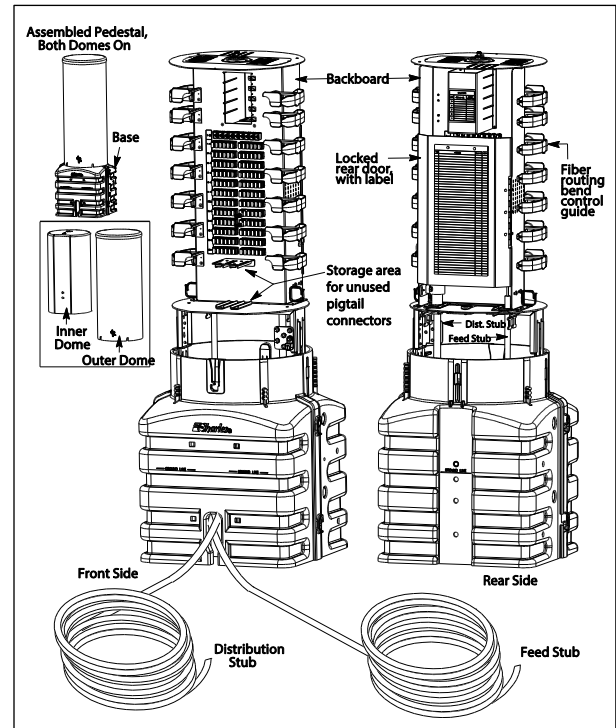


Figure 1 Front and Rear Views of CFFP Pedestal, Both Domes Off

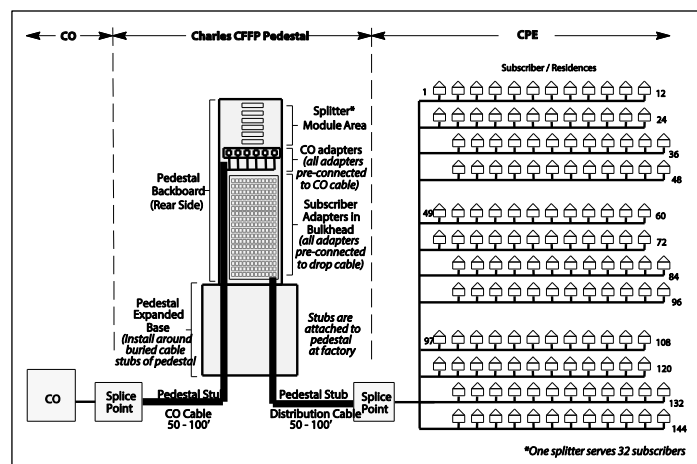


Figure 2 Typical Application

1.3. Product Mounting and Location

1.3.1. Trench, Stake, or Pole

The CFFP pedestal is typically installed in a trench in the ground, up to the ground line indicator on the base, at the fiber flexibility or distribution point. Pole-mounting or stake-mounting of the pedestal is accomplished via holes or knockouts at the rear and both sides of the base. Begin the cable run at the pedestal, and place any cable slack away from the pedestal, at the nearby splice point.

1.3.2. Conduit Applications

For conduit applications, uncoil the bundled length of cable stubs, insert the stub end into the proper conduit opening at the site, and pull the cable through the conduit to the nearby splice point. Avoid twisting the cable stubs. After placing the cable stubs through the conduit, install the 2-piece base around the stubs and conduit, then mount the pedestal backboard on the base.

1.3.3. Pedestal Placement in a Vault

The CFFP is also available with a vault-mount base for below-grade vault distribution points.

1.3.4. Backboard Mounting

The pedestal backboard mounts on the pedestal base at the installation site. These instructions concern the attaching of the base to the backboard after the cable is placed, to facilitate correct placement of the stubbed cables. Consult company practices for the preferred method. All splitter module installations and pigtail connections are performed at the backboard.

1.3.5. Splitter Mounting

Per company practice, the pedestal may not have a splitter installed at the initial pedestal installation. A splitter is typically added when the first customer is provisioned.

1.3.6. Dome Mounting

After all fiber splitter modules and splitter pigtail connections at the backboard are complete, place the inner and outer domes over the backboard and attach them to the base to protect cabling, connections, and equipment.

2. SAFETY PRECAUTIONS



— WARNING —

Risk of serious eye damage! Never look into the end of a fiber optic line or use a magnifier in the presence of laser light or radiation. Exercise caution when installing, testing or maintaining live circuits. If eyes are exposed to laser light or radiation occurs, immediately seek treatment by a medical professional.

The CO shutter adapters are live once the feed side pigtails are inserted, and each subscriber adapter is live as soon as the house NIU or NID is in service.



— WARNING —

Cable and fiber cleaning solvents may contain hazardous or harmful materials. Maintain good housekeeping practices and refer to the MSDS when working with cleaning solvents or similar products.

Shards and cleaved glass fibers are very sharp and can easily pierce the skin. Use tweezers to pick up cut glass fibers and place them in a specifically designated container. Do not consume any food products near the cable installation site.

Corrugated metal or armor in feed cables is very sharp when cut or exposed. Exercise extreme caution to prevent personal injury. Use protective work gloves when handling armored cable.

Buffer tubes and fibers are sensitive to bending, pulling, and crushing forces. Avoid buffer tube kinking and fiber damage: use care when working with fiber and do not violate fiber, buffer tube, and cable minimum bend-radius requirements.

In cold environments, some loose tube cable designs may exhibit low temperature induced signal attenuation when long lengths of buffer tubes have been exposed and then stored. Contact the cable manufacturer concerning recommended exposed buffer tube lengths in your installation area.



— CAUTION —

Perform all bonding and grounding prior to making any electrical and communications connections.

Be careful not to damage any buried cables or service wires while digging either to expose cables or to prepare a hole or trench, or while driving stakes. Buffer tubes and fibers are sensitive to excessive bending, pulling, and crushing forces. To avoid kinking of buffer tubes and fiber damage or breakage, exercise great care when working with fiber, and do not exceed or violate minimum bend radius requirements for fibers, buffer tubes, and cables.

3. INSTALLATION

3.1. Transporting or Manipulating the Pre-installed Pedestal

Due to the 100-foot cable stubs factory-installed on the CFFP backboard, use special care when working with an unboxed pedestal and installing the pedestal at the site.

- Always keep the inner dome attached to the backboard until the pedestal is installed at the installation site and until ready to install the fiber splitter(s), to protect the internal components and to facilitate product transportation.
- Do not twist or rotate the bundles cable stub, as this can damage its connection point at the bottom of the backboard.
- Do not unbundle the cable stubs until the pedestal is ready to be installed at the site.
- A two-person side-by-side lift is recommended whenever transporting, moving, or manipulating an unboxed pedestal: one to carry the cable stubs, and one to carry the backboard-inner dome combination.
- Never exceed fiber cable bend radius limits when uncoiling or otherwise manipulating the fiber cable stubs.

3.2. Installing the CFFP Pedestal

Use this section, as well as parts of the base document (attached to the base at the factory) to install the CFFP at the site. The CFFP pedestal design requires slightly different installation steps for the base. This document advises which steps in the base document are to be followed. The following conditions apply:

- The installation site must be within reach of a nearby splice point.
- The trench must be either dug and open, or cable conduit must be installed to accommodate the pedestal’s factory-installed cable stubs. If the pedestal is vault-mounted, the vault must be ready for pedestal placement.
- The CFFP pedestal contains one CO feed cable and one or more distribution cables. One end of each cable is factory installed to the rear of the backboard. The other stub ends are to be spliced to the feed and distribution or subscriber cables at a nearby splice point per company practice. No splicing is required at the pedestal. Carefully consider the placement of the pedestal. Pre-installed cable stubs are to be cut to the proper length at the splicing point, not the pedestal.
- The stubs attached to the pedestal are either a dielectric or armored cable with loose fiber.

After installing the pedestal, see section 3.3 for instructions on fiber splitter module installation within the CFFP and for instructions for properly routing and installing all splitter pigtails.

Step	Instruction
1	Prepare the pedestal installation site by digging the trench, laying the conduit or innerduct, or preparing the vault, all per company practice and per the installation type. Also prepare an earth ground at the installation site.
2	Perform Steps 5-6 of Section 4.1 in the base installation document to open the shipping box, to inspect the box contents, and to obtain tools and materials for the base installation. Provided with the typical CFFP are the following parts: outer dome, inner dome, assembled base (with a bag of parts inside), backboard, and attached cable stubs.
3	Perform Steps 9-11 of Section 4.1 in the base installation document to open and prepare the 2-piece base. This includes removing any knock-outs where holes are needed and finding the kits of parts in the base. Remove (but do not discard) the red, plastic, vapor barrier bag from around the inner dome and backboard. It will be used in Step 10.
4	Use two people to carry the backboard (with inner dome attached) and the attached cable stub bundles to the location where the pedestal will be installed. Avoid twisting or rotating the stubs. Place the backboard on the ground at the site in the correct orientation (so each cable faces the proper feed/supply direction).
5	Remove the ties or wrapping that contain the coiled cable stubs and carefully unbundle and uncoil the long cable stubs. Make one large single loop or circle of the stub, to minimize cable twisting.
6	Without twisting the cable, pull the cable stub end into the conduit (for conduit applications). If an open trench is used, place the entire length of cable stub into the trench. If a vault is used, place the entire length of cable stub into the vault in the slack storage position. Minimize twisting and pulling the cable stubs to prevent damage.
7	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Unlock (with a can wrench or 216 tool) and open the 2-piece base. Set aside the front half of the base (with the Charles logo on it). Place the rear half on the ground, inside facing up, just below the support legs of the backboard. Align the support leg ends with the leg guides in the collar area of the base and slide the legs all the way into the base leg guides (audible clicks indicate proper leg insertion).</p> </div> <div style="flex: 1; text-align: center;"> </div> </div>
8	Perform Step 17 from section 4.1 of the base document to set the base at the proper depth (per application type), to attach the front half of the base to the rear half, and to level the base.
9	Arrange the cable stubs in their final position. Support the stubs if needed.
10	Carefully backfill the trench (for open trench applications), then perform Step 18 from section 4.1 of the base document to perform proper base backfilling and proper vapor barrier bag placement in the pedestal base during base backfilling.
11	Manage cable slack at the splice points per company practice.

12	Splice cable stubs at splice points per company practice.
13	Clean up site. If the fiber splitter modules are not to be installed at this time, clean up the installation site, and leave this document inside the pedestal for future use. See Steps 12-13 of section 3.3 to close up and lock the pedestal.

3.3. Fiber Splitter Instructions

This section provides instructions to install fiber splitter modules in the CFFP pedestal. The following conditions apply:

- Pedestal is installed per the base documentation and section 3.2 of this document.
- Company-approved 1x32 or 1x16 fiber splitters are available for installation
- All safety precautions per company practice and in this document are followed.

Step	Instruction	
1	Unlock the pedestal with a can wrench, remove the outer dome from the pedestal base, then remove the inner dome from the pedestal backboard, to access the backboard where the splitter modules will be installed.	
2	Understand the rear side of the CFFP backboard. As shown in Figure 3, the rear side of the CFFP backboard contains a lockable door that protects the factory-installed connections of the feed and distribution cables to the rear bulkhead adapters. No additional connections are required on the rear side; therefore the rear door should remain locked except for occasional required connector cleaning.	
3	Understand the front side of the CFFP backboard. All installer connections are made on the front side of the CFFP backboard. At the top of the backboard is a housing area (see Figure 3) with a column of vertical slots for fiber splitter modules, labeled/numbered from the bottom up. Under the splitter module housing is a horizontal row of SC/APC bulkhead adapters with hinged front shutters. These shuttered adapters bring the feed signal from the rear of the backboard (which is factory preconnected to the feed cable stub) to the front side for easy access with the installed splitter's designated feed pigtail. Adapters are labeled left to right in ascending order to correspond with the splitters, and the shutter cover provides user protections from laser light. Always use caution when working with the bulkhead adapters and live circuits: never look directly into a live fiber adapter. Under the shutter adapter row is the large main bulkhead area, with multiple rows of subscriber adapters. These SC/APC bulkhead adapters bring the distribution or subscriber signal from the rear side (which is factory pre-connected to the distribution cable stub) to the front side. For easy cable management, route half of the splitter's pigtails down through the vertical column of bend-radius control guides on the bulkhead's left side, then up to the adapters on the left side, then route the other half down the right side, then up to the adapters on the bulkhead's right side. Each bend-control guide has a rear cable containment area or cavity and a front cavity. Route pigtails from the splitter, to one side, then down through each guide's rear cavity, then back up the side of the backboard through each guide's front cavity, then horizontally over to the designated subscriber adapter. This design keeps the 28" long pigtails neatly tucked away at the sides of the bulkhead.	
4	Install the first splitter into the lowest slot of the splitter module housing.	
5	Locate the single feed pigtail of the splitter (usually a different color jacket [blue] than the subscriber pigtails), and route it down the side of the backboard through the rear cavity of the bend control guides, then back up through the front cavities of the guides, then (without looking into the adapter) lift the first feed adapter's shutter and insert the feed pigtail's connector into the adapter.	

6	Route live pigtails as shown.																																							
7	Label each pigtail with its splitter serial number and a pigtail number. A multi-page label is provided on the rear door of the backboard to identify each pigtail subscriber address.	<table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>No.</th> <th>Address</th> <th>Splitter</th> <th>Pigtail</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <table border="1" style="display: inline-table;"> <thead> <tr> <th colspan="3">SPLITTERS</th> </tr> <tr> <th>NO.</th> <th>SERIAL NO.</th> <th>INPUT FIBER NO.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <p style="text-align: center;">Multi-page subscriber pigtail label</p>	No.	Address	Splitter	Pigtail																	SPLITTERS			NO.	SERIAL NO.	INPUT FIBER NO.												
No.	Address	Splitter	Pigtail																																					
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8	Repeat steps 6 and 7 for all subscriber pigtails being placed in service at this time.																																							
9	Store the connector ends of pigtails not placed in service in the storage area at the bottom of the backboard. Keep protective caps on unused connectors to protect from damage.																																							
10	Repeat Steps 4-7 for each splitter being installed at this time.																																							
11	Perform housekeeping by routing all pigtails through the bend-radius control guides and placing all unused pigtail connector ends in the lower storage area. If any live pigtail has excess slack, route it further down the backboard through additional control guides. Never allow bulging or loose loops of jacketed fiber cable to flow out from cable guides; always guide and contain the pigtails.																																							
12	Verify all pigtails are neatly contained within the confines of the bend-radius control guides on both sides of the backboard so they will not be damaged when the inner dome is installed. Locate the inner dome, orient it so the flat side is toward the front of the pedestal, and gently slide the dome over the backboard assembly and press down on the top of the inner dome until it snaps in place. Locate the outer dome, orient it so the lock faces the front (the base front has the Charles logo embossed on it). Slide the outer dome down over the inner dome/backboard assembly, aligning the dome lock with the latch assembly on the base front. When correctly aligned, let the self-locking dome drop down in place until an audible click indicates the dome is locked.																																							
13	Clean up the installation site, and leave this document inside the pedestal for future use. For all future subscriber pigtails to be placed in service at a later date, remove the assigned pigtail from the lower storage area and repeat steps 6 and 7.																																							

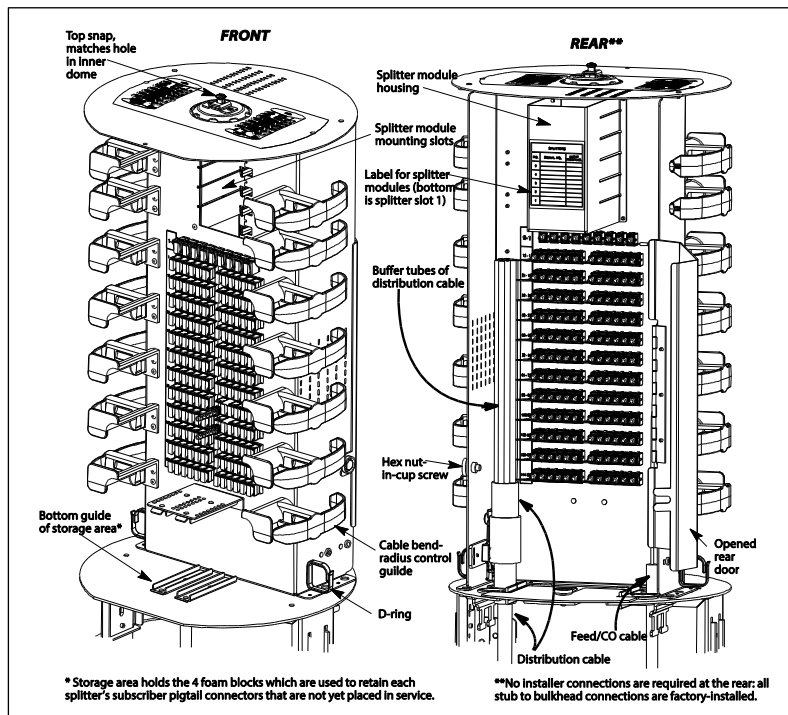


Figure 3 Front and Rear Views of CFFP Backboard

4. TECHNICAL ASSISTANCE AND REPAIR SERVICE

For questions on product repair or if technical assistance is required, contact Charles Technical Support.

847-806-8500
techserv@charlesindustries.com (email)
<http://www.charlesindustries.com/techserv.htm>

5. WARRANTY & CUSTOMER SERVICE

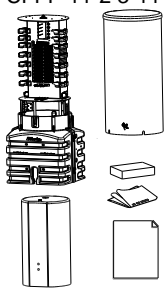
Charles Industries, Ltd. offers a one-year warranty on the CUBE product. The Charles warranty is limited to the operation of the CUBE hardware as described in this documentation and does not cover equipment which may be integrated by a third party. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative.

847-806-6300
mktserv@charlesindustries.com (email)
http://www.charlesindustries.com/main/telecom_sales_support.htm

6. SPECIFICATIONS

Feature	Dimensions			
	8" Models, 72 Fibers	10" Models, 96 Fibers	12" Models, 144 Fibers	Tall 12" Model, 288 Fibers
Height, base bottom to top of outer dome	42.75 in.	45 in.	46.5 in.	52.5 in.
Height, base only, incl. collar	18.5 in.	18.5 in.	18.5 in.	18.5 in.
Height, base bottom to GL*	8.5 in.	8.5 in.	8.5 in.	8.5 in.
Height, outer dome top to GL	34.25 in.	36 in.	38 in.	44 in.
Height, dome only	28.5 in.	29.75 in.	31.5 in.	38 in.
Depth, base	10.8 in.	12.8 in.	15.1 in.	15.1 in.
Width, base	11.75 in.	13.9 in.	16.1 in.	16.1 in.
Diameter, dome, O.D.	8.6 in.	11.25 in.	13.25 in.	13.25 in.
Weight	21.5 lb.	32.5 lb.	40 lb.	46 lb.

GL = Ground Line. All dimensions and weights are approximate. Weights do not include cable stubs.

Model Number	Description
 <p>CFFP 11-2 3 444 5 6</p>	<p>Product number/naming convention. All product numbers begin with CFFP. Italicized numbers represent options, as listed below:</p> <ul style="list-style-type: none"> 11 = Pedestal dome diameter (either 08, 10, or 12") 2 = Pedestal base type (E = Expanded, O = Round) 3 = Vault-mount option (V = vault base, blank = standard) 444 = Bulkhead fiber capacity (e.g, 036, 096, 144, or 288) 5 = Fiber adapter type (A=SC/APC, B=SC/UPC, C=LC/APC, D=LC/UPC) 6 = Cable stub type and length (B = 100' armored loose tube, F = 100' dielectric loose tube) <p>Example: CFFP10EV096AF = CFFP pedestal with 10" diameter dome, expanded base, vault mountable, 96-fiber bulkhead equipped with SC/APC connectors, and 100' long dielectric loose tube stubs.</p>
CFSM-FP1132AA	Charles Fiber Splitter Module (CFSM), for use in CFFP pedestals, contains one 1x32 splitter with one input connector pigtail (SC/APC type) and 32 output connector pigtails (SC/APC). Pigtail length = 28".
CFSM-FP2116AA	Charles Fiber Splitter Module (CFSM), used in CFFP pedestals, contains two 1x16 splitters each with one input pigtail (SC/APC-type) and 16 output pigtails (SC/APC). Pigtail length = 28".
UMS30-STD	30" universal metal mounting-stake, galvanized, with mounting hardware to attach the pedestal base to the stake.
UMS42-STD	42" universal metal mounting-stake, galvanized, with mounting hardware to attach the pedestal base to the stake.
UMB102A	24" universal metal pole-mount bracket, galvanized, with mounting hardware to attach the pedestal base to the bracket.
97-PKOR08-A	Dome cap, high visibility, orange, 8"
97-PKOR10-A	Dome cap, high visibility, orange, 10"
PK-HV-OR-12	Dome cap, high visibility, orange, 12"

A variety of replacement/optional parts is available. Contact Charles Industries for more information.