Purpose:

To describe Fiberdyne's "FTTH" distribution enclosure and its configuration options.

Conceptual Usage:

The FTTH Pedestal is a general-purpose, outdoor enclosure. It is the main node for voice, data and video distribution, in a passive optical network (PON). The pedestal is the network interface -- at the neighborhood. Options, for its internal components, were designed, according to the ITU G.983.1 standard and according to various, proposed and fielded FTTx requirements.

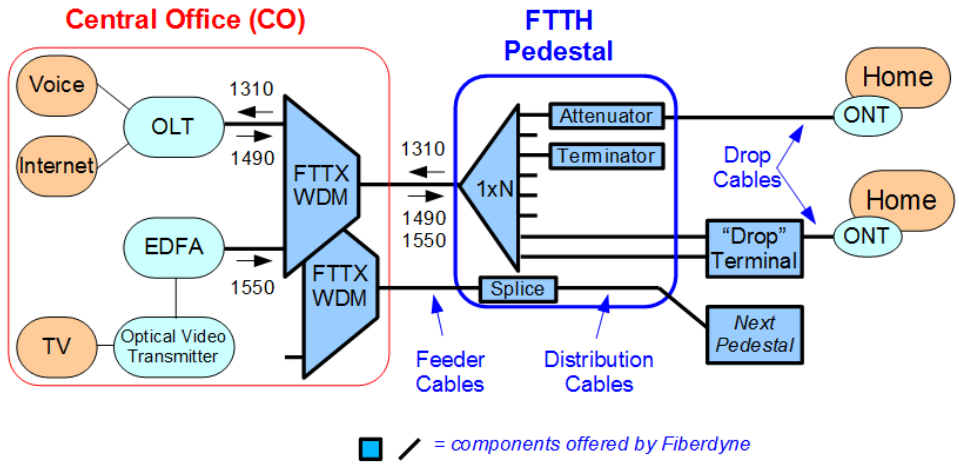

Figure 1: Fiber-to-the-Home Block Diagram, from CO to Pedestal to Home.

The pedestal houses two fiber-management functions. One is the "relay" function. Signals are passed to other pedestals (i.e. feeder cables are spliced to distribution cables). The other function is "distribution." Downstream signals (typically, 1490 nm and 1550 nm) are split, then sent to the ONTs (Optical Network Terminals). Upstream signals (typically, 1310 nm) are combined, then sent to the CO (Central Office).

Additionally, the pedestal houses other components such as splices, attenuators, terminators and miscellaneous fiber-management. Splitters and splices are mounted in the splice trays. A connector panel mount can host 24 fiber connections. Attenuators can be added as necessary. These connector panels can also hold terminators for unused fibers. Then, excess fiber can be spooled, and cables can be clamped to the main mount panel, which is removable.

Features:

- Nonmetallic (i.e. high-performance, thermo-plastic) enclosure
- Complies with Telcordia GR-13 CORE and RUS PE-91 specifications.
- Partially buried, two-piece base for easy installation with cables
- One-piece, domed cover with flush-mounted latch mechanism
- Removable, mount panel for splicing and routing in protective shelters (e.g. equipment van)
- Fiber-optic and cable management devices (e.g. splice trays, clamps, connector panels) attach to mount panel; mix and arrangement is adjustable.

Options:

- Self-supporting base with or without integral spade; also includes positions for mounting stakes.
- Environmental splice enclosure for cable relay to other nodes; removable for splicing in protective shelter (e.g. equipment van)
- Optical Splitters (1x8, 1x16, 1x32) based on planar technology
- Trays for planar splitters and splices
- Connector Panel Retainer holds two LGX/Lucent-compatible panels
- Connector Panels for FC, SC, ST, LC, MT-RJ and MTP
    - Six connectors per panel: FC, SC, ST, MT-RJ, MTP
    - 12 connectors per panel: SC, ST, LC

Note: underground cable vaults sold separately.

Standard Configuration:

- One-piece dome lid with integral lock mechanism
- Mount Panel divided into two functions: *Relay* and *Distribution*
    - Relay: splice trunk cables to other trunk cables (i.e. relay to other nodes)
    - Distribution: split signals to drop cables (i.e. distribute to homes)
- Relay side:
    - Includes “Environmental Splice Enclosure” and shelf
    - Shelf has retainer with two thumb-screws for tool-less maintenance
    - Enclosure slides from shelf for protected splicing (i.e. van or tent)
- Distribution side:
    - Splice Trays (4 each); one tray contains the optical splitter
    - Fiber-management hubs (4 each)
    - Connector Panel Retainer (1 each)
    - Connector Panels (2 each; must specify connector type and quantity)
    - Cable clamps (2 each)
- Self-supporting base without spade; mounting stakes can be used

Part Number Build Matrix

F	F	P	-	X	X	X	-	X	X	X	X	-	X	X	X	X
1	2	3	-	4	5	6	-	7	8	9	10	-	11	12	13	14
F	F	P	-				-					-				

FFP = Fiberdyne Labs "Fiber-to-the-Home" (FTTH) Pedestal

Digit #	Description	Options*
4th - 5th	Pedestal Size	12 = 12-inch
6th	Base Type	0 = self-supporting, no spade 1 = self-supporting with spade
7th	Environmental Splice Enclosure, shelf and splice trays	0 = none 2 = included, with 2 splice trays 3 = included, with 3 splice trays
8th	Splice Trays (Distribution Side)	0 = none or indicate 1,2,3 or 4 for tray quantity
9th - 10th	Optical Splitter (requires one splice tray)	00 = none 08 = 1 x 8 16 = 1 x 16 32 = 1 x 32
11th	Fiber Management	0 = none 4 = four hubs
12th	Cable Clamps	0 = none 2 = two (7/16-inch min. diameter) 4 = four (7/16-inch min. diameter)
13th	Connector Panels	0 = none 1 = retainer and one connector panel 2 = retainer and two connector panels
14th	Connector Type/Quantity (for connector panels) **Note:** polish is UPC	0 = none 1 = FC (6 per panel) 2 = LC (12 per panel) 3 = SC (6 per panel) 4 = SC (12 per panel) 5 = ST (6 per panel) 6 = ST (12 per panel) 7 = MT-RJ (6 per panel) 8 = MTP (6 per panel)

***Note:** for custom configurations, "Special Instructions" must be used.
For example: if two connector panels are required, each with different connector types, put an "X" in the 13th digit.
Then, add the following to the order description: "Special Instructions (12th digit): one connector panel with SC, the other with FC."

- **Example:** "Standard Pedestal"
- - Fiberdyne FTTH Pedestal
- - 12-inch, self-supporting base, no spade
- - Environmental Splice Enclosure with 2 splice trays
- - 4 Distribution-side splice trays; one with 1x32 optical splitter
- - 2 connector panels, each with six (6) SC/UPC adapters
- - 4 fiber-management hubs and 2 cable clamps
- Part# FFP-120-2432-4223

Specifications:

Pedestal Enclosure
Pedestal Enclosure - Isometric Drawing - Colorized
Pedestal Enclosure - Isometric Drawing - Black & White

Item Description	Unit	Value
Splice Capacity - Environmental Enclosure (Relay) - Trays (Distribution)	#	3 Trays – 12 per tray 4 Trays – 8 per tray *
Distribution Splice Tray with cover (Length x Width x Height)	inch cm	7.0 x 4.0 x 0.53 17.8 x 10.2 x 1.35
Wavelength Ranges, Splitter **	nm	1260 – 1360 1460 – 1625
Fiber Management – Bend Radius	inch cm	1.25 3.2
Connector Panel Capacity - FC, SC, ST, MT-RJ, MTP - SC, ST, LC	#	2 panels per Retainer 6 connectors per panel 12 connectors per panel
Cable Clamps – minimum diameter (steel with Santoprene sleeve)	inch cm	0.44 (7/16) 1.11
Mount Hardware - Screws, Washers, Lock/Wing Nuts - Standoffs, Hex (1/4-inch)	#	#8-32 (18-8 stainless steel) #8-32, 0.5” long (Aluminum)
Overall Outside Dimensions: “12-inch” Pedestal with self-supporting base, no spade	inch cm	17 x 14 x 45 43.2 x 35.6 x 114.3

Notes: *With optical splitters installed; the splice trays are specially-designed to hold planar splitters. Planar splitter output fibers are grouped, eight per ribbon fiber. Therefore, for ease of maintenance, use one splice tray for every eight outputs (e.g. 4 trays for 1x32).

** For information about planar splitters, see www.fiberdyne.com