1. General

1.1. The FDH1 Series is a wall mount fiber distribution hub designed to support patching, splicing and optical splitting in one unit. The enclosure has 9 adapter panel positions allowing for a wide variety of patching and splitting combinations. Two compartments separate the network terminations from the distribution terminations and a single outer door.

1.2. Accommodates 12-48 fiber ports for use in indoor or outdoor demarcation points and MDU distribution applications.

1.3. Available with adapters, splice trays and pigtails.

1.4. Door is removable for easy handling and maintenance.

1.5. Multiple bottom cable entry points for ease of cable entry both top and bottom.

1.6. Two splitter module capacity.

2. Dimensions
3. Warranty

3.1. See TiW Warranty. If this unit fails during the warranty period, the factory should be requested to authorize return. Return the unit prepaid. Units that fail due to normal wear or abuse should be discarded.

4. All Cabinet Versions

4.1. Modular LGX bulkhead adapters - for interconnection between feeder and distribution fibers.
4.2. Slack Storage - The FDH1 is designed to allow for storage of pre-terminated 12F SST drop cable inside the unit with tie-downs to secure the cable.
4.3. Output Fiber Management – Provides a method of routing fibers to the LGX adapter plates.
4.4. Splitter Compartment – Provides a location to mount one or two 1x32 splitters modules. Secured via Velcro straps.
4.5. Interior Grounding Lug – Provides a bonding and grounding point for all dielectric fiber cables.
4.6. Entry Ports – Equipped with Top and Bottom entry ports to allow for use of input/output cable configurations.
4.7. Removable Outer Door – To allow for easy installation in confined spaces.

5. FDH1 Cabinet

5.1. The FDH1 Series Cabinet can be configured in three (3) versions including an all patch version, a patch and splice version and a PON Version.
5.2. Figures 1 and 1a shows the general features of the FDH1.
5.3. The all patch version, shown in figures 1 & 1a, is equipped with LGX plates modular adapter plates (in 6, 8 or 12 adapters) for either 24, 32 or 48 patch only configurations. This version assumes the use of pre-stubbed drops with fan-out or field installable connectors on both input and output.
5.4. The unit also is equipped with 1 single LGX modular adapter plate for pass through fiber (where applicable).

6. Patch and Splice

6.1. Shown in figure 2, is equipped with LGX plates modular adapter plates (in 6, 8 or 12 adapters) for either 24, 32 or 48 patch configurations and is equipped with up to four (4) splice trays.
6.2. One (1) to accommodate the feeder fiber and three (3) to accommodate splicing of the distribution fibers.
6.3. Optionally the LGX adapters may be ordered with 6, 8 or 12 fiber pigtails assemblies, per-installed into the splice trays. The pigtails may also be purchased separately.
FIGURE 2. Patch and Splice.

7. PON Version

7.1. Figure 4 shows the PON version which is a 1x 32 configuration with 1 X 12 fiber pass through and 4 x 8 LGX (32) modules distribution with an additional 4 X 8 LGX (32) modules for a parking lot. Included is a 1 x 32 PON splitter.
7.2. Pigtails from the splitter are routed across the front of the inside door while the distribution fiber are either splice in the splice trays and connected via factory installed pigtails to the modules or via field installed mechanical connectors.

8. Labeling

8.1. Depending upon configuration, the FDH 1 adapter plates will be labeled according to layout. Figure 5, shows F – Designating 1-12 Feeder fibers, D – designating 1-32 Distribution fibers and PL- Designating 1-32 Splitter Parking Lot.
8.2. Figure 6 shows the standard door label for the recording of Feeder and distribution fiber (Subscriber Termination Field).
8.3. The surface allows for field recording of the designated fiber and subscriber terminations.

9.1. Recommended Tools
9.1.1. Portable work table
9.1.2. Cleaning supplies Squeezy Kleen, alcohol, wipes
9.1.3. Jacket ring tool (or flat drop stripper)
9.1.4. Kevlar sheers
9.1.5. Buffer scribe tool
9.1.6. Strip tool 3mm, 900um, 250um
9.1.7. Splice sleeves
9.1.8. Fusion splicer & cleaver set
9.1.9. OTDR, OLTS, or VFL
9.1.10. Screw gun & appropriate screws for install location (wood, metal, concrete etc.)

9.2. Summary of Steps
9.2.1. Wall mount
9.2.2. Install cables
9.2.3. Work area setup
9.2.4. Terminate
9.2.5. Patch
9.2.6. Patch & splice
9.2.7. PON splitter
9.2.8. Store slack
9.2.9. Test
9.3. Mounting
9.3.1. Install 4’x4’x¾” plywood backboard to most secure points practical using appropriate hardware
9.3.2. Concrete block
9.3.3. Brick
9.3.4. Structural studs
9.3.5. Secure FDH to backboard using provided 4 point attaching brackets using ½” wood screws typically centered or as appropriate to install site.

9.4. Install Cables
9.4.1. Overall lengths will be dependent on work station location to the FDH
9.4.2. The FDH can store approximately 20 ft of feeder cable and home run MDU drops.
9.4.3. Secure cables to provided top and bottom cable entry tie down points using zip ties or hose clamps as appropriate.
9.4.4. Ground and bond any armored cable to provided ground lugs
9.4.5. Pre-measure and cut to length cables to termination points (dependent to configuration – patch, patch & splice or PON).

9.5. Work Area Setup
9.5.1. Set a portable table as close to final installation site as feasible and stage items.
9.5.2. Hand tools.
9.5.3. Splicer & Cleaver (if required).
9.5.4. Cleaning supplies.
9.5.5. If configured remove pigtail from slack storage up to breakout, ensure pigtails reach workspace or remove adapter plates if necessary.

9.6. Prepare Cables
9.6.1. Allow minimum 10 ft of slack cable to route into FDH (site dependent) excess to be cut off.
9.6.2. Remove jacket and armor 2” within entry point.
9.6.3. Secure drop and feeder cables to provided “T” clamps using zip-ties or hose clamps as appropriate.
9.6.4. Excess cable should be pre-measures and allow enough slack to reach work area and be stored neatly in FHD, cut to length needed for configuration.
9.7. Patch
9.7.1. Install each MDU home run drop cable to rear patch panel, label as required.
9.7.2. Install pre-terminated trunks or field install feeder cables front of patch panel, inactive fibers stored in parking lot.
9.7.3. Dress, route and secure feeder & MDU drops to provided cable management clips.

9.8. Patch & Splice
9.8.2. Stage splice tray near splicer.
9.8.3. Splice each feeder fiber.
9.8.4. Place splice fiber in trays splice chip holders.
9.8.5. Dress and secure buffer and pigtails to splice tray using zip-ties.
9.8.6. Install up to 4 splice trays and store slack in provided cable management brackets.
9.8.7. Route pigtails to front side of panel, stage fibers in parking lot and secure slack using fiber management clips.
9.8.8. Activate MDU connections by moving from parking lot to MDU dwelling ports as required.
9.9. Typical PON
9.9.1. Install each MDU home run drop cable to rear patch panel, label as required.
9.9.2. Top most adapter plate for feeder cable high power pass-through and splitter connections.
9.9.3. Splice feeder fiber(s), field terminate or install stub as required rear side of top adapter plate.
9.9.4. Install splitter housing to rear panel using alignment stud and Velcro.
9.9.5. Route splitter legs to front side patch panel.
9.9.6. Install splitter input (blue strand) to top adapter plate feeder cable.
9.9.7. Install splitter outputs (yellow strands) to parking lot.
9.9.8. Activate MDU connections by moving from parking lot to dwelling ports as required.

9.10. Slack Storage
9.10.1. Coil buffer tube strands around splice tray and store slack in cable management brackets.
9.10.2. Secure buffer tubes and pigtailed to cable management clamps using supplied Velcro and or zip-ties.
9.10.3. Secure fan-out kits.
9.10.4. Install splice tray securing grommet and wing nut.
9.10.5. Dress and secure slack cable.

9.11. Test
9.11.1. Clean and inspect any ferrule prior to mating, contamination can damage ferrule end face.
9.11.2. Typical insertion loss of factory terminated pigtailed and fusion splice should be expected to be 0.25 – 0.5 Db.
9.11.3. Typical reflectance -55 dB UPC.
9.11.4. Typical reflectance -65 dB APC.