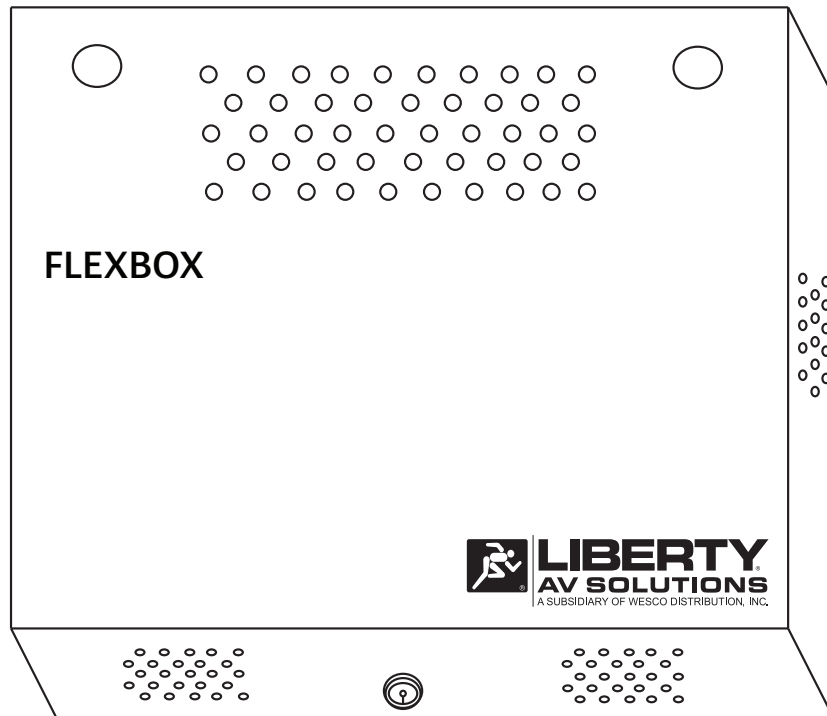# FLEXBOX
Installation Guide

Important Safety Instructions

WEIGHT LIMIT

MAXIMUM WEIGHT 50 LBS. THE STRUCTURE TO WHICH THE BOX IS MOUNTED (CEIL-ING, WALL, TABLE, POLE) MUST BE ABLE TO SUPPORT FIVE TIMES THE MAXIMUM GROSS WEIGHT OF THE SMARTBOX II WITH ALL EQUIPMENT INSTALLED. INSTALLED EQUIPMENT NOT TO EXCEED 20 LBS.

WARNING STATEMENTS

Before you start the installation, please read and follow the instructions carefully and fully.

Qualified personnel must perform installation. Failure to do so can lead to injury or even death.

It is required by state and country codes for ceiling mounting that the sup-plied steel cables be installed properly. Failure to do so can result in injury or even death.

All electrical equipment installed in the FLEXBOX should bear the mark of a Nationally Recognized Testing Laboratory (NRTL)

The FLEXBOX and all accessory items are for indoor installations only.

If the FLEXBOX is installed in a plenum air space, all cabling and equipment mounted in the box and cabling exiting the box must be plenum rated.

TO THE MAXIMUM EXTENT PERMITTED UNDER LAW, IN NO EVENT SHALL LIBERTY AV SOLUTIONS WARRANT AGAINST DAMAGE CAUSED BY UNAU-THORIZED MODIFICATIONS AND ATTACHMENTS.

LIBERTY AV SOLUTIONS DOES NOT WARRANT AGAINST DAMAGE CAUSED BY THE USE OF ANY LIBERTY AV SOLUTIONS PRODUCT FOR PURPOSES OTH-ER THAN THOSE FOR WHICH IT WAS DESIGNED.

Table of Contents

Product Overview

The Liberty AV Solutions multi-function FLEXBOX is a plenum rated 16" x 16" x 6" metal enclosure used to house everything you need for your AV project (up to 20 lbs). The FLEXBOX is a flexible, secure and unobtrusive equipment enclosure for customizing your solution. Constructed of high strength steel, the FLEXBOX features a sliding slotted tray that securely locks in place, requiring no hardware to secure it.

Key features include:
• Multiple mounting options including ceiling tile, pole mount, wall mount, and under-table mounting.
• Removable equipment tray with slots to accommodate a variety of cable types and power plugs.
• Lockable tray allows both vertical and inverted mounting with no screws.
• Keylock to protect equipment.
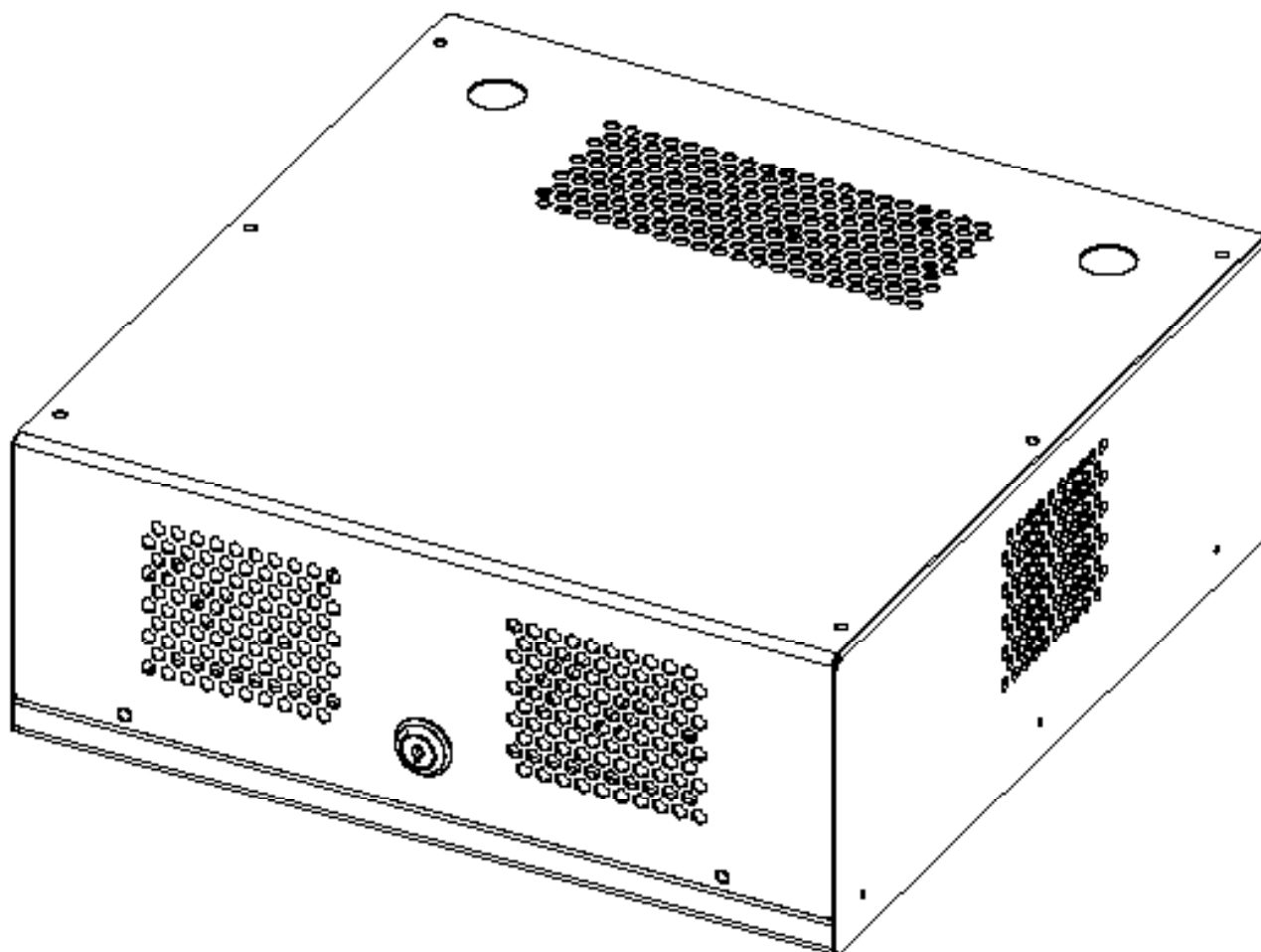
Package Contents

Please verify the following items are in the shipping box prior to installation of the FLEXBOX.

1 each FLEXBOX to include the following:
      1 each Flexbox Base (sides and bottom)
      1 each Removable Tray
      1 each Locking Lid with Keylock
      1 each Wall Mounting Hardware Kit (see below)
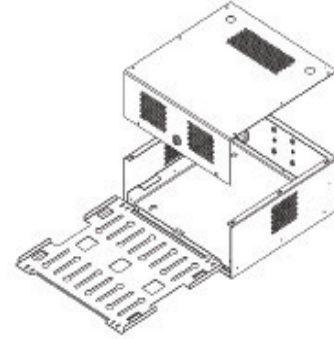
1 each Wall Mounting Hardware Kit to include the following:
      4 each BOLT Lag 1/4" x 1-3/4" zinc
      4 each ANCHOR sleeve 1/4" x 1-1/4"
      4 each ANCHOR Kap Toggle 1/4"-20
      4 each WASHER 1/4" split lock zinc
      4 each BOLT Tap hex 1/4"-20 x 2-1/2" fully threaded TB
      4 each #12 x 3/4" Pan Head wood screws (not shown)
      2 each Keys (not shown)

OPTIONAL ACCESSORIES:

FLEXBOX Pole Mount, available in Black or White (Figure 1)
FLEXBOX Cable Cover, available in Black or White (Figure 2)
FLEXBOX Ceiling Plate, available in White only (Figure 3)
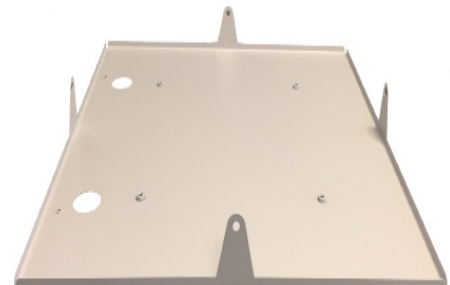
Figure 1   Figure 2   Figure 3

Getting Started

1. Unlock the FLEXBOX using supplied keys.
2. Remove lid by sliding until the studs clear the keyholes.
3. The equipment tray is removed by sliding it towards the opening of the box three inches, or until it clears the locked position. Lift up to clear the locks and remove.
4. Lay out the equipment that you are going to install in the box. Note that equipment can be mounted above and below the equipment tray depending on the size.

TIP: In general, the underneath of the tray is best for power adaptors and cable management.

5. Vizualize the cable flows and align the hardware accordingly, keeping in mind the two exit holes at the rear of the box.

6. We recommend a power strip with with built in circuit breaker and surge protection (not included) with outlets that are separated enough to accommodate some "wall warts" which need more space. The power strip should be mounted so the cable is positioned near the exit hole.
7. The equipment can be mounted the following ways:
    a) Velcro
    b) Cable ties
    c) Mounting brackets supplied with your equipment, e.g. mini switchers.

WARNING: DO NOT DRILL INTO EQUIPMENT THAT YOU ARE MOUNTING INTO THE FLEXBOX. THIS WILL VOID THE WARRANTY OF THE EQUIPMENT, AND COULD RESULT IN INJURY.

Cable Management

The equipment tray has 16 slots with a round keyhole opening at either end to accommodate power supply cables, CAT5 connectors, etc. There are also three squares that accommodate the pass thru of large connectors such as power plugs. *Visit our website at www.Libav.com for install kits available for cable and power management.*

Mounting

WALL MOUNT

Remove the lid and equipment tray from the FLEXBOX. Pick a location where you want to mount the FLEXBOX on the wall. The FLEXBOX can be mounted to masonry, wood, or sheet rock walls capable of supporting 250 lbs. Mounting screws for each type are included.

The FLEXBOX can mount on studs at 12" centers (Figure 1). There are four mounting keyholes on the base of the FLEXBOX. It is recommended that the FLEXBOX be mounted to at least one stud. For example, one side is mounted to a stud and the other is mounted to sheet rock. Install all four screws to your wall but do not tighten fully leaving at least 1/16" from the wall. Slide the tray out of the way to give you clearance, align the keyholes to the screws, mount the box and tighten the screws (Figure 2). Replace the equipment tray (Figure 3) and FLEXBOX lid (Figure 4).
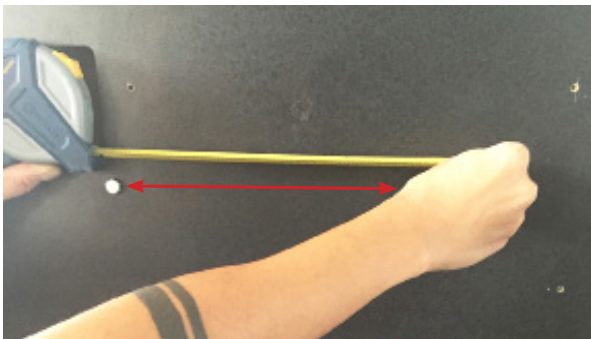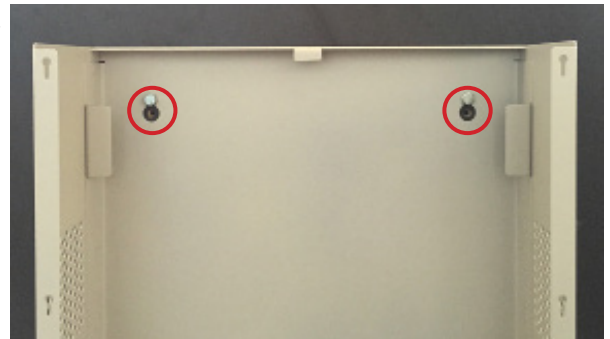
Figure 1

Figure 2

Figure 3

Figure 4

Mounting (cont'd)

POLE MOUNT

The Liberty AV Solutions Pole Mount Adapter allows the FLEXBOX to be mounted horizontally on a pole with a diameter of between 3/4" and 2-1/4". The FLEXBOX can be mounted right side up with the lid on top (Figure 1), or inverted (Figure 2).
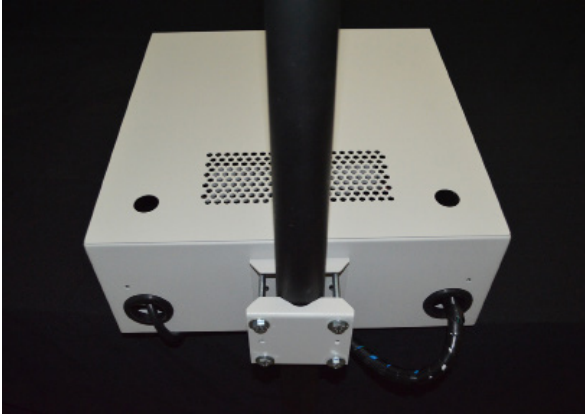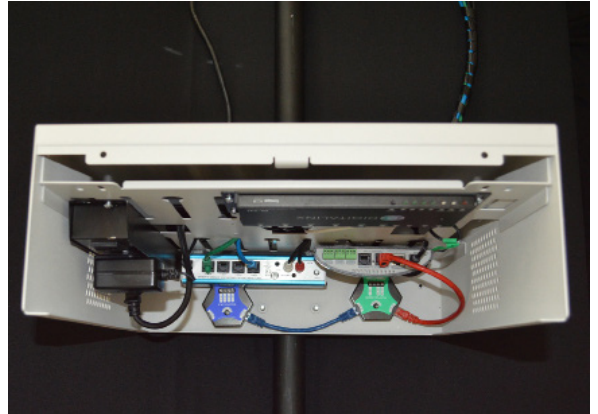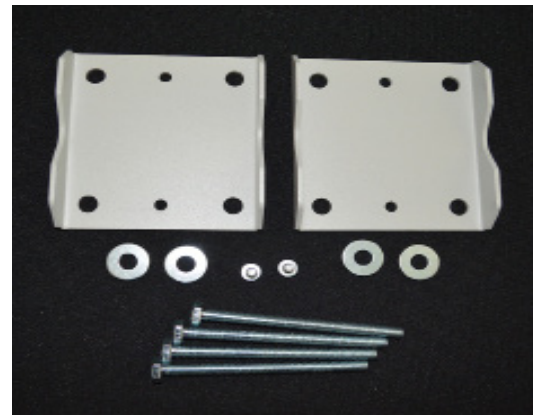
Figure 1

Figure 2

Package Contents

Please verify the following items are in the shipping box prior to installation of the FLEXBOX Pole Mount Adapter. Images are not to scale.

1 each Pole Mount Kit to include the following:
     2 each Pole Mounting Bracket
     4 each 1/4" x 3-1/2" Bolt
     4 each Washers
     2 each Pan Head Screws

The following is a partial list of tools needed to properly perform the installation of the FLEXBOX Pole Mount Adapter:

Phillips Screwdriver
7/16" Socket Wrench

Mounting (cont'd)

POLE MOUNT (cont'd)

WARNING: The pole must be anchored solidly to the ceiling and be able to support 5 times the weight of ALL attached equipment (i.e. the projector + 50 lbs for the box and equipment all together multiplied by 5).

1.   Attach one of the pole mounting brackets (identical) to the FLEXBOX using the two included pan head screws (Figure 1).
2.   Position the FLEXBOX and adapter plate around the pole to your desired location.
3.   Insert each of the 3-1/2" bolts into the washers then into the adapter plate and through the mending plate on the FLEXBOX (Figure 2).
4.   Tighten fully using the socket wrench. ***Make sure all 3-1/2" screws are evenly tightened around the pole*** (Figure 3).

TIP: There will be resistance when you begin to tighten the screws into the FLEXBOX. This is normal as the nuts are self locking and best performed using a socket wrench.
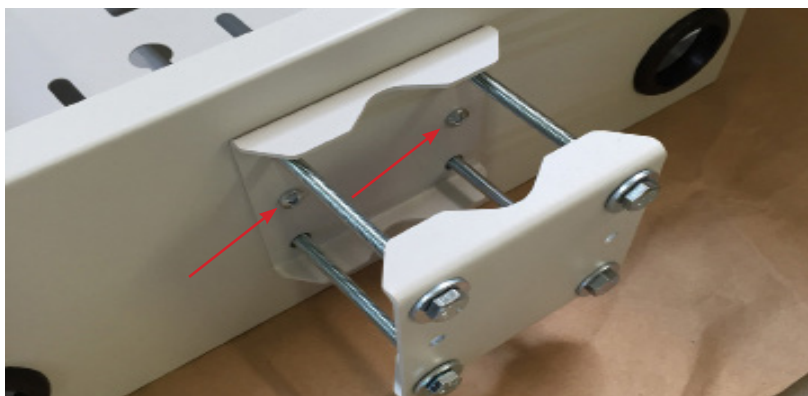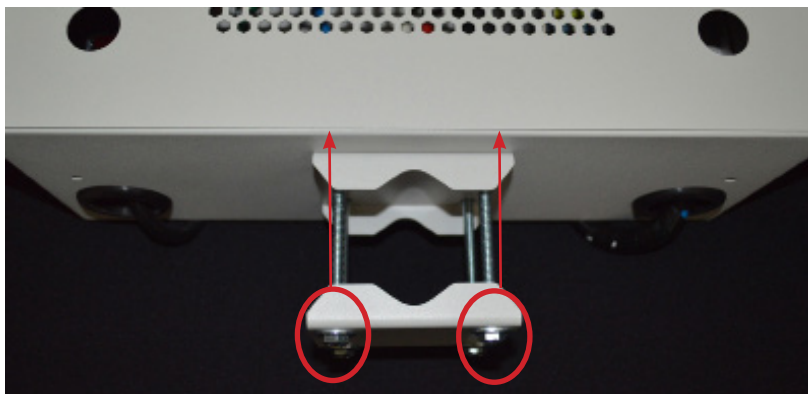
Figure 1

Figure 2

Figure 3

Mounting (cont'd)

UNDER TABLE MOUNTING

The bottom tray can be screwed into a table using the supplied 12 x 3/4" pan head wood screws as follows:
1. Align the bottom tray making sure that you have 20" of clearance from the end of the table to the FLEXBOX for seating accommodations. Mark off the four keyhole points.
2. Verify that the table is thick enough to handle the screws.

WARNING: Make sure that the 3/4" screws provided will not protrude through or otherwise damage the topside of the table.

3. Screw in the pan head wood screws to the underside of the table leaving a small gap for the FLEXBOX.
4. Align the keyholes to the screws, mount the FLEXBOX in the lock position, and tighten the screws (Figure 2, page 7).
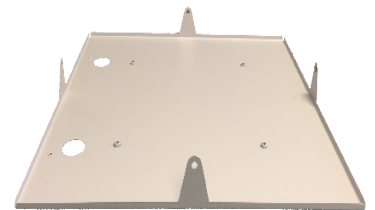
CEILING TILE MOUNTING

The Liberty AV Solutions Ceiling Mount Plate is a 2' x 2' metal plate that is mounted in a standard ceiling tile space. The FLEXBOX is bolted to the Ceiling Plate, and resides below the ceiling tile for easy access.
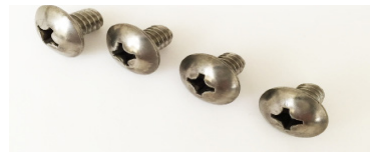
Package Contents

Please verify the following items are in the shipping box prior to installation of the FLEXBOX Ceiling Plate.
Images are not to scale.

1 each FLEXBOX Ceiling Mount Plate

4 each Mounting Screws to attach FLEXBOX to Ceiling Mount Plate

1 each Griplock® Cable Mounting System Kit to include the following:
    4 each Galvanized Steel Cable (10' lengths) with Loop
    4 each Locking Gliders for Galvanized Steel Cable
Griplock® is a registered trademark of Griplock Systems, LLC.

4 each Eye Lag Wood Screws (1/4"x 3") Suspend-It #8856
4 each Standard Concrete Wedge Anchor Power-Stud+SD1 #7409

The following is a partial list of tools needed to properly perform the installation of the FLEXBOX Ceiling Mount Plate:

Hand-held drill that can penetrate concrete	Level (preferably laser)	Sharpie Marker
Drill bits for wood and concrete	Box Cutter	Eyewear Protection
Ladder (preferably two)	Screwdrivers	

Mounting (cont'd)

CEILING TILE MOUNTING (Cont'd)

Location

1. Determine ceiling location for FLEXBOX Ceiling plate installation.
2. Remove ceiling tile from grid.
3. Using the FLEXBOX Ceiling Plate as a template, mark the ceiling tile to show where it needs to be cut. The portion removed should be the exact size as the ceiling mount plate.
4. Using a T-square or similar straight-edge and a utility knife, cut the ceiling tile where marked, being careful not to mar the cut edge because this edge will be visible after installation.
5. Remove adjacent ceiling tiles from grid and carefully set aside.

NOTE: If you are installing the FLEXBOX Ceiling Plate into a 24" x 48" ceiling tile opening, you will need to attach a 24" T-bar frame for support (not included; source locally).

Ceiling Type

The FLEXBOX Ceiling Plate is secured to the ceiling grid by attaching the four Griplock® Cables to the hard ceiling via supplied Griplock® connectors. ***For complete installation instructions refer to the Griplock® System installaton instructions (included).***

WARNING: These cables must be attached to conform to all applicable county, state or country codes.

TRUSS
Loop the four cables around truss and let the excess drop towards the floor.

WOOD STUDS
1. Mark the mounting location for the supplied eye lag screws and drill four 1/8" holes into the wood.
2. Screw in the four eye lag screws and attach the cables. Let the excess drop towards the floor.
The guide for how to use Suspend-It lag screws along with Suspend-It's general suspended ceiling instructions are included at the end for your convenience.
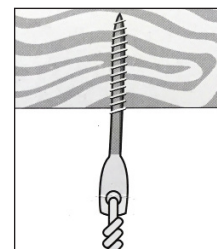
CONCRETE
1. Mark the four locations to attach the supplied eye anchor bolts.
2. Drill 1/4" holes x min. 1-1/8" deep in each of the four locations.
2. Gently hammer the eye lag anchors in place and secure by using the claw end of the hammer to pull down on the anchors to lock them in place.
3. Attach the cables and let them drop towards the floor.
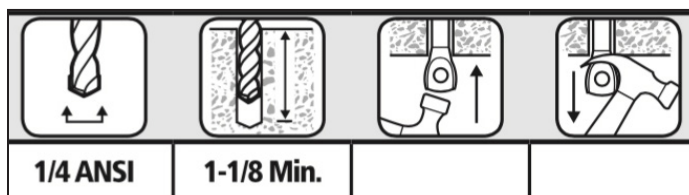
For detailed installation instructions visit powers.com

WARNING: When modifying suspended ceilings, always refer to the original manufacturer's design and information guide for how to correctly install their product.

NOTE: The mounting method must meet local code requirements. The support structure (i.e. truss, wood or concrete) must be able to support 5 times the maximum gross weight of the ceiling box with all equipment installed.
For example: If the weight of the FLEXBOX plus installed equipment weighs a total of 50 lbs., multiply by 5 for the total weight your support structure must be able to support. In this example, the support structure must be able to support a total weight of 250 lbs.

Attaching the FLEXBOX to the Ceiling Plate

The FLEXBOX attaches to the FLEXBOX Ceiling Plate using four supplied 1/4" screws. These supplied screws go into four PEM nuts with self locking threads that are attached to the FLEXBOX Ceiling .

TIP: Because of the nature of the self locking threads, use more torque than normal. Use an appropriate sized Phillips screwdriver.

1. Place the FLEXBOX Ceiling Plate face down on a box or other support item that will take the load off the eyelet holes in order to mount the FLEXBOX (see Figure 1).
2. Remove the equipment tray from the FLEXBOX and line up the four keyholes on the base of the FLEXBOX with the PEM nut holes on the FLEXBOX Ceiling Plate (Figure 2).

TIP: Make sure the exit holes for equipment cables are lined up with the equipment cable holes on the Ceiling Plate.

3. Screw in the four supplied screws making sure that the FLEXBOX is in the locked position. *Test for tightness to make sure the FLEXBOX is firmly attached* (Figure 3).
4. Replace the slide-out equipment tray in the FLEXBOX and pull all cables through the exit holes. Rest the cables on top of the FLEXBOX ceiling plate (Figure 4).
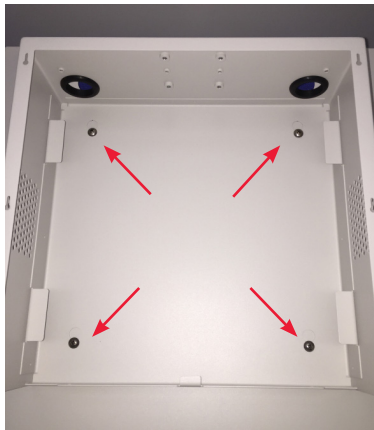
Figure 1
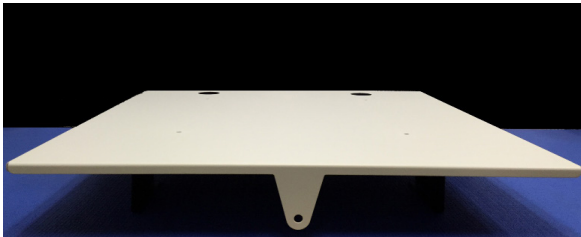
Figure 2
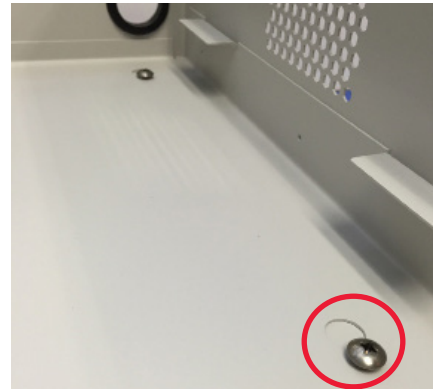
Figure 3

Figure 4

Installing the Ceiling Plate to the Ceiling Grid

1. The four cables attached to the wood eye lag screws or cement anchors in the ceiling should hang approximately four feet from the floor in a standard ceiling. Rest the FLEXBOX with ceiling plate on a cart or table lined up with the hanging cables (Figure 1).
2. Insert the cable into the Griplock™ cable gripper and pull through until the gripper is six inches above the hanging holes on the FLEXBOX Ceiling Plate. Run the cable through the hanger hole and then through the gripper's side opening (Figure 2).
3. Repeat the process on the other three cables using the supplied cable gripper.
4. Hold the gripper and pull on the cable to raise the FLEXBOX with ceiling plate towards the ceiling. When you get as high as you can go, remove the table or cart (Figure 3).

WARNING: It is highly recommended that two people perform the following part of the installation!

5. Position a ladder (or two) below the ceiling opening and simultaneously lift the FLEXBOX with Ceiling Plate to the ceiling and tighten the grippers as you go.

TIP: It is best if one person lifts the FLEXBOX with Ceiling Plate and the second person tightens the grippers.

6. Finish tightening the Griplock® cables but do not over tighten (Figure 4), keeping the weight of the box on the cables and not on the ceiling grid. Cut the excess cables so that only three inches is left from the gripper.
7. Organize and pull your equipment cables from the exit holes.
8. Carefully put back all ceiling tiles that you removed and clean up the area
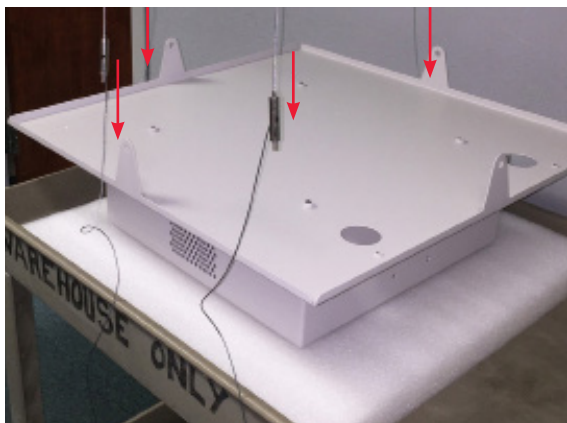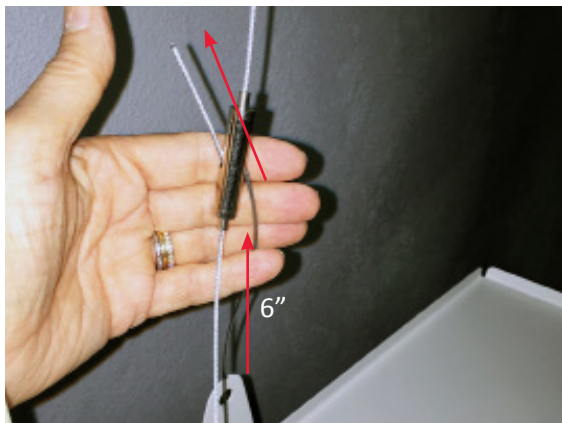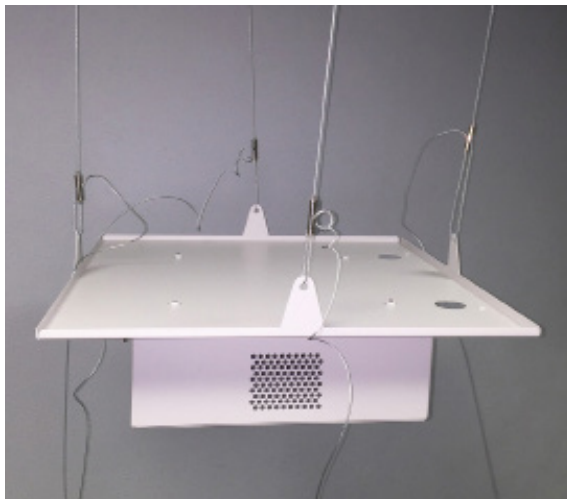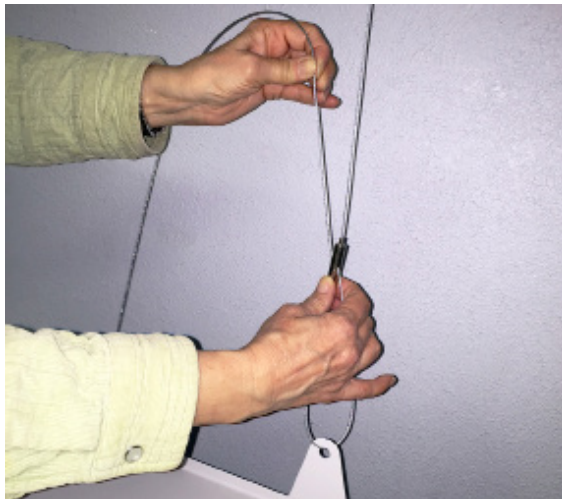
Figure 1

Figure 2

Figure 3

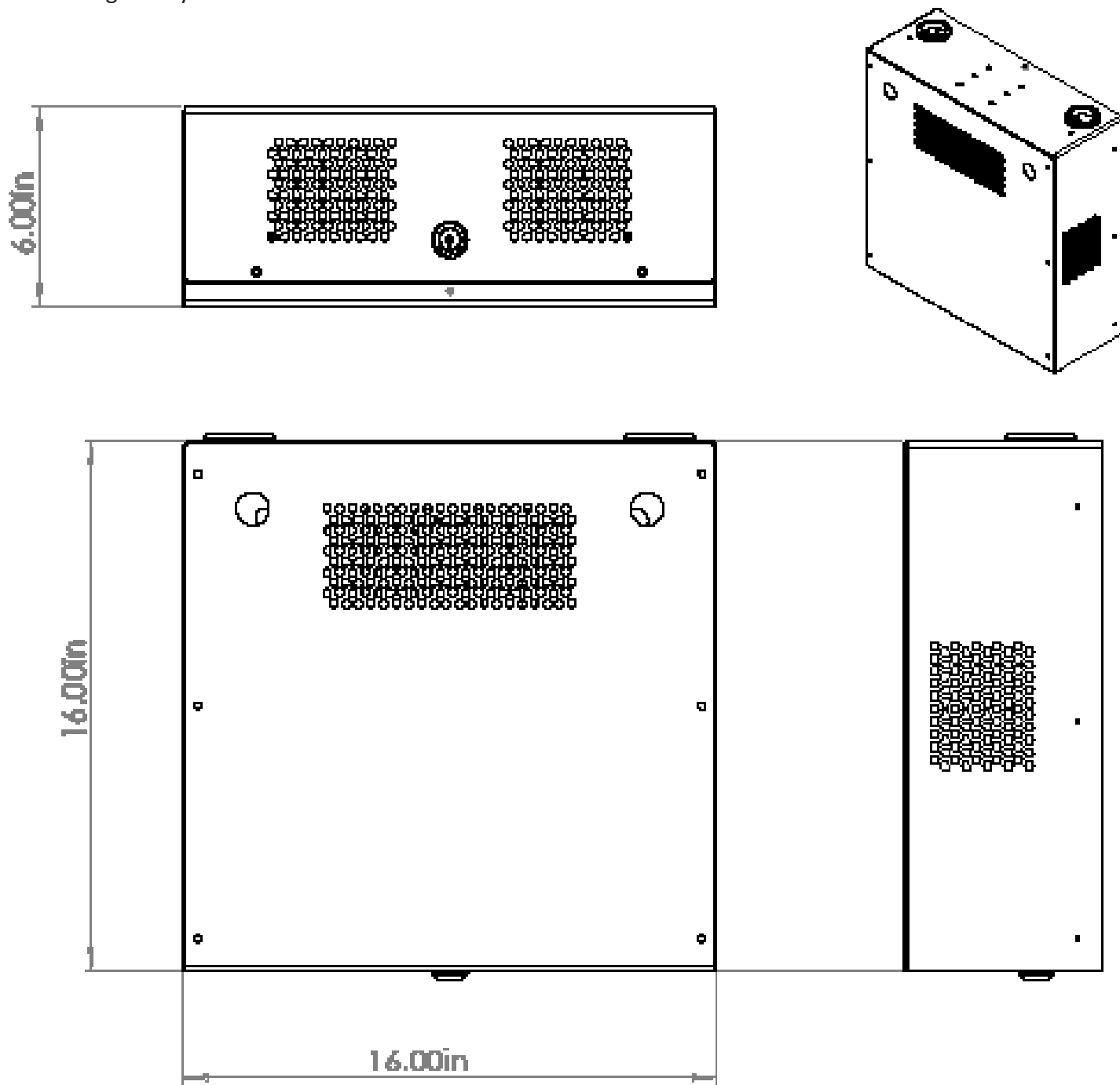Figure 4

Technical Specifications

FLEXBOX

Material: Powdercoated Steel
Color: Black or White
Net Weight: 17.5 lbs
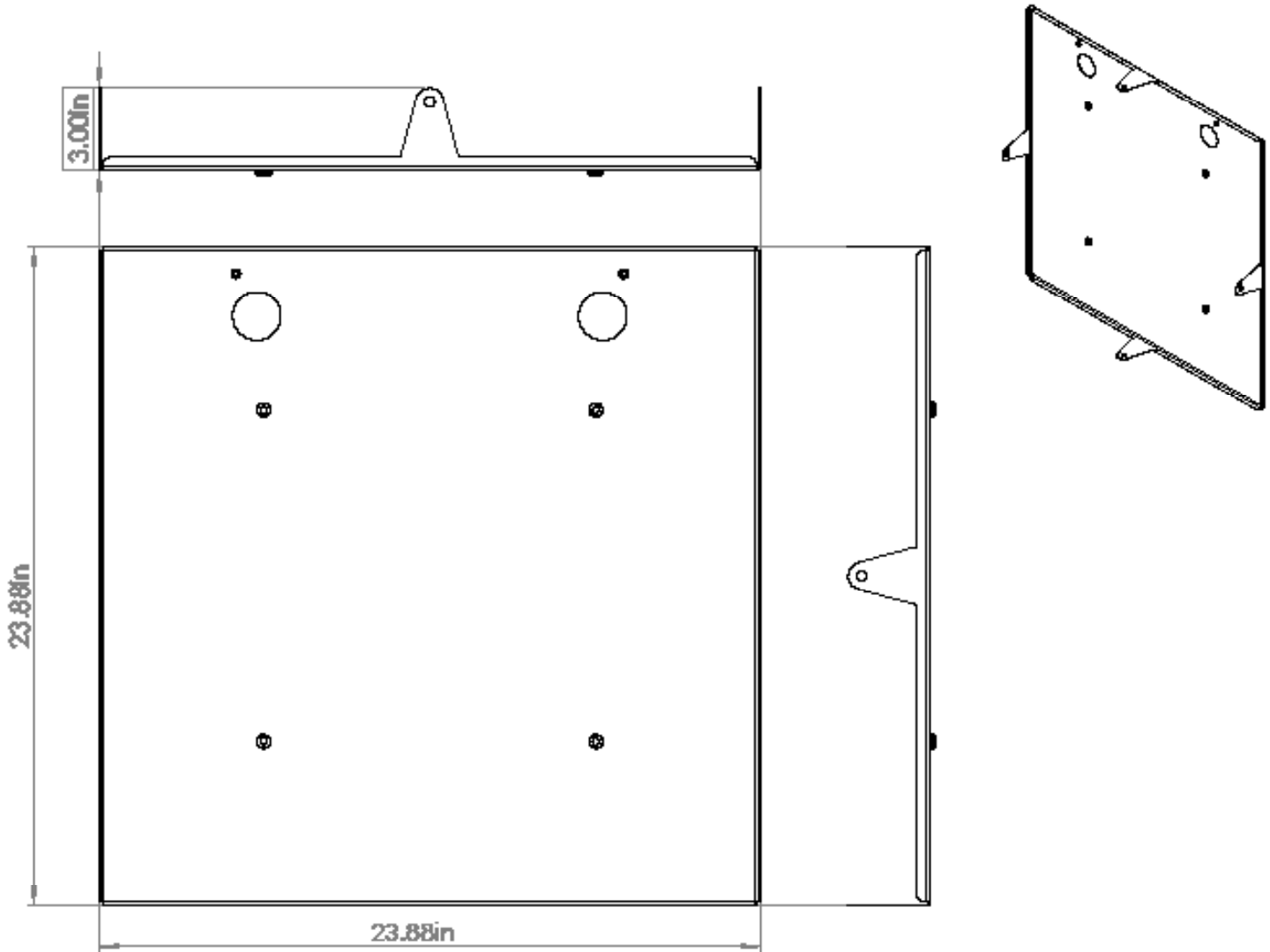Product Regulatory: UL Certified

Technical Specifications (cont'd)

FLEXCAP Ceiling Plate

Material: Powdercoated Steel
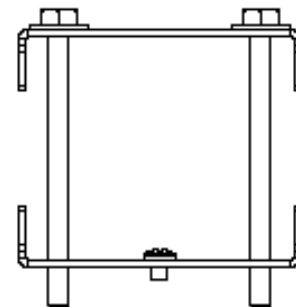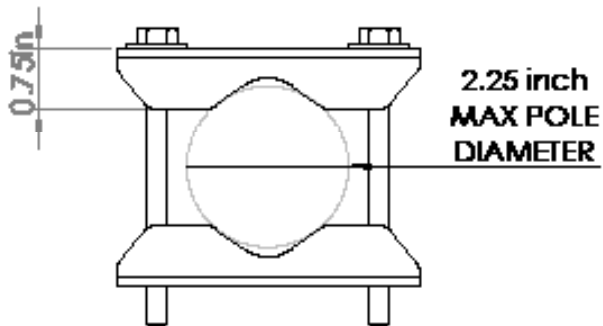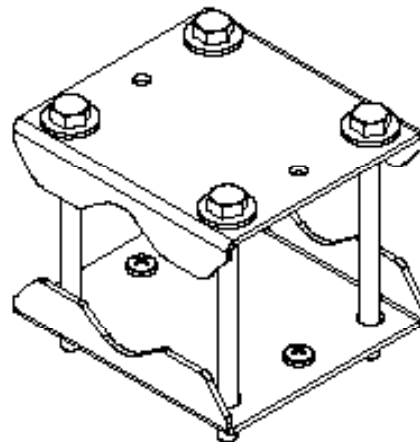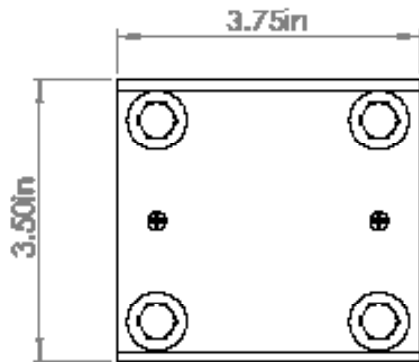Color: White
Net Weight: 8.2 lbs

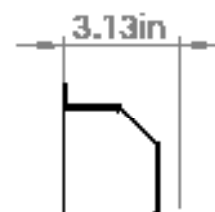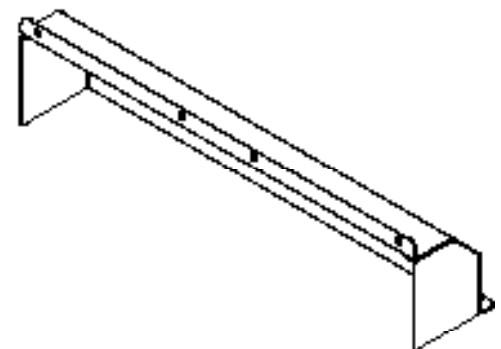# Technical Specifications (cont'd)
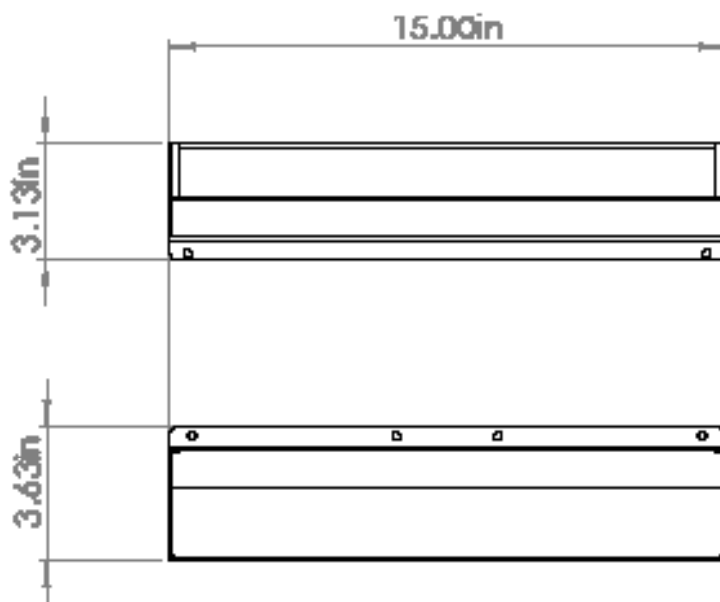
FLEXPMT Pole Mount

Material: Powdercoated Steel
Color: Black or White
Net Weight: 1 lb

FLEXCVR Cable Cover

17

Thank you for your purchase.

Please contact us with your questions and comments.

11675 Ridgeline Drive
Colorado Springs, Colorado
80921 USA

Phone: 719-260-0061
Fax: 719-260-0075
Toll-Free: 800-530-8998

www.libav.com