Technical Specifications
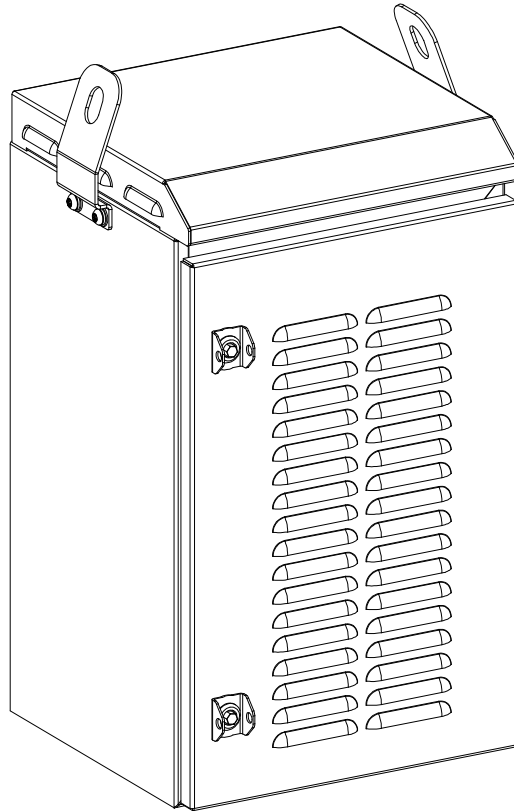
**Aktino Midspan
Outdoor Equipment Cabinet**

**P/N AKCABTP30
Used in
AK3R, AK4R, and AK5R**

Table of Contents

Releases to this Technical Documentation

Issue Level	Date	Description of Revision
R00	09/18/08	Initial release

USING THIS TECHNICAL PRACTICE

This publication provides a description of the Aktino's AKCABTP30 Outdoor Cabinet. Typical applications, mechanical descriptions, installation instructions, safety guidelines, grounding instructions, and wiring diagrams are included.

Two types of messages appear throughout this manual, identified by the following icons:

Note - indicates special conditions.

Caution - indicates possibility of personal injury or equipment damage.

INSPECTING SHIPMENT

On receipt of the equipment:

- Inspect the shipping container(s) and note any signs of damage. Then unpack the container(s) and carefully inspect for damage to the contents. If the equipment has been damaged in transit, immediately report the extent of damage to the transportation company and to Aktino, Inc. Order replacement equipment, if necessary.

- Check the packing list to ensure complete and accurate shipment of all listed items. If the shipment is short or irregular, contact Aktino, Inc. as described in the Warranty. If the equipment must be stored for a prolonged period, do so in the equipment's original container. If equipment ever needs to be returned, please use the original packaging if available.

PUBLICATION

This practice provides specifications and installation instructions for the Aktino Outdoor Cabinet (part no. AKCABTP30).

PRODUCT OVERVIEW

The Aktino AKCABTP30 cabinet model is a pole, pad or wall mounted outdoor telecommunications equipment cabinet. The cabinet has overall dimensions of 26 inches high x 14 inches deep x 15 inches wide. See the figures on the following pages for details.

The cabinet is constructed of aluminum with a powder coat painted finish for reduced weight and superior corrosion resistance. The front door is equipped with two quarter turn pad lockable door latches. The top of the cabinet has a double wall construction to reduce the effects of solar radiation and for structural integrity.

Cooling is provided by two DC fans.   All fans are mounted to the roof of the cabinet behind the equipment. The fans pull air through the front door of the cabinet and exhausts the air through the roof overhang and the louvers in the sides of the roof.

The left front of the equipment-mounting bay has 4U (7 inches) of 19" rack space provided for mounting up to four Aktino units (1U per unit). One swing out 19" rack is provided on the right side of the equipment bay for the 50 pair protection/cross connect assemblies. The protection/cross connect swing out rack has 2U of 19" rack space.

Cable entry and exit from the cabinet passes through two sealing boots located in the bottom rear of the equipment bay. The master grounding bus bar is located on the side wall of the equipment bay.

Cabinet lifting eyelets

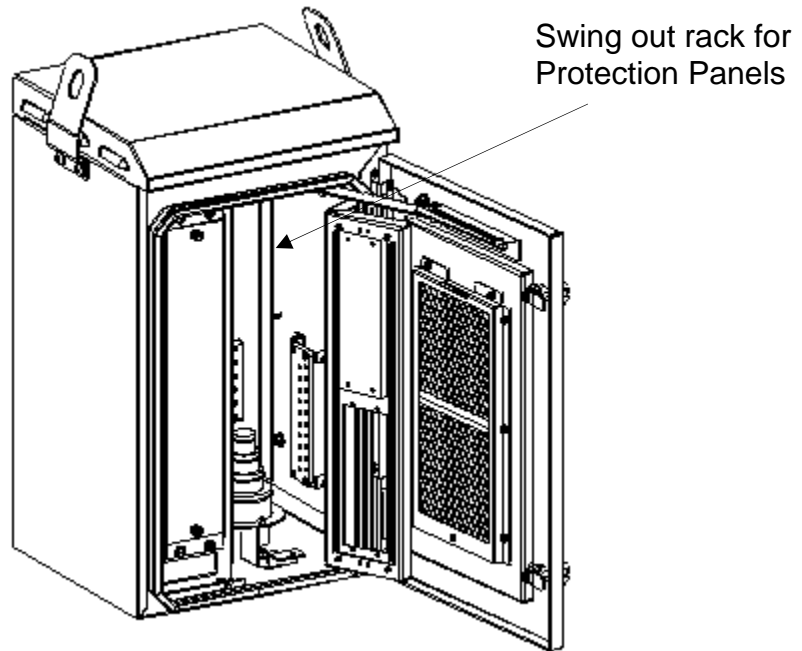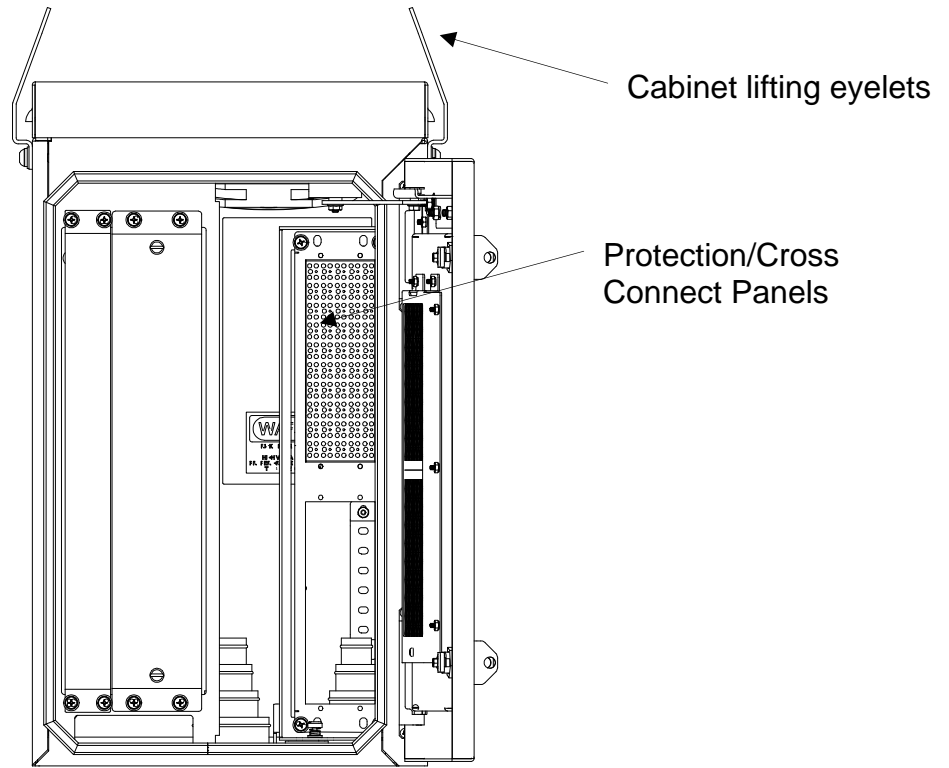Protection/Cross
Connect Panels

Swing out rack for
Protection Panels

Figure A - Front views of cabinet with door open

Cable
Management
Brackets

Air Filters
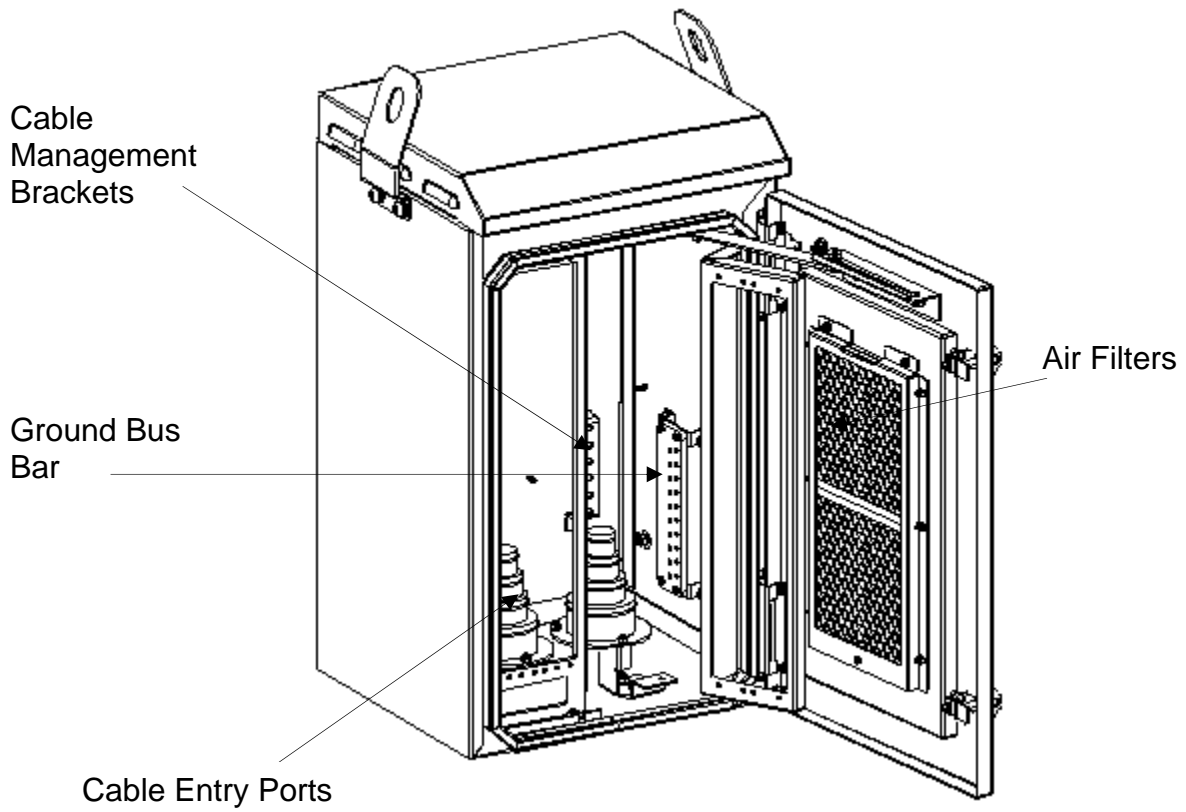
Ground Bus
Bar

Cable Entry Ports

Figure B - Front views of cabinet without Equipment

PRODUCTION SPECIFICATIONS

AKCABTP30 – cabinet outer physical dimensions:

Height	–	26 inches
Height with Pedestal	--	40.5 inches
Width	–	15 inches
Depth	–	14 inches (internal)
Approx. Weight	–	60 pounds
		85 pounds (with pedestal)
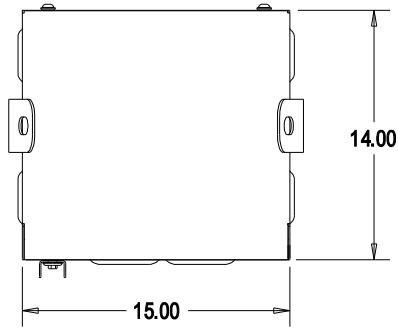
Top View
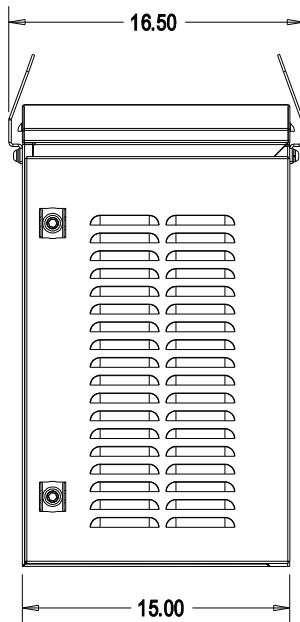
Front View
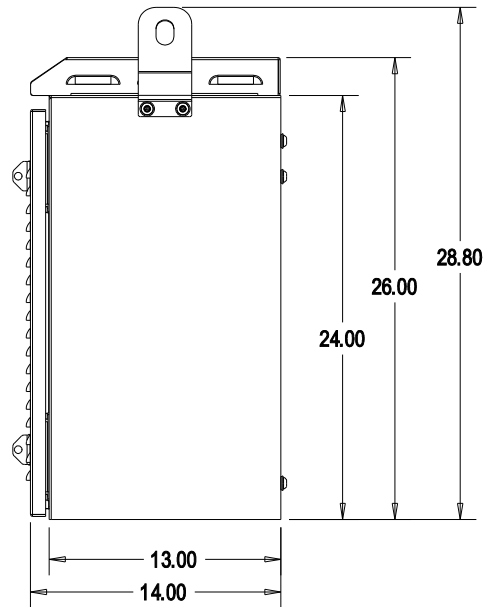
Right View

Figure C –Cabinet overall dimensions

QUARTER TURN LOCKING DOOR LATCHES

The cabinet door is equipped with two quarter turn padlockable latches. The latches are secured by turning the 7/16" hex security bolt one-quarter turn clockwise until the stop is reached. Convenient security locking hasps are factory installed to allow for a #1 Master lock (or equivalent) to be installed. With a padlock on the latch the electronics door cannot be opened, deterring vandalism.

Un-Lock   Lock

7/16" Hex Security Bolt

Padlock Hasp
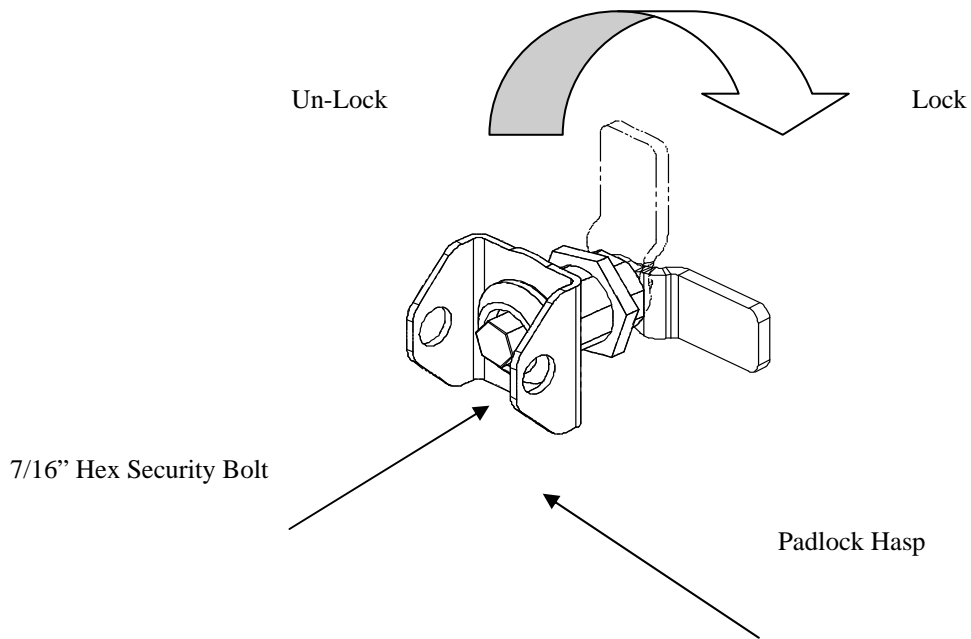
Figure D – Quarter turn locking door latches

INSTALLATION PROCEDURE

The Aktino AKCABTP30 cabinet can be mounted on a pole or wall. See figures below.

⚠️ **Lifting eyelets are provided to facilitate hoisting if desired.**

📝 **During cabinet mounting, fixture the cabinet securely to avoid personal injury or cabinet damage.**

CLEARANCE REQUIREMENTS

When selecting a location to mount the cabinet, ensure that proper clearance is available to allow adequate ventilation and to allow the cabinet door to open fully. **See figure F below for top view of Cabinet footprint.**

Figure E - Cabinet Footprint

INSTALLATION PROCEDURE FOR POLE MOUNTING

Use this procedure to mount the cabinet on a 6 to 8 inch diameter pole. See Figure G below for a cabinet mounting illustration.
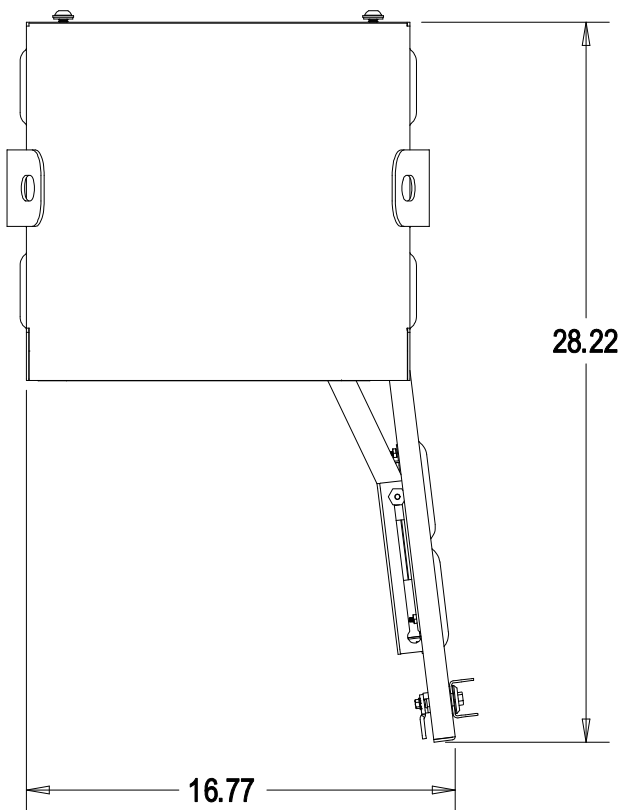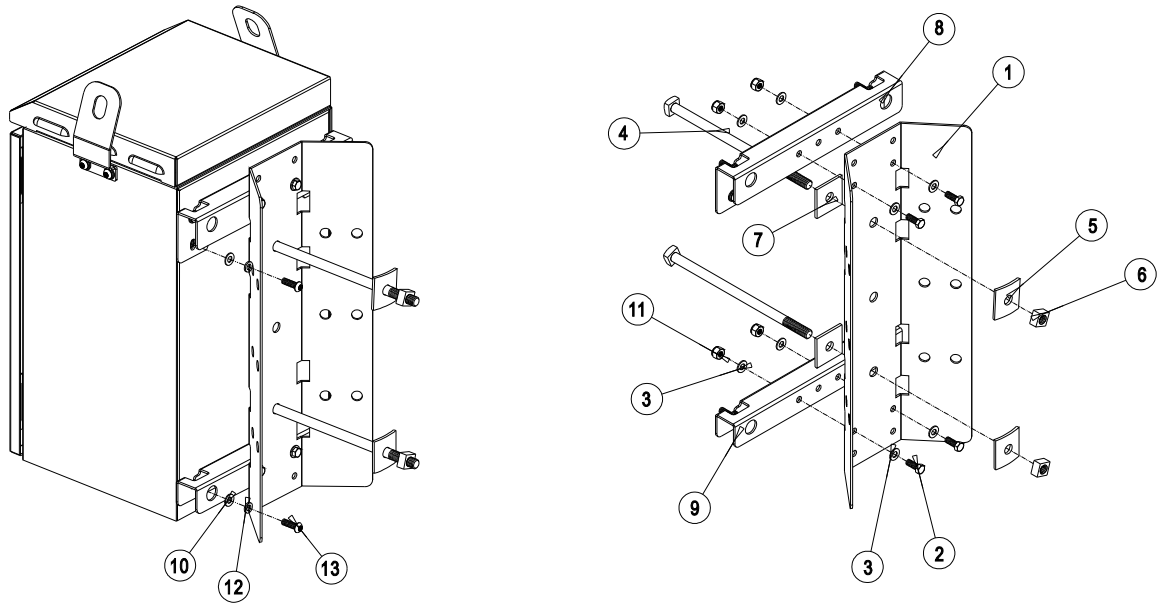

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	S10600-055	Bracket, Vertical Pole Mount, TP60
2	4	H38C100SSMSHH	Screw, 3/8-16 x 1", Stainless Steel, Cap
3	10	H38NSSFW	Washer, 3/8" Stainless Steel, SAE, Flat
4	2	H63C1600PSSHGV	Bolt, Square Head, 5/8-11 x 16 & Nut, Galvanized
5	2	H63NPSCWGV	Washer, Curved, 2 1/4 x 2 1/4 x 3/16, 5/8, Galvanized
6	2	H63NUT	Nut, 5/8, Galvanized (Included with Bolt)
7	2	H63NPSSWGV	Washer, Square, 2 1/4 x 2 1/4 x 3/16, 5/8, Galvanized
8	1	S10600-104	Bracket, Upper Pole Mount, TP30
9	1	S10600-105	Bracket, Lower Pole Mount, TP30
10	4	H38NS6SFWNPMC	Washer, 3/8" X 3/4" MP06G 316 SS Flat
11	4	H38CPSLNNIZ	Nut, Nylon Top Lock 3/8"
12	6	H38NS6SLWSPMC	Washer, 3/8 MP06G 316 SS Split Lock
13	6	H38C125S6SMSARMC	Bolt, 3/8-16 x 1.25 MP06G 316 SS Pinned Button Head

Have the following equipment ready before beginning this procedure:
- One drill
- One 3/4" x 12" drill bit
- One 9/16" wrench or socket
- Two 15/16" wrenches or sockets
- A pencil
- Included pole mounting kit

Figure F - Pole Mounting Diagram

See Figure G on the previous page for a cabinet mounting illustration.

1. Pre-assemble the upper and lower horizontal brackets to the vertical bracket as shown in the above Figure.
2. Select a convenient mounting location on the pole.
3. Position the mounting bracket assembly against the pole and mark on the pole the location of the two (2) 5/8" bolts (item 8).
4. Place the mounting bracket assembly out of the way.
5. Drill two (2) 3/4" (19.05 mm) diameter holes completely through the pole at the locations marked in step 2.
6. Insert machine bolt (item 8) through mounting bracket and into the top mounting hole and press bolt and bracket flush against the pole.
7. Place round-cupped washer (item 9), with the concave side in, on bolt and finger tighten nut.
8. Repeat step 6 for remaining bolt.
9. Secure the mounting bracket assembly to the pole by securely tightening the machine bolts to 40 ft-lbs for wooden posts and 100 ft-lbs for metal posts.
10. Using proper lifting and safety equipment, place cabinet on mounting bracket assembly using supplied 3/8" hardware and tighten to 45 ft lbs. Lifting eyelets are provided on the cabinet for hoisting it in place.
11. If the cable stubs connect to an underground cable, dress the cable down the pole. If the cable stubs connect to an aerial cable, form a drip loop in the cable and dress it up the pole to the splice case.
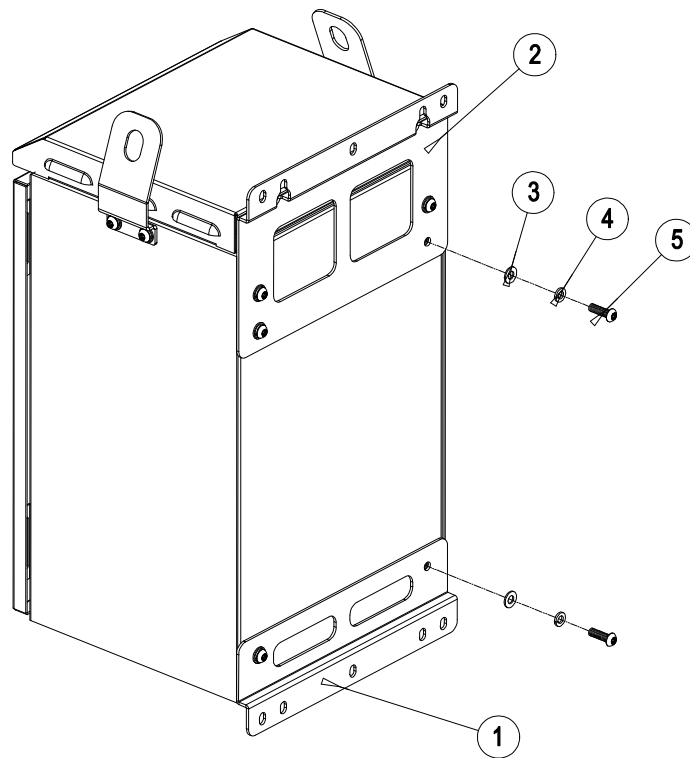
⚠ **For mounting heights less than 7' above grade, excess bolt length may need to cut off in order to prevent a hazardous protrusion.**

⚠ **Lifting eyelets are provided to facilitate hoisting if desired.**

INSTALLATION PROCEDURE FOR WALL MOUNTING

Use this procedure to mount the cabinet on a flat surface wall. See Figure I below for a cabinet mounting illustration.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	S10600-102	Bracket, Wall Mount, Upper, TP30
2	1	S10600-103	Bracket, Wall Mount, Lower, TP30
3	6	H38NS6SFWNPMC	Washer, 3/8" X 3/4" MP06G 316 SS Flat
4	6	H38NS6SLWSPMC	Washer, 3/8" MP06G 316 SS Split Lock
5	6	H38C125S6SMSARMC	Bolt, 3/8-16 x 1.25 MP06G 316 SS Pinned Button Head

Have the following equipment ready before beginning this procedure:
- One drill
- One 3/8" drill bit
- One 9/16" wrench or socket
- A pencil
- Included wall mounting kit

Figure G - Wall Mounting Diagram

See Figure H on the previous page for a cabinet wall mounting illustration.

1. Pre-assemble the upper and lower wall mounting brackets to the cabinet as shown above.

2. Position the cabinet with mounting brackets against the wall and mark on the location of the mounting holes on the wall.

3. Drill six (6) 3/8" diameter holes completely through the wall at the locations marked in step 2.

4. Lift the cabinet with mounting brackets into position against the wall.

5. Insert 5/16" diameter bolts through the upper mounting bracket.

6. Secure the cabinet to the wall by installing 5/16" flat washers, lock washers and nuts to the bolts inserted in step 5.

7. Repeat steps 5 and 6 for the lower mounting bracket.

⚠ **Lifting eyelets are provided to facilitate hoisting if desired.**

CABINET GROUNDING INFORMATION

Bonding and grounding should be done in accordance with the operating telephone company's standard procedures and comply with local electrical codes.

GROUND WIRE

The ground wire protects the electronics from voltage surges. A #6 ground wire must be properly grounded to provide lightning surge protection for the cabinet. Please follow this practice for attaching the ground unless local policies dictate otherwise.

For safety and performance reasons it is imperative that a cabinet be properly grounded. The following guidelines should be used to ground the cabinet unless local practices, rules, or regulations dictate otherwise.

Each door and equipment rack is grounded to the cabinet frame. The cabinet frame is connected to the internal grounding bus by a stranded wire. A similar ground wire must be used to connect the ground bus to each equipment ground lug. These ground wires may need to be removed temporarily to troubleshoot ground faults. The wire may be removed by unscrewing the screws that secure the green wire to the ground bus. **Be sure to reattach these wires after troubleshooting and resolving any ground conflicts.**

Be sure to ground the cabinet before connecting power to the cabinet. This grounding must be in effect at all times to safeguard personnel.

GROUNDING DIAGRAM AND PROCEDURE

Internal Grounding bus

Ground Rods

5 FT TYP
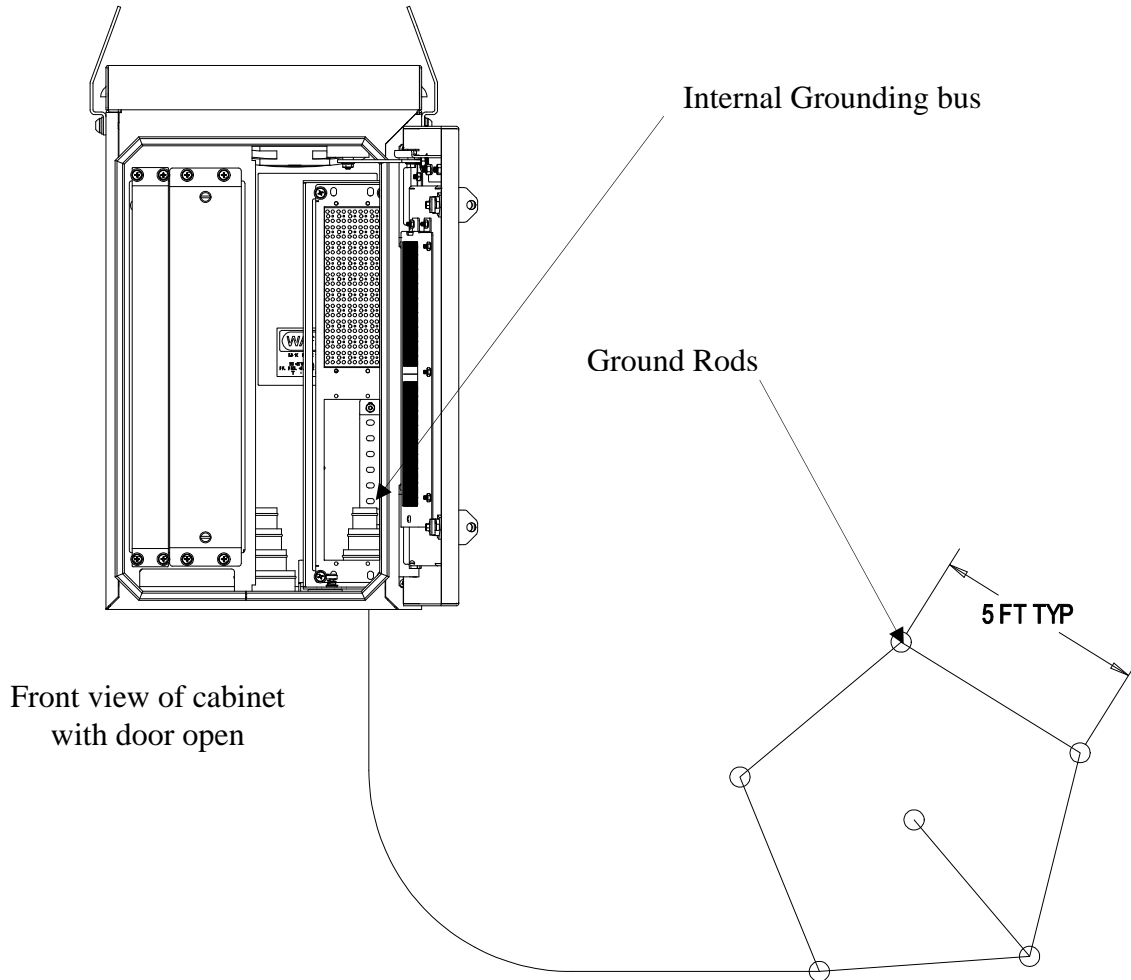
Front view of cabinet
with door open

Figure H - Grounding Diagram

To ground the cabinet, see Figure K above.

1. Drive the ground rods into the ground near the cabinet location.
2. Use a Megger-type ohmmeter to measure the resistance between cabinet ground and the ground rod. The resistance must be 25 ohms or less.
3. If the ohm requirement in step 3 is met proceed to step 4. Otherwise, follow local practices to lower the resistance to ground to comply with step 3 before proceeding to step 4.
4. Connect a #6 ground wire to the ground rod.

FAN/FILTER REPLACEMENT

Roof

Exhaust Air Filter

48VDC Fan

Front roof retaining bolts.
*Access bolts from the
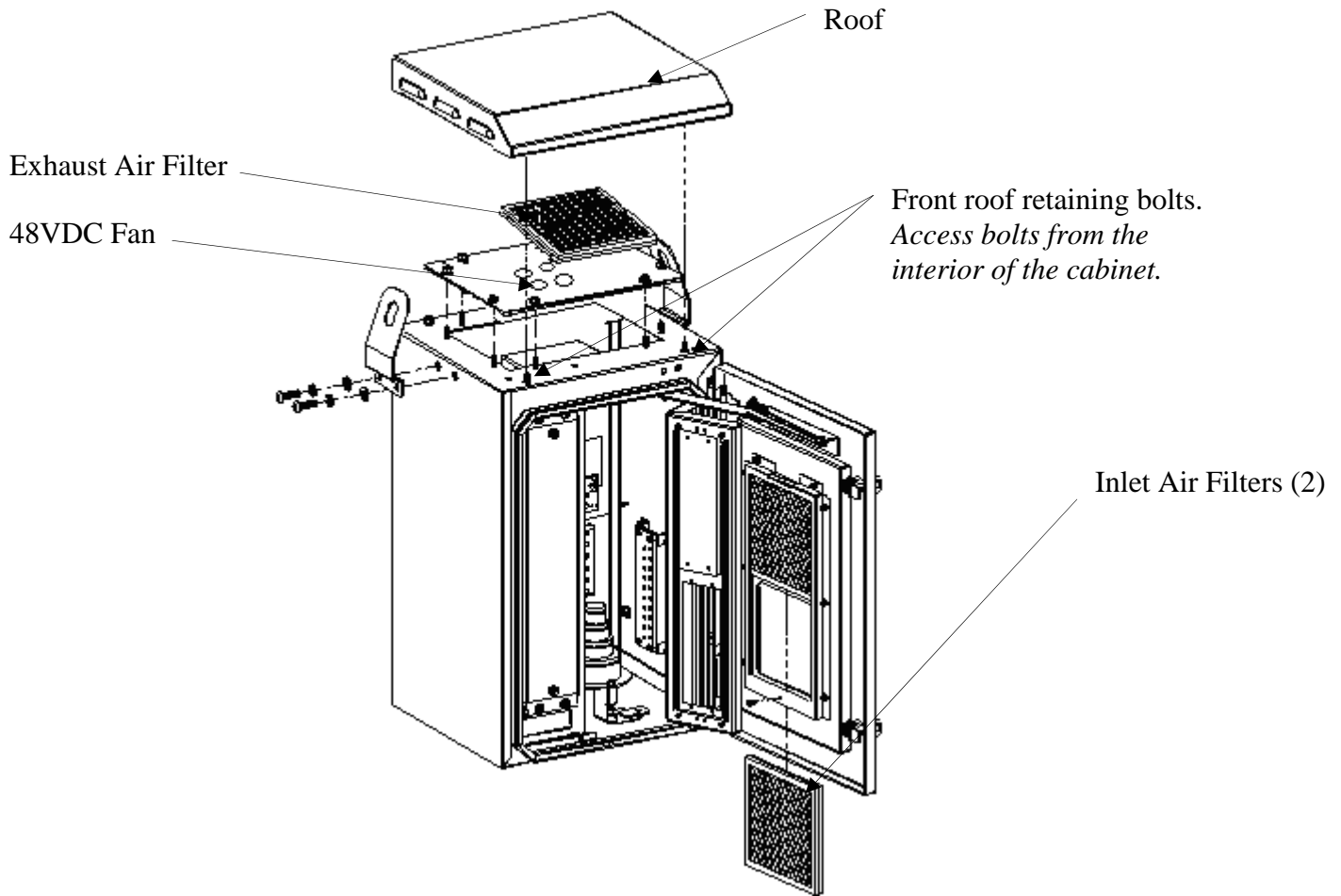interior of the cabinet.*

Inlet Air Filters (2)

Figure I – Fan/Filter Replacement Diagram

The Aktino AKCABTP30 cabinet is equipped with 2 1DC fans assembly located in the top of the cabinet behind the rack-mounted equipment.

There are two inlet air filters mounted to the inside of the front door. Opening the door and simply sliding them vertically out of their retaining frame can replace these filters.

The air exhaust filter is located in the top of the cabinet above the mini fan mounting plate. The exhaust filter is accessible by removing the roof from the cabinet. To remove the roof first open the front door and unscrew the two front roof retaining bolts. These bolts are located in the top of the cabinet towards the corners (see above figure). They are accessible from the interior of the cabinet. After removing the front retaining bolts the roof can be slid to the left and lifted off of the cabinet. Remove the "Z" tabs, which retain the filter by unscrewing the 4 screws.