



Lineage Power H5694772G300-CC Installation Manual

Product Manual
Comcode CC848838391-MAN
Issue 2 - Draft
January 2008

Notice:

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1 Installing the H5694772G300

Unpack

Make sure all items needed to complete the install are on site. Then unpack the equipment. The H5694772G300 comes in a bulk pack consisting of 4 identical units packed in individual plastic bags. Each bag contains an aerial enclosure with integrated +/-190V power converter with 4 included gel filled protectors. Additional extraordinary items you may need to install the unit are:

1. Aerial Closure Offset Hanger Brackets [3M AC-HB1] to make the unit nest under the existing communications cable.
2. Outdoor rated multi-pair wire (with a shield and drain wire if the wire run from termination cross connect is longer than 8 ft).
3. Outdoor rated single-pair wire (with a shield and drain wire if the wire run from the powered equipment is longer than 3 ft).

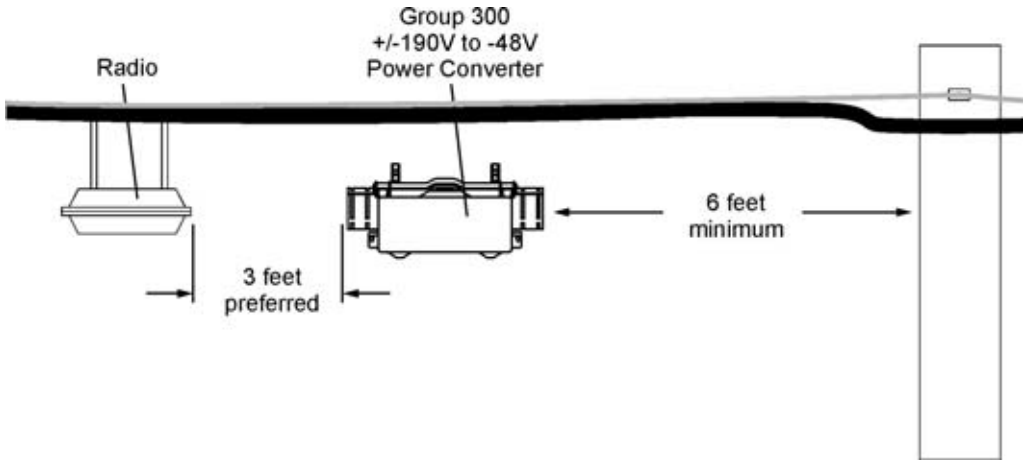
Step	Action
1.	Before opening the packaging, carefully inspect the outside in the presence of shipping personnel for signs of damage.
3.	Carefully open the packaging to verify that the contents are complete and undamaged.
4.	If damaged, follow the shipping carrier's procedure for filing a damage claim.
5.	Save the shipping package until all parts are operating within specifications. If the equipment must be returned, it should be repacked in the original shipping crate.

Bond the Strand to Ground

The system you are installing consists of several pieces of equipment using a shared earth ground provided by the strand. Bond the strand to earth at each installation site for best system performance.

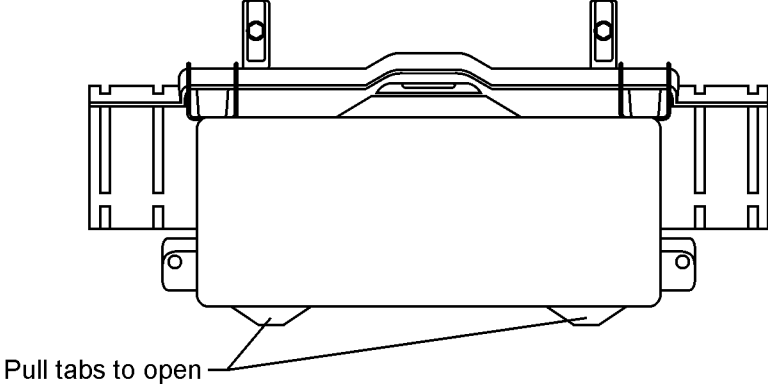
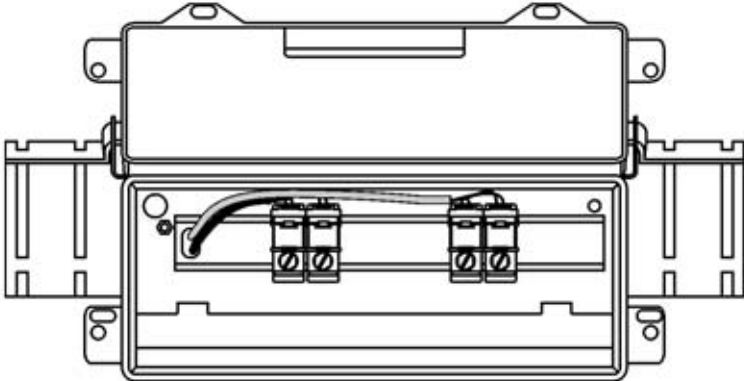
Plan the Aerial Deployment

Locate the H5694772G300 as close to the radio as possible making the 48V run as short as possible. Leave the +/-190V run as long as it needs to be.

Step	Action
1.	<p data-bbox="391 478 1024 510">Locate the equipment along the strand as shown here:</p>  <p data-bbox="605 1041 1195 1073">Figure 1-1: Locate the equipment along the strand</p>
2.	<p data-bbox="391 1117 1349 1213">Decide if the installation is better served using the Aerial Closure Offset Hanger Brackets [3M AC-HB1] to make the unit nest under the existing communications cable.</p>
3.	<p data-bbox="391 1228 1377 1289">If the installation is better served using the Offset Hanger Bracket, install them first using the included instructions.</p>

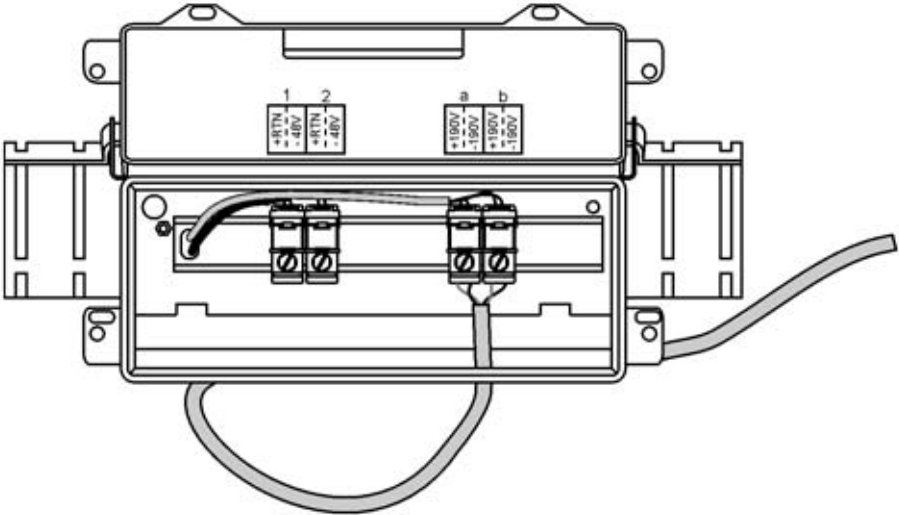
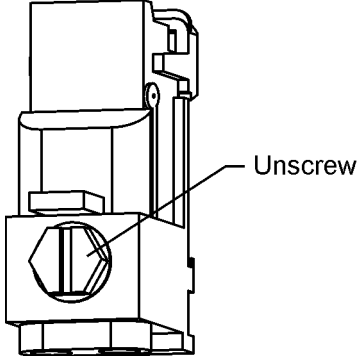
Install the Group 300 Enclosure on the Strand

The next step is to install the Group 300 enclosure onto the strand.

Step	Action
1.	<p>Recognize that the enclosure has a service panel on one side.</p>  <p style="text-align: center;">Figure 1-2: Enclosure with Service Panel</p>
2.	<p>Pull tabs to open the service panel and familiarize yourself with the inside of the service compartment and how it opens.</p>  <p style="text-align: center;">Figure 1-3: Familiarize Yourself with the Inside of the Service Compartment</p>
3.	Close the service panel.
4.	Orient the enclosure so that the service panel side of the enclosure will be accessible after the enclosure is mounted to the strand.
5.	Mount the enclosure on to the grounded strand using the instructions provided by the manufacturer.

Wire +/-190 V Power Feed(s)

The number of +/-190V feeds required is based on reach and redundancy engineering calculations. The number of feeds needed should appear on the work order.

Step	Action
1.	Run the cable for each circuit from the exiting cross connect termination panel using 300V outdoor rated 22 or 24 AWG solid conductor single or multi-pair cable. If the run is more than 10 ft long use shielded cable with a drain wire.
2.	Dress and strain relieve the wire through the two metal loops provided to create a drip loop.
3.	<p>Feed the cable through the X shaped cut in the bottom of the wiring compartment:</p>  <p>Figure 1-4: Feed the Cable into the Service Compartment</p> <p>Choose the one that is immediately below the 2 terminals labeled +/-190V as shown above.</p>
4.	<p>Turn the 3/8 inch hex counter clockwise until you hear a click:</p>  <p>Figure 1-5: Loosen the Hex Screw until You Hear a Click</p>

5. Prepare the end of the cable for termination into the insulation displacement gel filled connector:

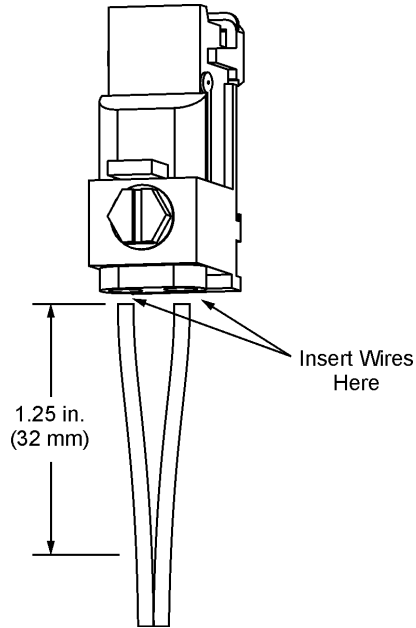


Figure 1-6: Prepare Wires

DO NOT strip the wire.

6. Assign the wires using the polarity guide with -190V on the left of each pair:

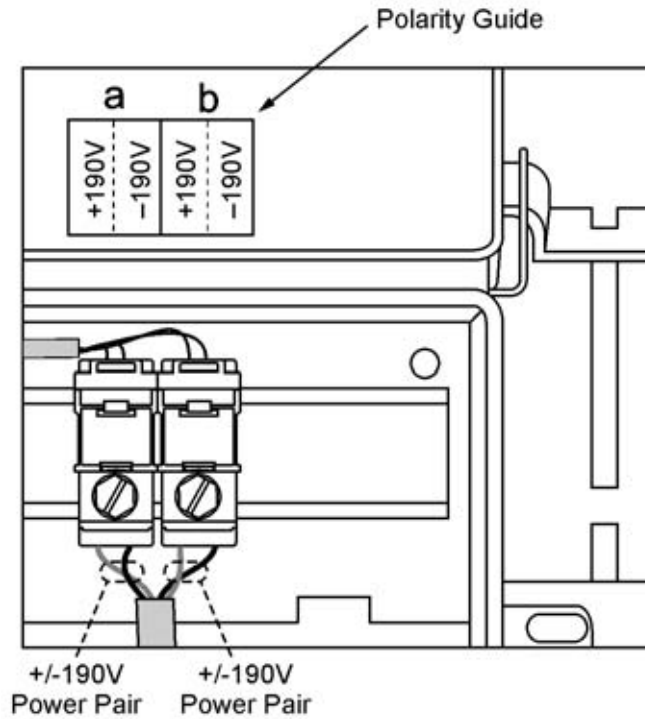
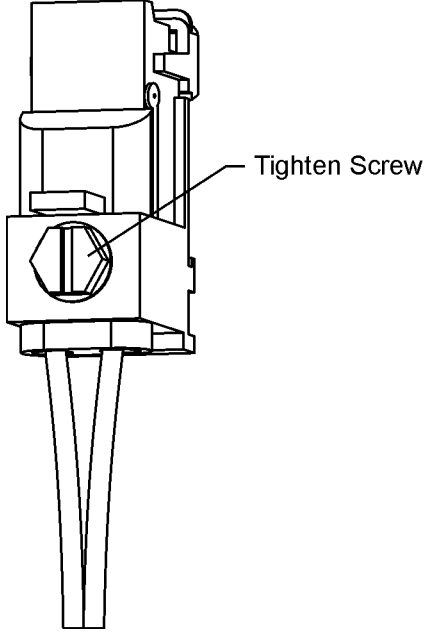
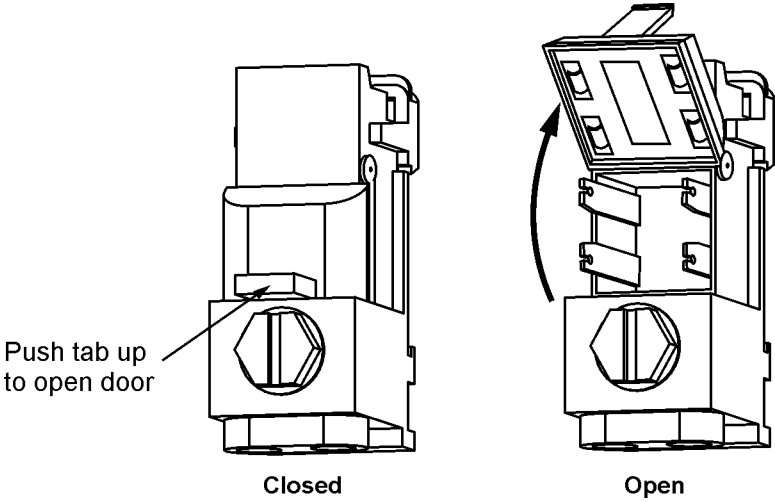
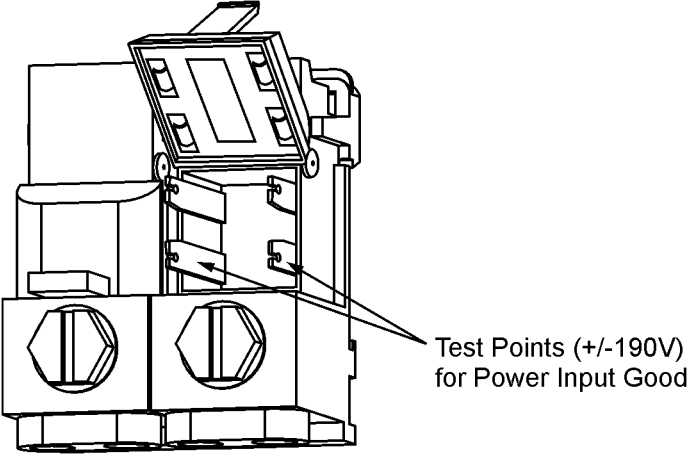
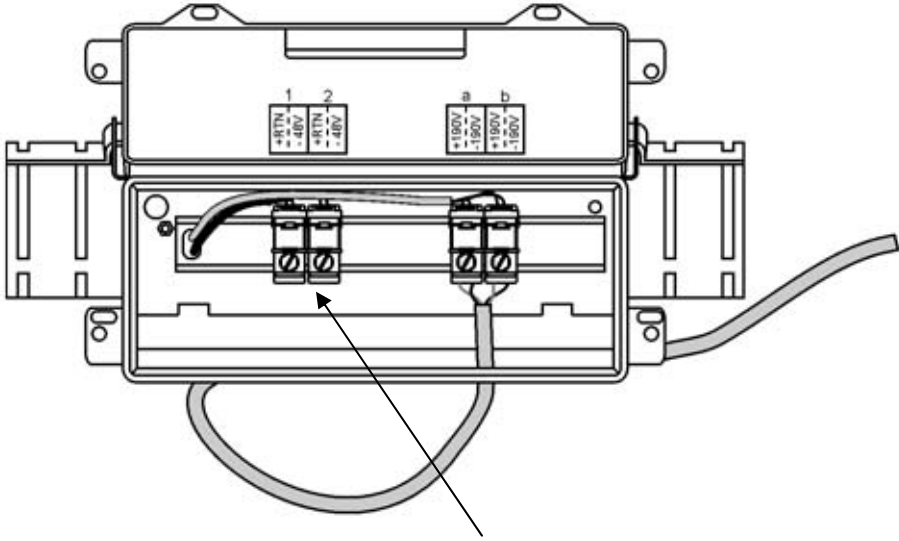
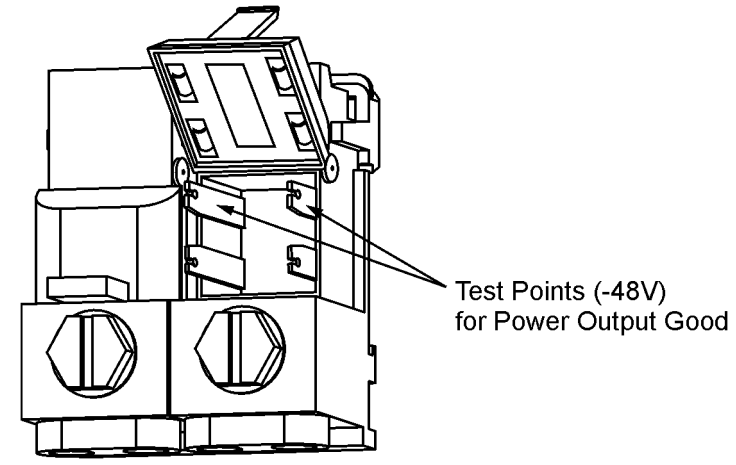
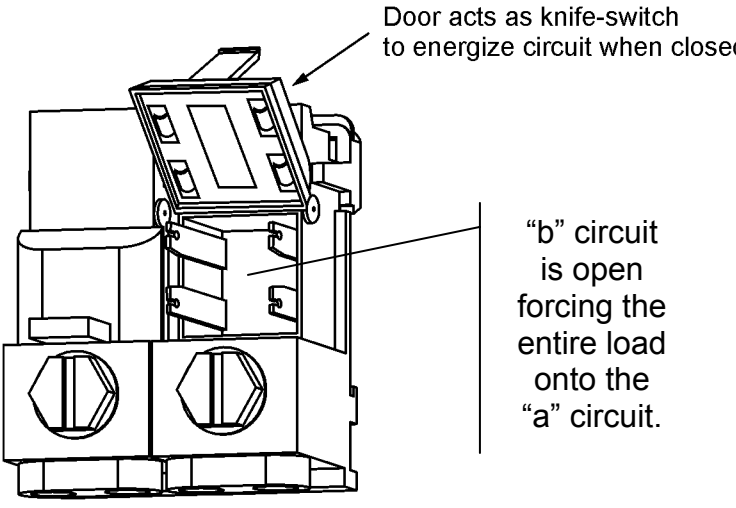


Figure 1-7: Check Polarity before Inserting Wires

7.	Insert the wires as shown in Figure 1-6.
8.	<p>Tighten Hex Screw until you here a click.</p> <div data-bbox="727 296 1149 926"><p>Figure 1-8: Tighten Screw until You hear a Click</p></div> <p>Then seat to finger tight.</p>
9.	<p>Open the door to expose test points.</p> <div data-bbox="428 1123 1198 1621"><p>Figure 1-9: Open the Door to Expose Test Points</p></div>

10.	Test for valid input power:  Figure 1-10: Test for Negative (-) on the Left and Positive (+) On the Right.
11.	Close both input protector block doors to energize the circuit(s).
12.	Open a -48V output terminal on the left hand side of the service area:  Figure 1-11: -48V Output Terminals are Located On The Left Side.

<p>12.</p>	<p>Test for -48V on the output:</p>  <p>Figure 1-12: Test for -48V on Either of the Output Terminals.</p>
<p>13.</p>	<p>If more than one circuit is being used to power the converter, toggle the input power to make sure -48V is present with first the “b” and then the “b” circuit disconnected:</p>  <p>Figure 1-13: Test for Proper Operation of the “a” Circuit.</p>

14. If the power delivery lead is longer than 10 feet. Crimp a ring terminal to the drain wire and terminate it on the stud in the upper left hand corner of the access compartment:

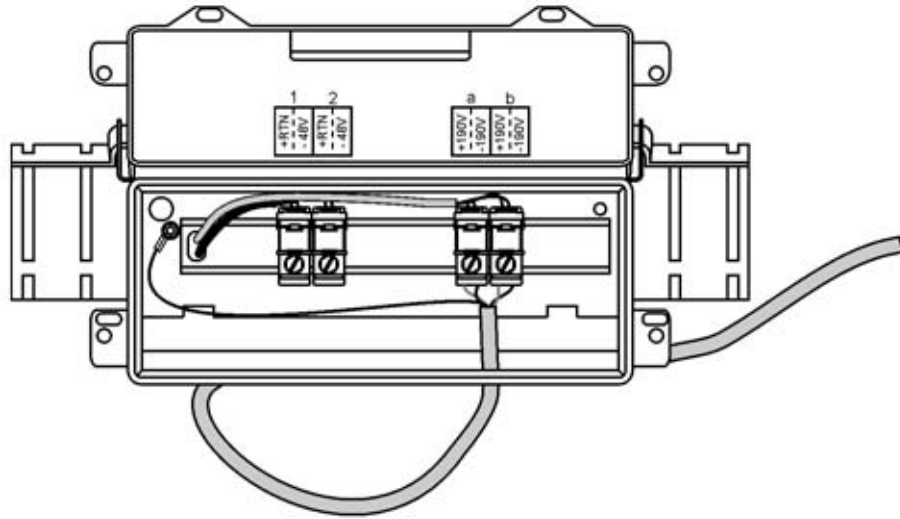
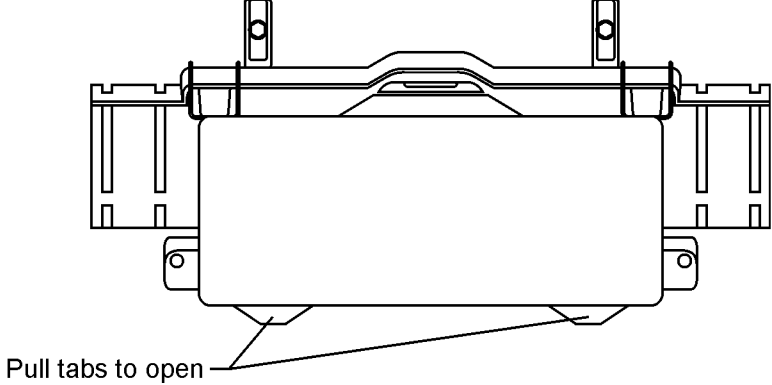
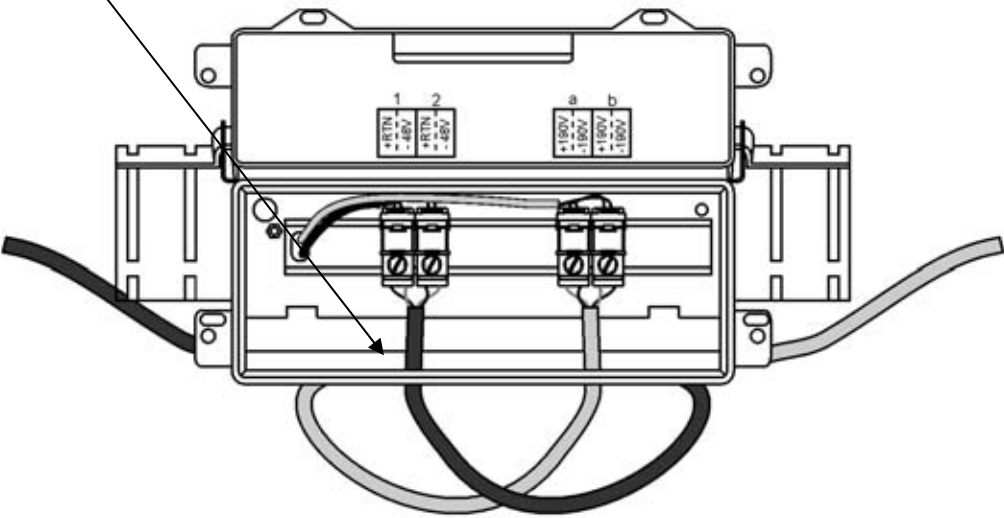


Figure 1-14: Use Drain wire to ground the shield for runs over 10 feet.

15. Close all terminal covers.
16. Close the access port cover.

Wire Radio and any other -48V Load (Total <30W)

This +/-190V to -48V converter is designed to support a total load less than 30 Watts. This power can come from either output 1, output 2 or a combination of output 1 and 2.

Step	Action
1.	Open the service panel: <div style="text-align: center;">  <p>Pull tabs to open</p> <p>Figure 1-15: Open the Service Panel</p> </div>
2.	Run the cable from the radio using 300V outdoor rated 18-22 AWG solid conductor single pair cable. If the run is more than 3 ft long use shielded cable with a drain wire.
3.	Dress and strain relieve the wire through the two metal loops provided to create a drip loop.
4.	Feed the cable through the X shaped cut in the bottom of the wiring compartment: <div style="text-align: center;">  <p>Figure 1-16: Feed the Cable into the Service Compartment</p> <p>Choose the one that is immediately below the 2 terminals labeled -48V as shown above in black.</p> </div>

5. Assign the radio wires to circuit 1 and any auxiliary equipment to circuit 2:

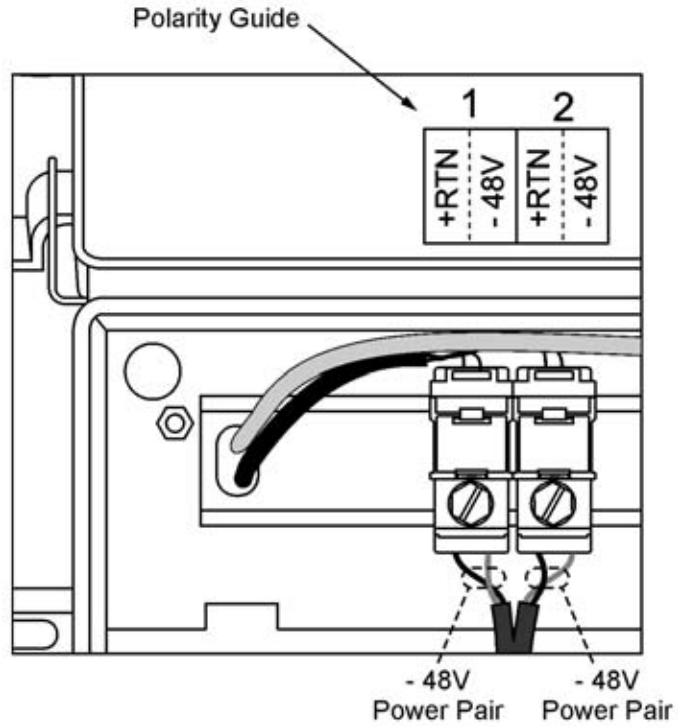


Figure 1-17: Use the Terminal Labeling to Assign Pairs and Polarity

6. Prepare the end of the cable for termination into the insulation displacement gel filled connector:

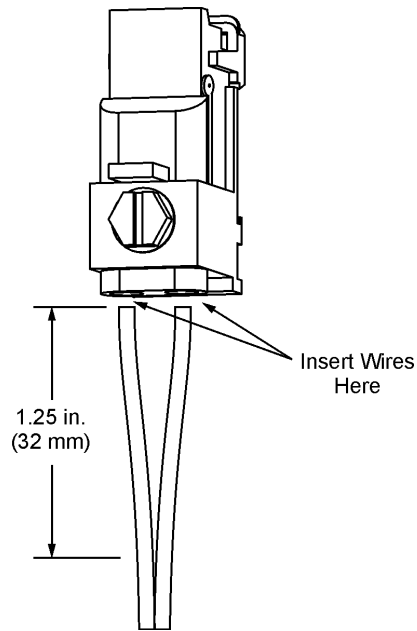


Figure 1-18: Prepare Wires

DO NOT strip the wire.

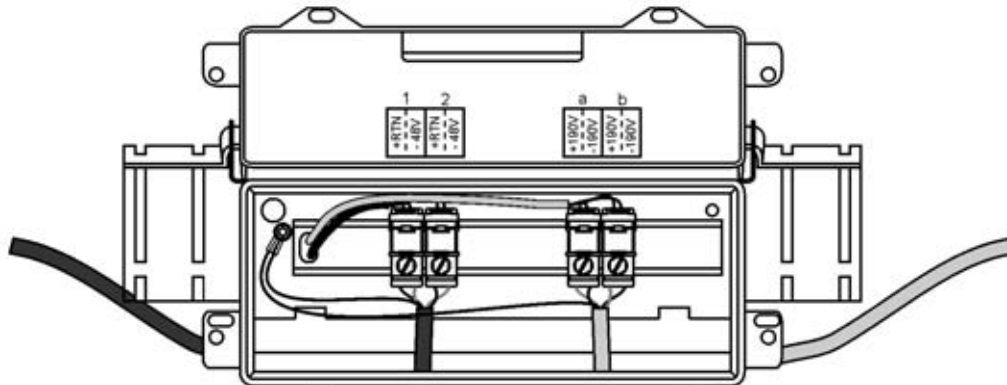
<p>7.</p>	<p>Turn the 3/8 inch hex counter clockwise until you hear a click:</p> <div data-bbox="760 260 1114 617" data-label="Image"> </div> <p style="text-align: center;">Figure 1-19: Loosen the Hex Screw until You Hear a Click</p>
<p>8.</p>	<p>Insert the wires as shown in Figure 1-17.</p>
<p>9.</p>	<p>Tighten Hex Screw until you here a click.</p> <div data-bbox="727 821 1146 1446" data-label="Image"> </div> <p style="text-align: center;">Figure 1-20: Tighten Screw until You hear a Click</p> <p>Then seat to finger tight.</p>
<p>10.</p>	<p>Verify operation of the radio by observing the LED on the powered equipment or following the procedures outlined in their installation and turn up manual.</p>
<p>11.</p>	<p>Follow steps 1 through 10 above for auxiliary equipment if present.</p>

2 Reference Information

Overview

This section contains reference information.

Here is the layout of the wiring compartment:



If you need an Aerial Closure Offset Hanger Bracket use 3M AC-HB1.

All wire should be outdoor rated 300V wire. The 48V pair should be 18 to 22 AWG to support the full output of the unit. The +/-190V pair should be 18 to 24 AWG.

Revision History

Issue 2: January 15, 2008

Rebranding; Polarity correction.

Issue 1: November 7, 2007