

Installation Instructions:

DC6-48-60-0-1B-01



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1.1 Disclaimer

The information in this document is subject to change without notice and describes only the product defined in the introduction of this documentation. This documentation is intended for the use of Raycap customers only for the purposes of the agreement under which the document is submitted, and no part may be used, reproduced, modified or transmitted in any form or means without the prior written permission of Raycap. The documentation has been prepared to be used by professional and properly trained personnel, and the customer assumes full responsibility when using it. Raycap welcomes customer comments as part of the process of continuous development and improvement of the documentation.

Raycap has made all reasonable efforts to ensure that the instructions contained in this document are adequate and free of material errors and omissions. Raycap will, if deemed necessary, explain issues which may not be covered by this document.

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Raycap shall have no liability for any error damage of any kind resulting from the use of this document.

1.2 Warnings

Please read this manual prior to use to become familiar with the product's numerous features and operating procedures. To maintain the maximum degree of safety, follow the sequences as outlined.

Before using the product, read all instructions and cautionary markings on the product and on any equipment connected to the product.

CAUTION:

Unless otherwise noted, product usage that is not recommended or sold by the product manufacturer can result in risk of fire, electric shock, or injury to persons.

Do not operate the product if it has been damaged in any way. Return damaged products to their manufacturer for repair or replacement.

Do not disassemble the product as incorrect reassembling can risk electrical shock or fire.

Do not bend fiber-optic cables beyond their minimum bend radius. Bending the cables beyond their minimum bend radius can damage the cables and cause problems that are difficult to diagnose.

Do not let fiber-optic cables hang free from the connector. Do not allow fastened loops of cables to dangle, which stresses the cables at the fastening point.

WARNING:

Do not look directly into a fiber-optic transceiver or into the ends of fiber-optic cables. Fiber-optic transceivers and fiber-optic cables connected to transceivers emit laser light that can damage your eyes.

Do not stare into the laser beam or view it directly with optical instruments even if the interface has been disabled.

Secure the cables so that they are not supporting their own weight. Place excess cable out of the way in a neatly coiled loop. Placing fasteners on a loop helps cables maintain their shape.

Disconnect or disable the DC power source to the product prior to beginning its installation.

Ensure that the DC power source to the product remains de-energized until the completion of the installation and after all connections have been verified to be correctly configured.

Electrostatic sensitive devices. ESD mitigative procedures, such as wearing wriststraps are to be used during installation and maintenance.

For conditions other than those described above, please contact a Raycap Account Representative at (208) 777-1166, (800) 890-2569 or www.raycap.com

Thank you for choosing quality products from Raycap.

2.0 Introduction

In a split Radio Base Station (RBS) architecture the typical RBS consists of a Base Band Unit (BBU) and Remote Radio Heads (RRH) connected by cabling. Power to the RRH is provided through copper cables traveling from the base station to the top of the tower or roof top. This creates a conductive path, making the active equipment at the top and the base of the site vulnerable to damage by direct lightning strikes. Protection systems installed in front of both the BBU and the RRH must be able to withstand direct lightning currents in order to protect the sensitive equipment. Raycap's RRH solutions featuring Strikesorb® SPD technology significantly enhance the reliability & availability of the RRH site by providing superior electrical protection at the RRH and BBU, and also enable flexible fiber optic and power cable management solutions. The DC6-48-60-0-1B-01 is suitable for installation in the Outside Plant (Remote Terminal Facilities).

3.0 OVP Package Contents

- 1 OVP Enclosure
- 1 Ground lug (#6 AWG with inspection port)
- 1 Each M75 Insert, for 6AWG Trunks

3.1 Prerequisites

This Document describes how to install the DC6-48-60-0-1B-01 on site.

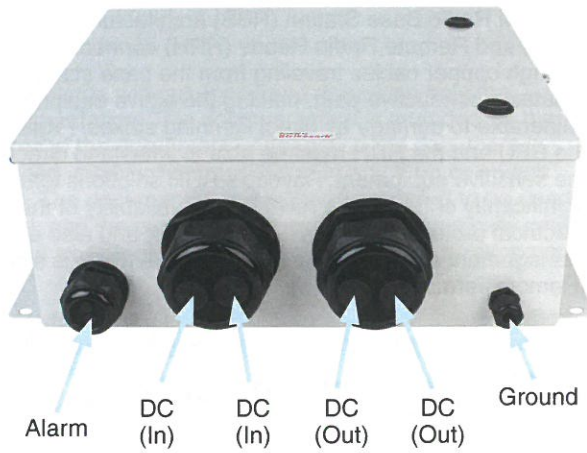
Installers of Raycap's RRH surge protective and fiber/power management solutions must be industry professionals who have attended training on the proper handling, installation and cleaning of fiber-optic cable, and attended training on the installation of the equipment by Raycap and/or the mobile operator. Installers are required to read this installation guide thoroughly prior to installation of the Raycap RRH protection equipment.

3.2 Tools

- #1 Flat blade screwdriver
- #1 Philips screw driver
- 7/16" Nut Driver (for ground lug)
- 3/8" Nut Driver (for DC connections)

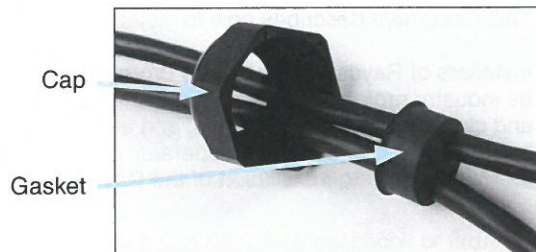
Procedure
Port Definitions

- 4.1 See illustration to identify **Base Port** Assembly Definitions



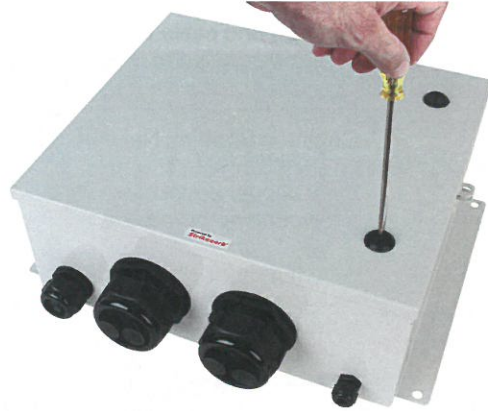
- 4.2 See picture to identify **DC Power Port Cap** Assembly Definitions

Gaskets may vary in size and shape.



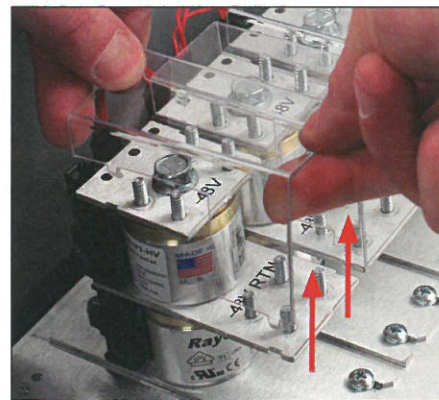
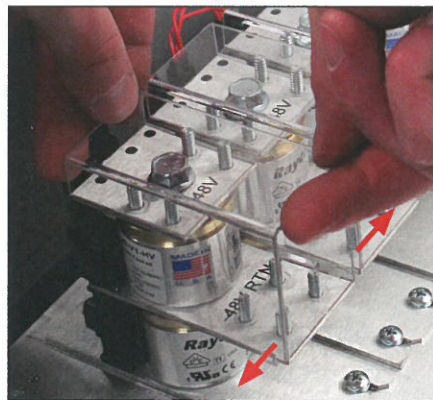
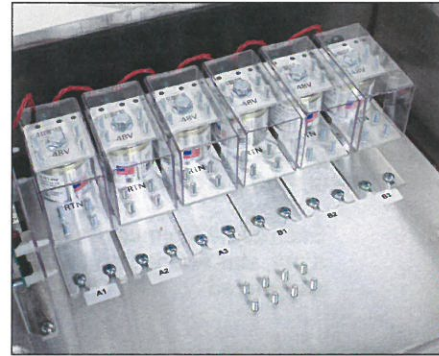
Opening Cover

- 5. Open cover loosening the two screws on the front of unit.

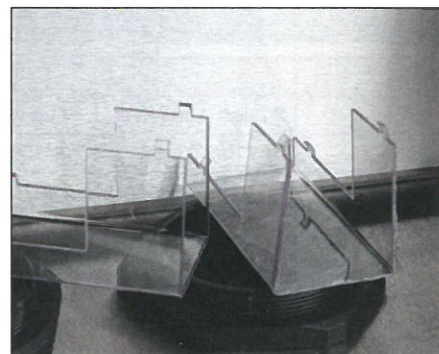


Removing Touch Guards

- 6.1 There are 6 touch guards covering the DC connection lugs. Simply loosen sides by spreading in direction of arrows and lift up. Repeat for each.



- 6.2 Set touch guards aside. Place touch guards under fiber tray as pictured to the right.



Installing Ground Cable

- 7. Feed ground cable through ground port and connect to ground lug.

This product is to be grounded to a Common Bonding Network.

Only copper conductors shall be used for grounding purposes.

Attach ground cable to ground lug as shown. Tighten nuts using a 7/16" nutdriver.

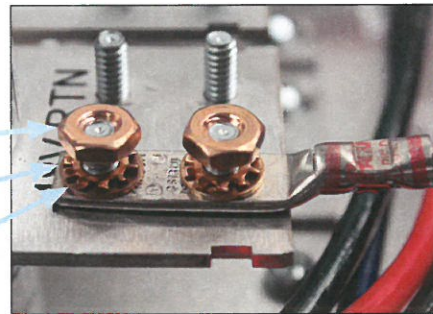
Torque: 65 in-lbs



**Installing DC Cables
-48V Connection Hardware**

- 8. Each cable lug must be secured using a nut, star washer, and a flat washer as pictured.

Nut
Star washer
Flat washer



*All lugs 5/8 pitch with #10 stud size

#8 Power Trunk	RRH QTY	Double Lugs for Power	Double Lugs for Ground	Lugs for Drain
	6	12 Lugs (8AWG)	1 Lug (10-14AWG)	1 Lug (10-14AWG)
Burndy P/N #		YA8CL-2TC10	YAV10-2TC10	
Panduit P/N #		LCD8-10A-L	LCD10-10A-L	PV14-10RB-3K
#6 Power Trunk				
	6	12 Lugs (6AWG)	1 Lug (8AWG)	1 Lug (10-14AWG)
Burndy P/N #		YA6CL-2TC10	YA8CL-2TC10	
Panduit P/N #		LCD6-10A-L	LCD8-10A-L	PV14-10RB-3K
#12 Power Jumper				
	1	2 Lugs (12AWG)	1 Lug (10-14AWG)	1 Lug (18-22AWG) Single Hole
Burndy P/N #		YAV10-2TC10	YAV10-2TC10	
Panduit P/N #		LCD10-10A-L	LCD10-10A-L	PN18-10R-C
#10 Power Jumper				
	1	2 Lugs (10AWG)	1 Lug (10-14AWG)	1(10-14AWG or 18-22AWG) Single Hole
Burndy P/N #		YAV10-2TC10	YAV10-2TC10	PV14-10RB-3K - Panduit 10-14AWG
Panduit P/N #		LCD10-10A-L	LCD10-10A-L	PN18-10R-C - Panduit 18-22AWG

Installing DC Trunk Cables

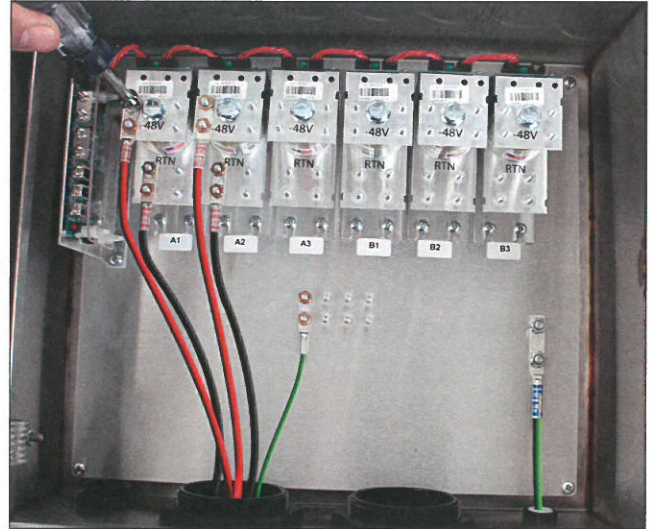
9.1 Feed DC trunk cable through DC trunk port hole.

9.2 Cut wires to desired length.

Insert cable into lug and crimp to lug according to *AT&T color guide* and lug manufacturer's recommendations.

9.3 Tighten lugs using a 3/8" nutdriver as shown.

Torque: 30 in-lbs



Installing DC Jumper Cables

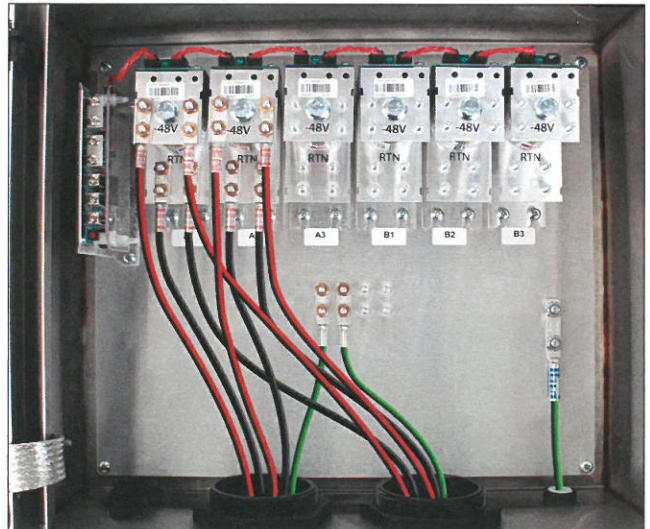
10.1 Feed DC jumper cable through DC jumper port hole.

10.2 Cut wires to desired length.

Insert cable into lug and crimp to lug according to *AT&T color guide* and lug manufacturer's recommendations.

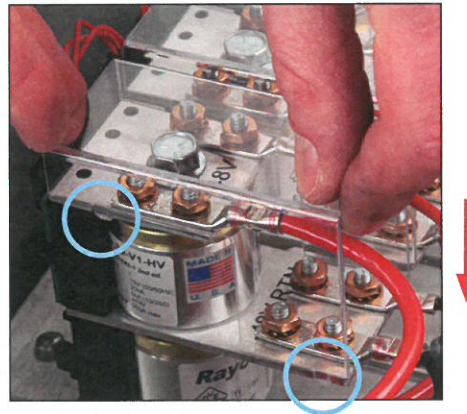
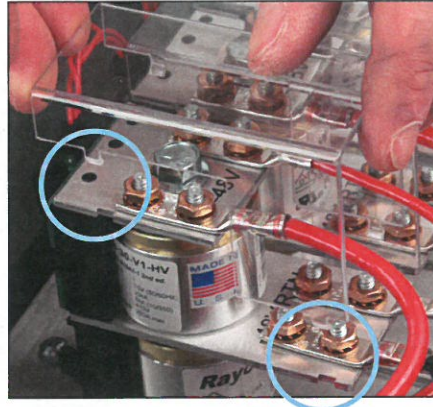
10.3 Tighten lugs using a 3/8" nutdriver as shown.

Torque: 30 in-lbs



Install Touch Guards

11. There are 6 touch guards to install which cover the DC connection lugs. Simply loosen sides by spreading in direction of arrows and set in place. Plastic clips (2 on each side) hold touch guard in place. Repeat for each.



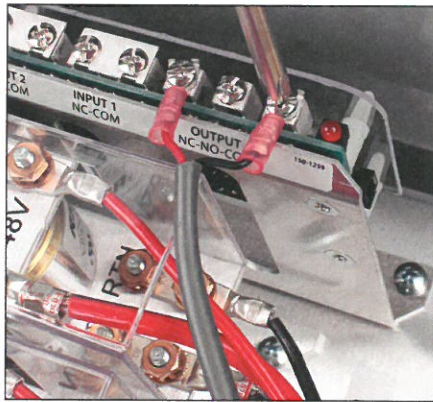
Installing Alarm Cable

12. Feed alarm cable through port cap assembly.

Connect wires according to your established color guide.

Note: If using a spade connector, use #6 18-22 AWG.

Connect alarm wires to alarm lugs.



Closing and Securing Unit

- 13.1 Lock cover tightening the two screws on the front of unit.

- 13.2 Installation complete.

