

Charles Retrofit Kit

97-002497-A

General Description and Installation

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1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides general information for the 97-002497-A retrofit kit for the SH60-552019 series radio shroud. Figure 1 shows the kit components. Hardware is not shown.

-NOTE-

Hereafter, the Charles 97-002497-A retrofit kit will be referred to as the "kit." The SH60-552019 series radio shroud will be referred to as the "SHRD60."

1.2. Product Purpose

The kit includes a set of brackets to install in the SHRD60. The new brackets support Ericsson 4890 and 4490 radios, two Ericsson AC-08 power supplies, and two CommScope CBC1923-DS-43 diplexers. All equipment is customer supplied.

Note: The radios must be equipped with the optional OEM fan kit (provided with the radio). If these fans are not included, the configuration may experience problems with thermal performance.

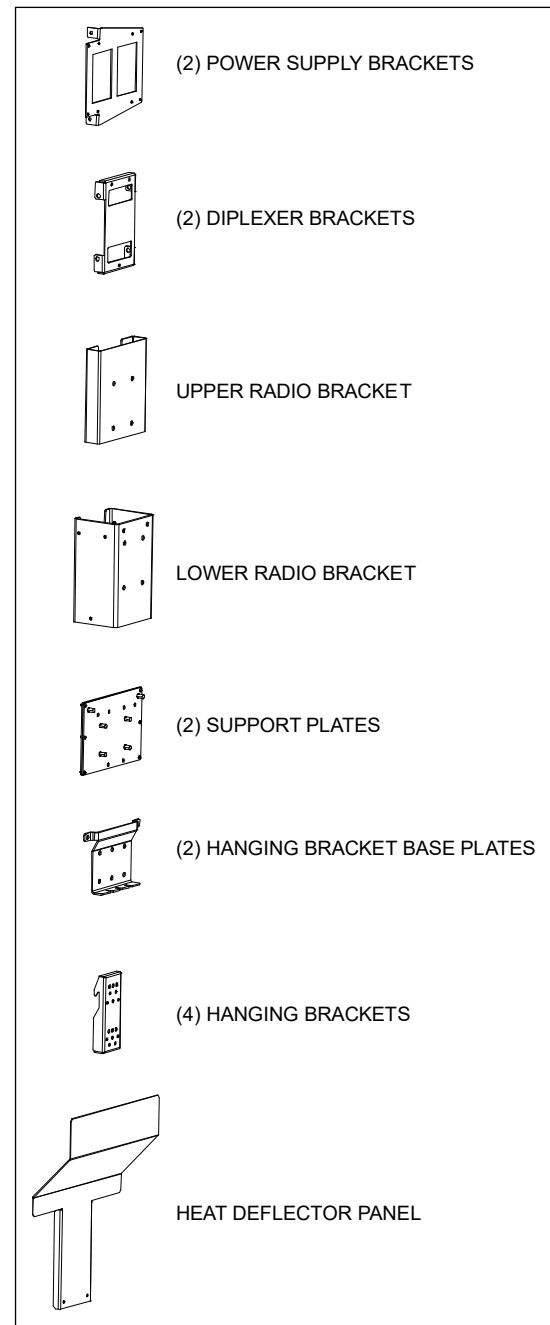


Figure 1 Kit Components

2. INSTALLATION

2.1. Inspecting the Product

The kit is shipped in a carton. Unpack the unit, and dispose of the packaging material.

-INSPECTION NOTE-

Visually inspect the unit for damages prior to installation. If the equipment was damaged in transit, immediately report the extent of the damage to the transportation company.

2.2. Obtaining Tools and Equipment

Obtain the following recommended or needed items for installing the kit.

- Protective and/or insulated work gloves
- Safety glasses
- Tape measure
- Marking utensil
- Any exterior cable strain relief, per company practice
- Slotted, hex, and Phillips screwdrivers
- Torque wrench
- Drill with bit for 1/4" hardware (Ø0.266" bit)
- Can wrench (216 tool)

2.3. Mounting the Kit

In all images in this section, the SHRD60 door is hidden for clarity.

Unless otherwise specified, all hardware mentioned in this section is supplied with the kit.

If the SHRD60 is mounted with a flush pole mount bracket (bracket fits along the central spine, it may be necessary to remove the SHRD60 from this bracket to install the kit.

2.3.1. Torque Requirements

Torque all hardware as shown below (unless otherwise noted). These values apply to SAE Grade 1 & 2 Low Carbon Steel, ASTM A307 Low Carbon Steel, and Stainless Steel Grade 18-8.

Thread Size	In-lbs	Ft-lbs
4-40	4±10%	
6-32	8±10%	
8-32	16±10%	
10-32	26±10%	
12-24	50±10%	
1/4-20/M6	60±5%	5±5%
5/16-18	125±5%	10.4±5%
3/8-16	180±5%	15.0±5%
1/2-13	500±2%	41.7±2%
5/8-11	1000±1%	83.3±1%

2.3.2. Preparing the SHRD60

Remove all equipment and brackets from the SHRD60 (Figure 2). Store or discard the equipment and brackets per company practice.

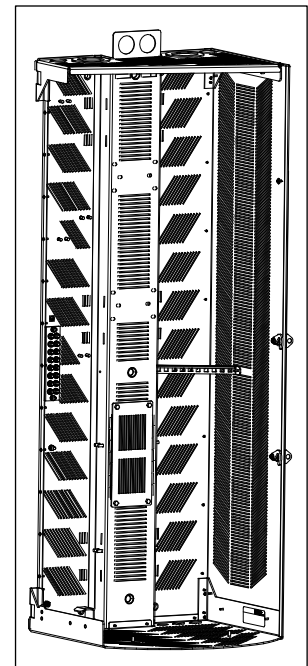


Figure 2
Empty SHRD60

2.3.3. Drill Holes in SHRD60 Central Spine

For the SHRD60 to accommodate the power supply brackets and support plates, drill $\varnothing.26''$ holes in the SHRD60 central spine for 1/4-20 hardware.

Support plates

1. Hold the support plates against the central spine as shown in Figure 3.
 - The top of the upper support plate must be 16'' from the SHRD60 top panel.
 - The bottom of the lower support plate must be 4'' from the SHRD60 bottom panel.
 - Center the plates on the spine.
2. When the plates are in position, use a marking utensil to mark the locations of the holes for drilling (4 holes per plate). Set the plates aside and drill the holes.
3. Apply touch-up paint inside the holes to prevent corrosion.
4. When the paint is dry, mount the support plates to these newly drilled holes using 1/4-20 hex bolts (1'' long) with flat washers and Keps nuts (Figure 4).

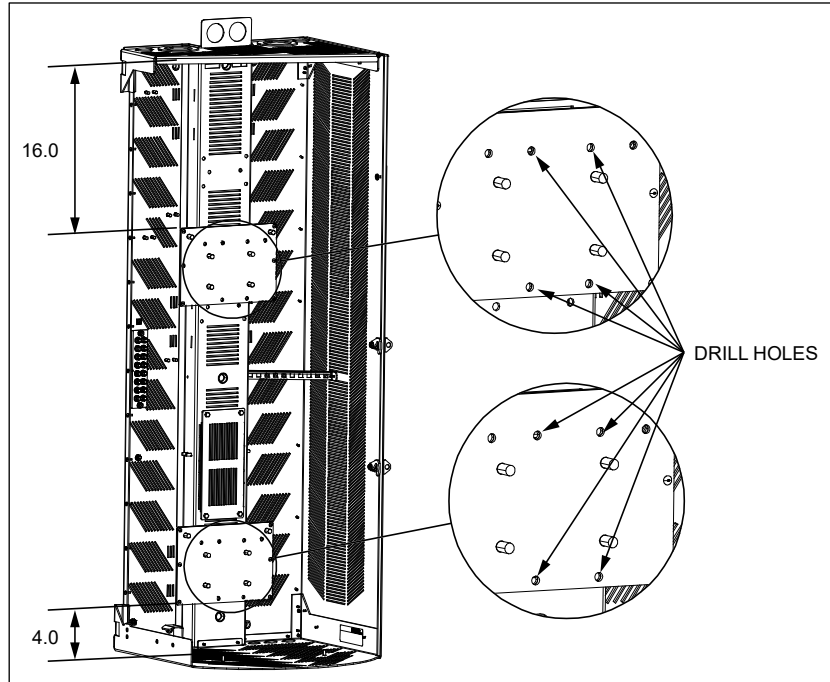


Figure 3
Drill Holes for Support Plates

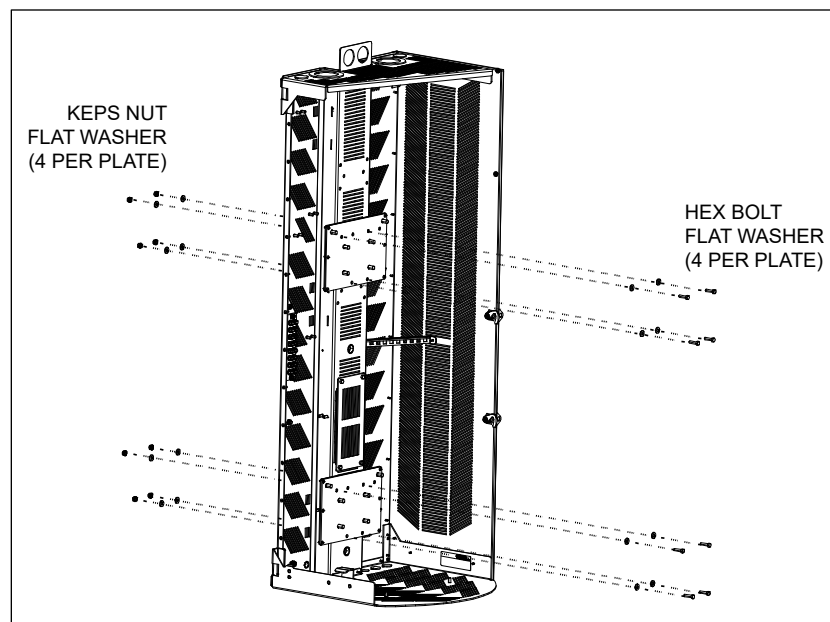


Figure 4
Mount Support Plates

Power Supply Brackets

Drill $\text{\O}0.26$ " holes for the power supply brackets into the left side of the central spine. The brackets have flanges for the mounting holes (two flanges per bracket). The main leg of the bracket sits across the front of the SHRD60 central spine. The upper power supply bracket must be 4" from the SHRD60 top panel. The lower power supply bracket must be 23.5" from the SHRD60 top panel.

1. Measure down 4" from the top panel and hold the bracket against the spine with the mounting hole flanges on the left side. Mark the locations for the mounting holes for the first bracket (Figure 5).
2. Measure down 23.5" and hold the bracket against the spine again. Mark these locations for the second bracket.
3. Drill the four mounting holes for 1/4-20 hardware.
4. Mount the power supplies to the power supply brackets using customer supplied hardware (Figure 6).
5. Use touch-up paint inside the holes to prevent corrosion.
6. When the paint is dry, mount the power supply/bracket assembly to the newly drilled mounting holes using 1/4-20 (5/8" long) hex bolts with flat washers (Figure 7). Secure from behind the central spine with Keps nuts and flat washers (not visible).

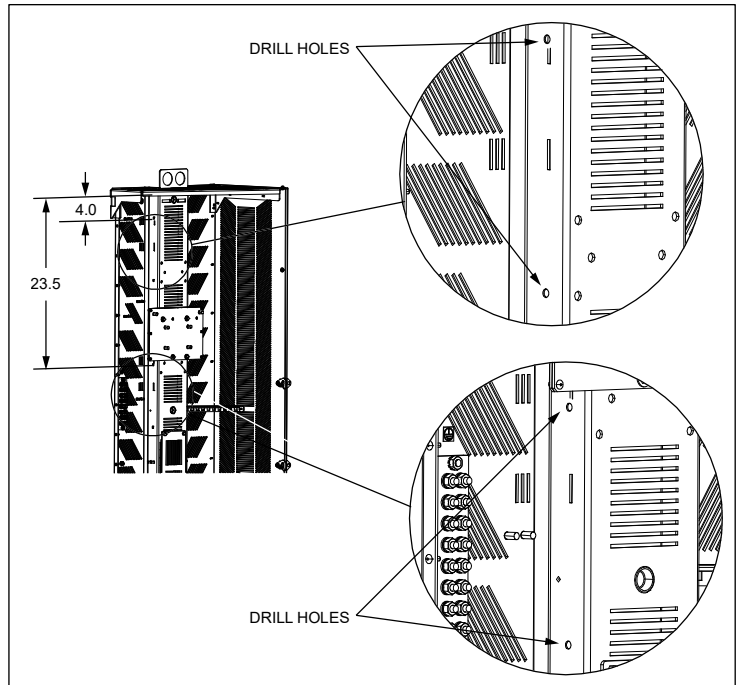


Figure 5
Drill Holes for Power Supply Brackets

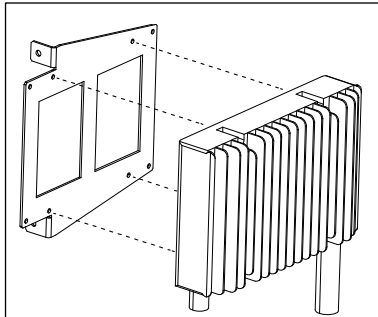


Figure 6
Power Supply to Bracket

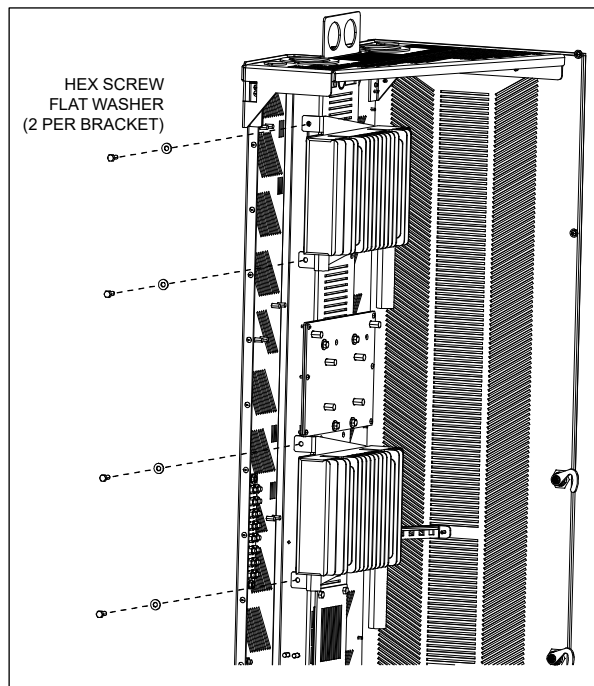


Figure 7 **Mount PSUs**

2.3.4. Upper Radio

The radio is mounted on a set of hanging brackets. The hooks on the hanging brackets rest on the top of the base plate. When the brackets are in their hanging position, tighten the 1/4-20 securing screws underneath the brackets to keep them in place. The construction of the hanging bracket is shown in Figure 8.

1. Attach one of the hanging bracket base plates to the upper support plate. Secure using six 3/8-16 nuts (Figure 9).
2. Attach the Ericsson 4490 radio to the upper radio bracket using customer supplied hardware.
3. Attach two hanging brackets to the back of the upper radio bracket. Secure using four 1/4-20 hex screws (5/8" long) with lock washers and flat washers (Figure 10).
4. Hang the radio/bracket assembly onto the hanging bracket base plate (Figure 11). Secure the hanging brackets from underneath the brackets using the 1/4-20 securing screws underneath.

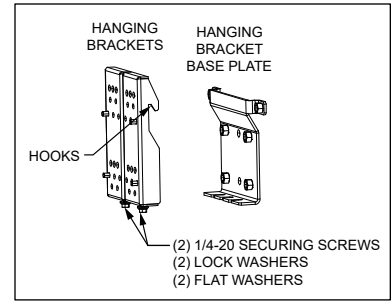


Figure 8
Hanging Bracket

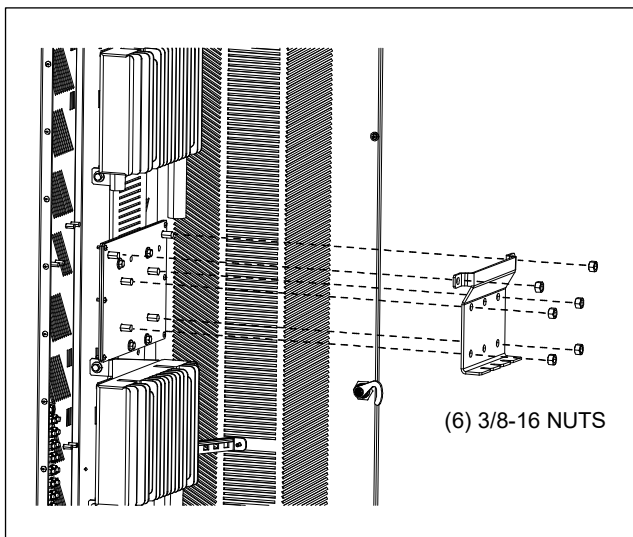


Figure 9
Upper Hanging Bracket Base Plate

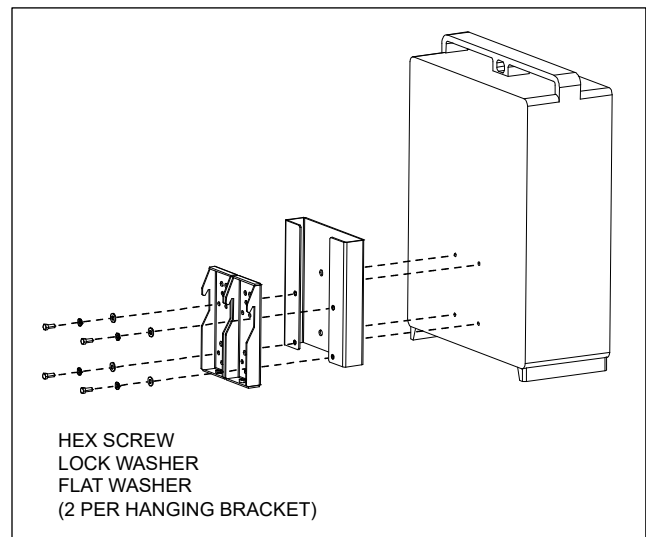


Figure 10
Upper Radio to Bracket

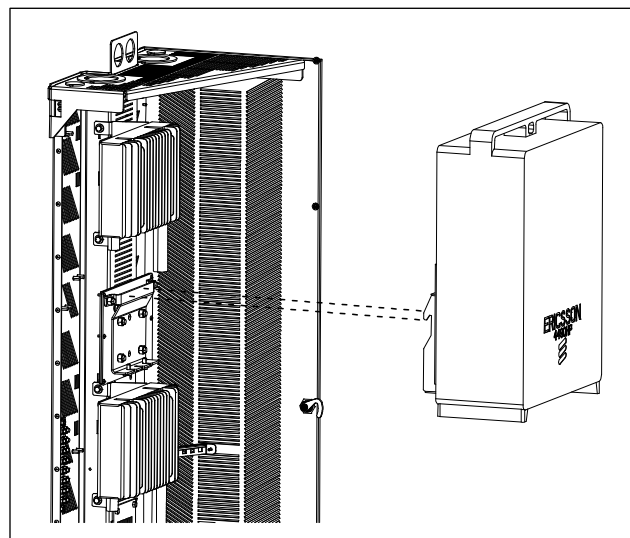


Figure 11 **Mount Upper Radio**

2.3.5. Lower Radio, Heat Deflector Panel, and Diplexers

1. Attach the remaining hanging bracket base plate to the lower support plate. Secure using six 3/8-16 nuts (Figure 12).
2. Attach the heat deflector panel to the lower radio bracket using two Keps nuts and two flat washers (Figure 13).
3. Attach the Ericsson 4890 radio to the front of the lower radio bracket using customer supplied hardware (Figure 14).

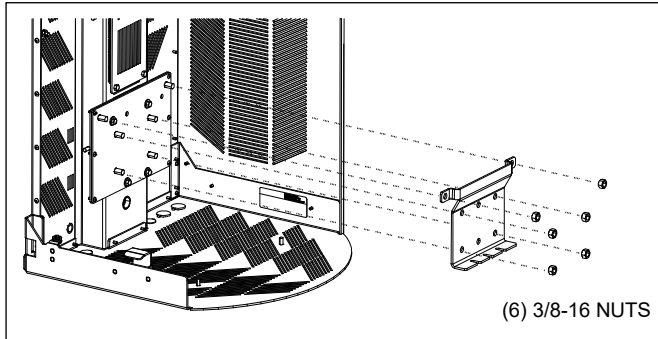


Figure 12
Lower Hanging Bracket Base Plate

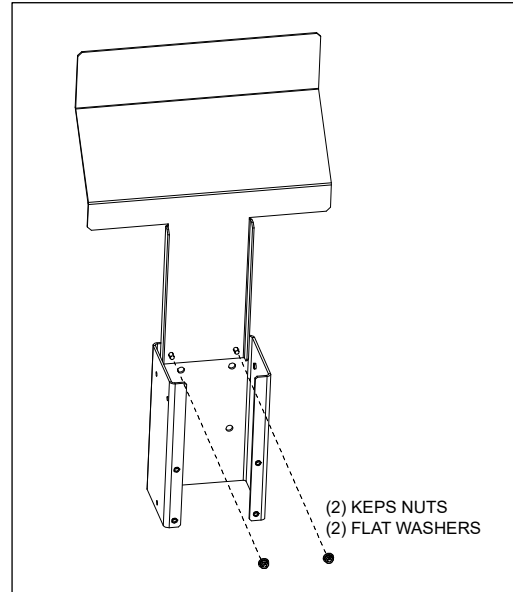


Figure 13
Heat Deflector Panel

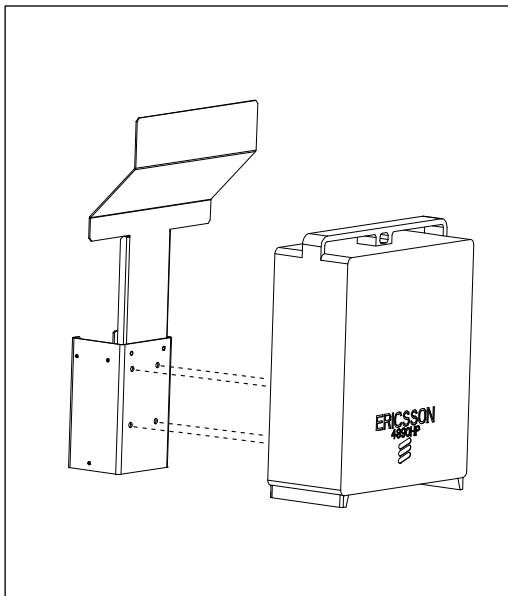


Figure 14
Mount Lower Radio

4. Attach one diplexer and diplexer bracket to each side of the lower radio bracket using three 10-32 Philips screws with #10 washers. Repeat with the other diplexer on the opposite side of the radio bracket (Figure 15).
5. Attach the remaining two hanging brackets to the back of the radio/diplexer assembly. Secure using four 1/4-20 hex screws (5/8" long) with lock washers and flat washers (Figure 16).
6. Hang the radio/diplexer assembly onto the hanging bracket base plate (Figure 18). Secure the hanging brackets from underneath using the 1/4-20 securing screws. See Figure 8 for bracket construction.

The complete assembly is shown in Figure 17.

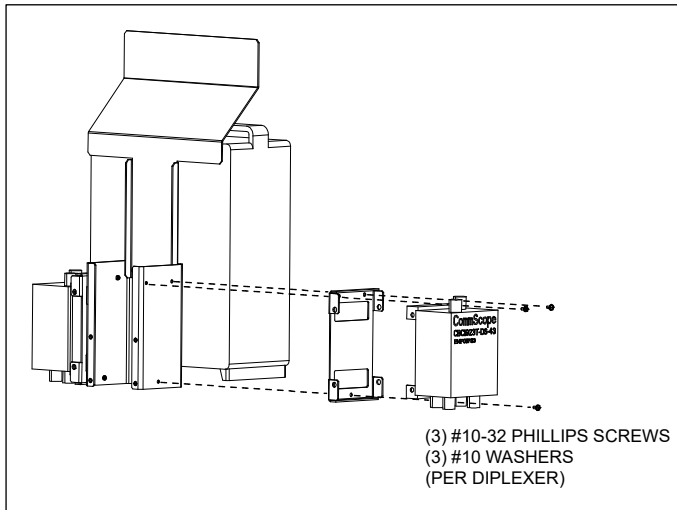


Figure 15
Mount Diplexers onto Lower Bracket Assembly

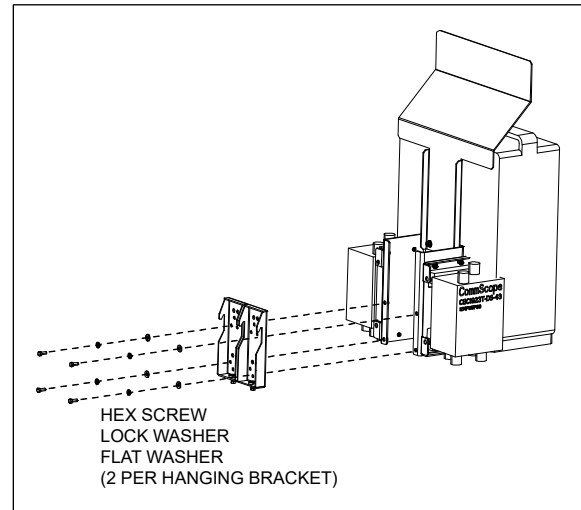


Figure 16
Mount Assembly onto Hanging Brackets

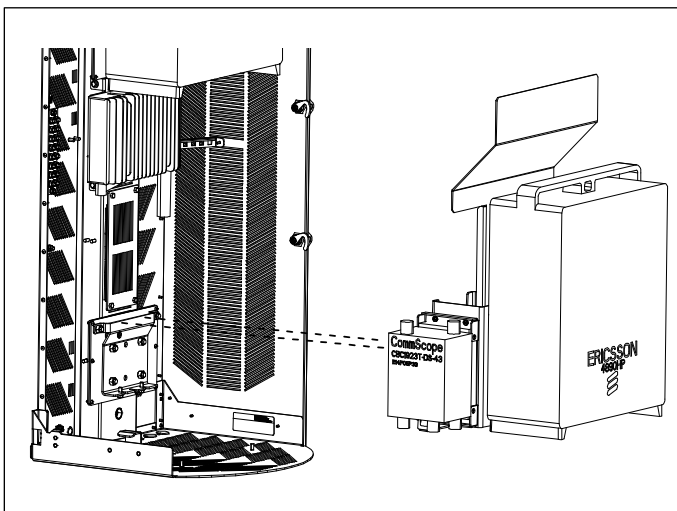


Figure 17
Mount Assembly onto Lower Back Plate

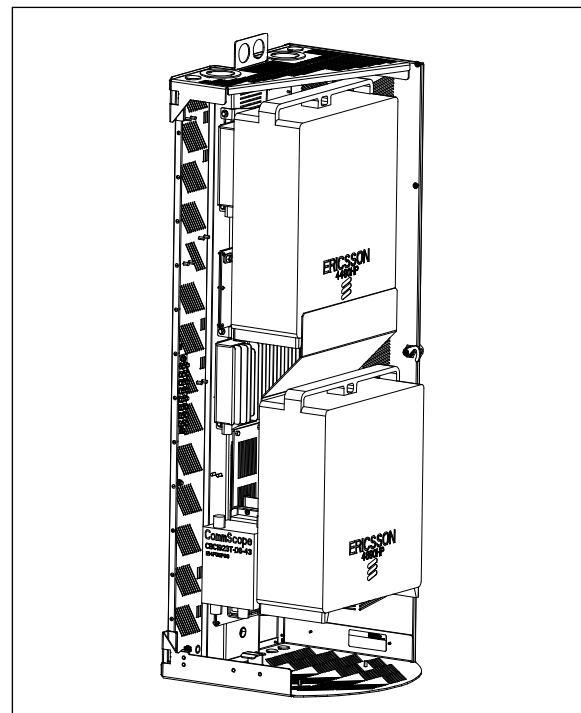


Figure 18 Complete Installation

3. TECHNICAL ASSISTANCE AND REPAIR SERVICE

For questions on product repair or if technical assistance is required, contact Charles Technical Support.

847-806-8500
techserv@charlesindustries.com (email)
<http://www.charlesindustries.com/techserv.htm>

4. WARRANTY & CUSTOMER SERVICE

Charles Industries LLC offers a one-year warranty on the kit product. The Charles warranty is limited to the operation of the kit hardware as described in this documentation and does not cover equipment that may be integrated by a third party. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative.

847-806-6300
mktserv@charlesindustries.com (email)
http://www.charlesindustries.com/main/telecom_sales_support.htm

5. SPECIFICATIONS

Physical	
Weight	Approx. 67 lbs. as shipped
Materials	Support plates: 0.125" aluminum Brackets: steel
Color	Off-white
Touch-up Paint	02-000290-0

Table 1 Kit Specifications