



HOVERFLY®



SPECTRE 2.0

Payload Installation Manual R00

DCN 1002212

Limited Warranty Summary Statement

Hoverfly provides a **LIMITED WARRANTY ONLY** if the system has not been modified or altered from its original condition, and if the software is intact and maintained in an authorized configuration.

No warranty or obligations shall apply to any portion of the system that has been either: (A) Operated or maintained in a manner inconsistent with this O&M Manual, or (B) Operated in a manner inconsistent with the provisions of the contract, or (C) Damaged by negligence or misuse, fire, casualty, or other external cause(s).

Other than replacement of Customer Serviceable Items, this Warranty shall be null and void if any service, repair, changes, or modification of the System or Software is performed by any party other than Hoverfly or a Hoverfly authorized service agent.

This Warranty shall be null and void if any unauthorized payloads are installed and/or flown on the Hoverfly system.

Other warranty conditions apply. Review the entire warranty under the applicable contract.



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Camera Installation

Various camera payloads may be attached to the Spectre aircraft.



ENSURE ETHERNET CABLE IS CONNECTED TO THE INTERNAL PORT ON THE CONNECTOR PANEL.



ONLY HOVERFLY-AUTHORIZED PAYLOADS MAY BE INSTALLED OR FLOWN ON THE SYSTEM. ANY DEVIATIONS WILL VOID THE WARRANTY.

Follow the steps below to install the EO/IR camera payload.

NOTE: EO/IR payloads must be installed IN DRY CONDITIONS ONLY.



Figure 1: Spectre Payload Bay

1. Pinch both sides and pull upward to remove the locking clip (**Figure 1, A**).
2. Slide the camera payload into the payload bay area. Ensure that it 'click' locks into place, indicating that the Blind Mate is secured (**Figure 1, C**).



— INSTALLATION INSTRUCTIONS —



Figure 2: Camera Payload Pogo Pin Connection

3. Insert the locking clip back into place (**Figure 1, A**).



Figure 3: Spectre with Camera Payload Installed - Front View

4. To detach the camera payload, remove the locking clip (**Figure 1, A**), press the Release button (**Figure 1, B**) then slide the camera out of the payload bay.



Universal Radio Plate Installation (P/N 1002088)

The Universal Radio Plate is used to secure various radio payloads to the Spectre aircraft.

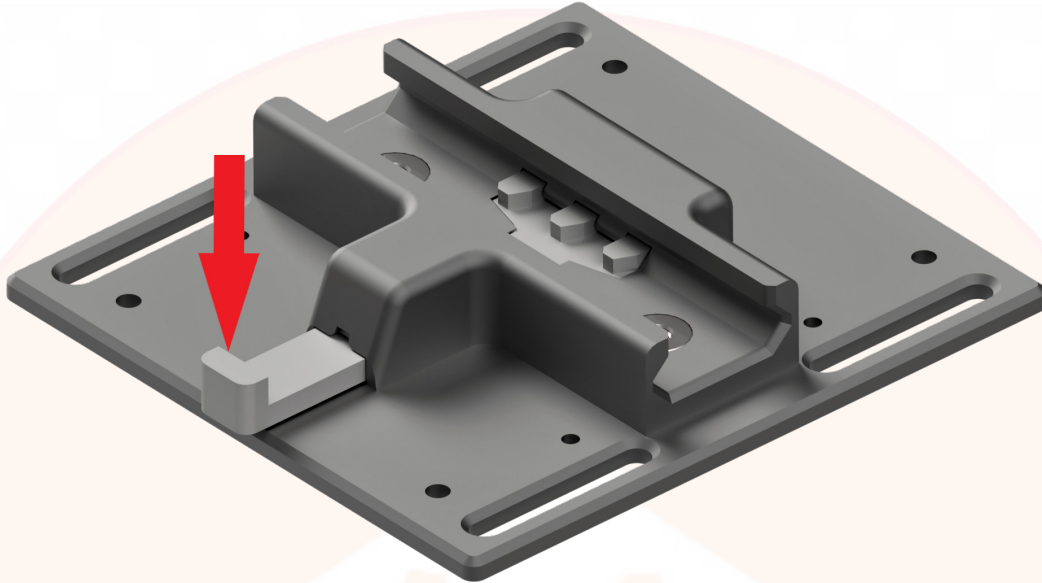


Figure 4: Picatinny Rail Lever

1. Push and hold the Picatinny Rail Lever (**Figure 4**), then slide the Radio Plate onto the Picatinny Rail located on the bottom of the aircraft.
2. Ensure the Radio Plate 'click' locks into place.



Figure 5: Universal Radio Plate Installed



Plug Installation ***(P/N 1002115 HL)***

Install the Plug when no payloads are attached to ensure the Payload Bay remains water proof.

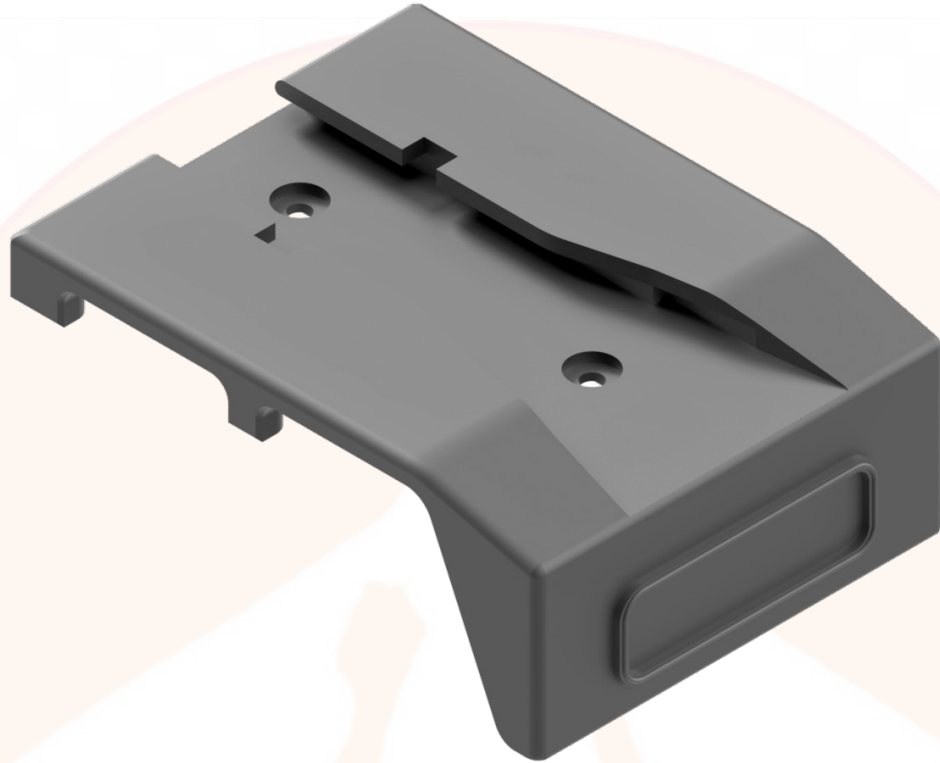


Figure 6: Spectre Payload Bay Plug

1. Pinch both sides and pull upward to remove the locking clip (**Figure 1, A**).
2. Slide the Plug into the payload bay area, ensuring that it locks into place.
3. Reinsert the locking clip.



Antenna Bracket Installation

(P/N 1001962)

Antenna Brackets are used to secure antennas to the aircraft when radio payloads are installed.



Figure 7: Spectre Antenna Bracket

1. Insert the Antenna Bracket onto the left or right legs of the aircraft.



Figure 8: Retractable Spring Screw

2. Pull the Retractable Spring Screw (**DO NOT TURN**), close the hinge over the aircraft leg, and then release the Retractable Spring Screw to secure the hinge to the leg (**Figure 8**).



— INSTALLATION INSTRUCTIONS —



Figure 9: Antenna Brackets Installed



Octane Antenna Installation

(P/N 1002087)

One or more Octane Antennas may be attached to the Antenna Bracket (see ['Antenna Bracket Installation'](#) section above). Antenna(s) can be mounted on the left or right side of the aircraft depending on the radio/payload.

If replacement hardware is needed, refer to the Supplier: Manual, PN: MAG615.

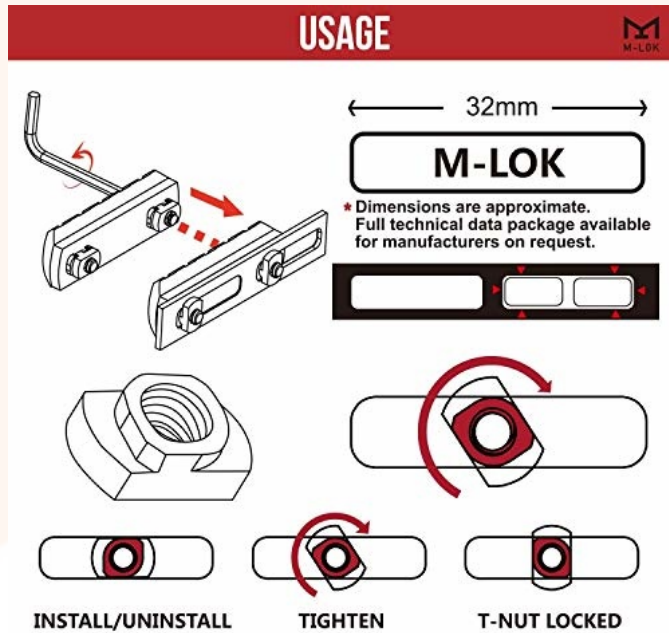


Figure 10: M-LOK Instructions

Hand tighten the screws and follow the M-LOK instructions, above, to secure the Octane Antenna to the Antenna Bracket.



Figure 11: Octane Antenna Installation



— INSTALLATION INSTRUCTIONS —



Figure 12: One Octane Antenna Installed on the Spectre Aircraft



Figure 13: Four Octane Antennas Installed on the Spectre Aircraft



TW-850 (TSM Ghost) Payload Kit Installation (I-P-6205-TW850/P-6205-TW850, P/N 1001681)

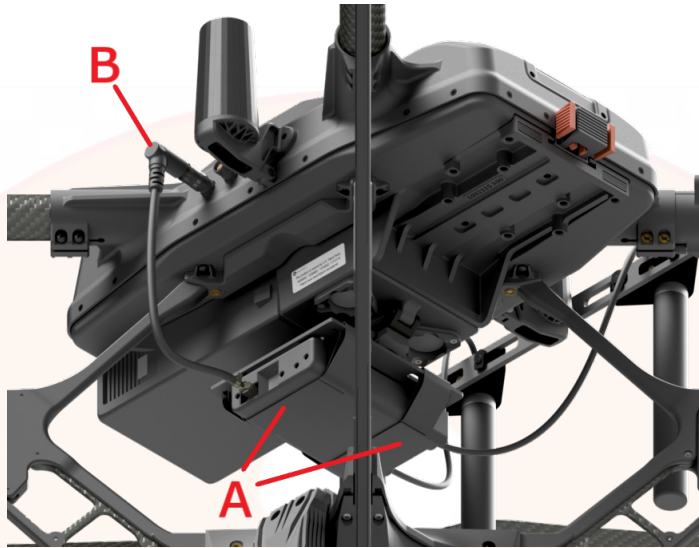


Figure 14: TW-850 Radio Installation 1

1. Insert the TW-850 radio into the two straps attached to the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 14, A**).
2. Slide the plate and radio onto the aircraft Picatinny Rail following the [‘Universal Radio Plate Installation’](#) instructions above.
3. Plug one end of the TW-850 Power Cable Assembly into the radio connect furthest to the left and plug the other end into the aircraft’s **P1** connector (**Figure 14, B**).

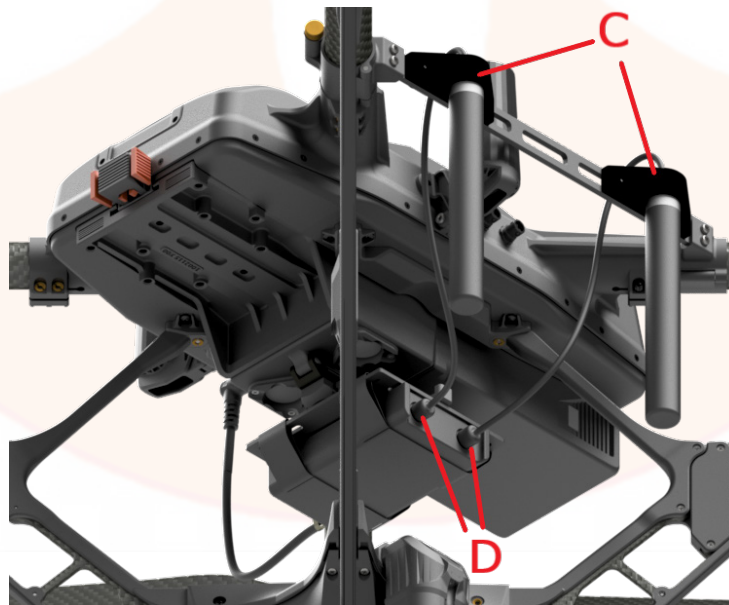


Figure 15: TW-850 Radio Installation 2

4. Install one Antenna Bracket with two Octane Antennas (see [Bracket](#) and [Antenna](#) installation instructions above) on the left side of the aircraft (**Figure 15, C**).
5. Connect the Octane Antenna cables to the **PS** and **RF** receptacles on the TW-850 radio (**Figure 15, D**).



TW-870/875 (TSM Ghost) Payload Kit Installation (I-P-6205-TW875/P-6205-TW875, P/N 1001682)

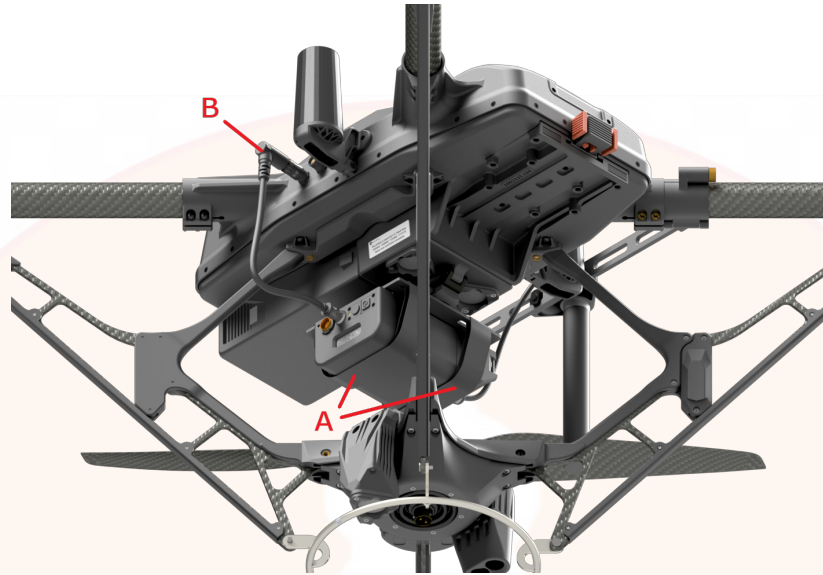


Figure 16: TW-870/875 Radio Installation 1

1. Insert the TW-870 or TW-875 radio into the two straps attached to the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 16, A**).
2. Slide the plate and radio onto the aircraft Picatinny Rail following the 'Universal Radio Plate Installation' instructions above.
3. Plug the TW-870/875 Power Cable Assembly into the radio's power connector and into the aircraft **P1** connector (**Figure 16, B**).

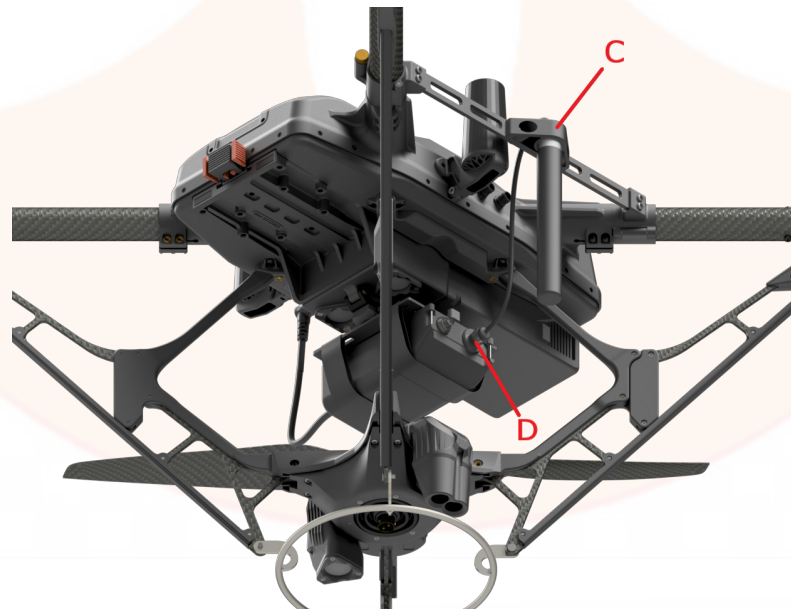


Figure 17: TW-870/875 Radio Installation 2

4. Install one Antenna Bracket with one Octane Antenna (see [Bracket](#) and [Antenna](#) installation instructions above) on the left side of the aircraft (**Figure 17, C**).
5. Connect the Octane Antenna cable to the radio's **RF TNC** connector (**Figure 17, D**).



TW-900/950 (TrellisWare TSM Shadow) Payload Kit Installation (I-P-6205-TW950/P-6205-TW950, P/N 1001683)

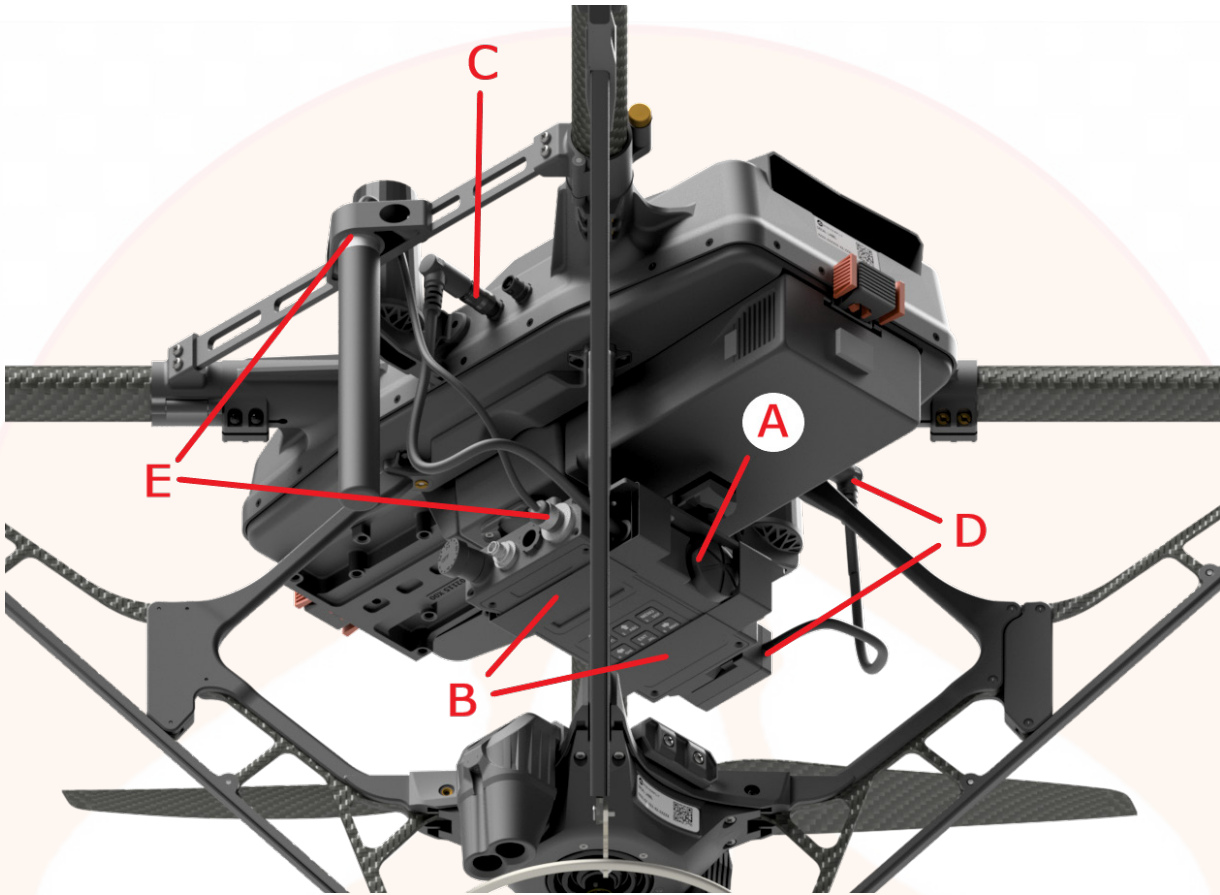


Figure 18: TW-900/950 Payload Kit Installation

1. Connect the HL, TW-950 Ethernet Cable Assembly to the side of the radio (**Figure 18, A**).
2. Insert the TW-900 or TW-950 radio into the two straps attached to the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 18, B**).
3. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above.
4. Connect the HL, TW-950 Ethernet Cable Assembly to the aircraft's **E1** connector (**Figure 18, C**).
5. Connect the HL, TW-900/950 Power Cable Assembly to the back of the radio and plug it into **P1** connector on the aircraft (**Figure 18, D**).
6. Install one Antenna Bracket with one Octane Antenna on the left side of the aircraft (see [Bracket](#) and [Antenna](#) installation instructions above), then connect the Octane Antenna cable to the radio's **RF TNC** connector (**Figure 18, E**).



SC4400E (Silvus StreamCaster Enhanced) Payload Kit Installation

(I-P-HL-SC4400-E/P-HL-SC4400-E, P/N 1001955)

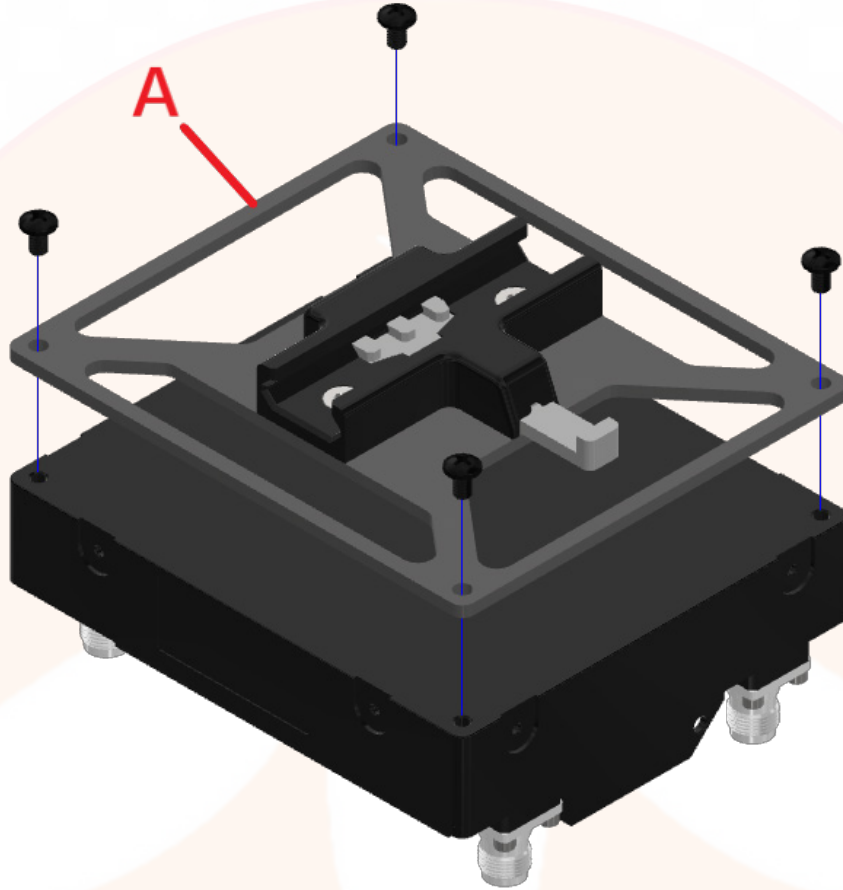


Figure 19: SC4400E Radio Plate

1. Attach the SC4400E Radio Plate (**Figure 19, A**), oriented as shown above, to the SC4400E radio using the provided screws (4x).



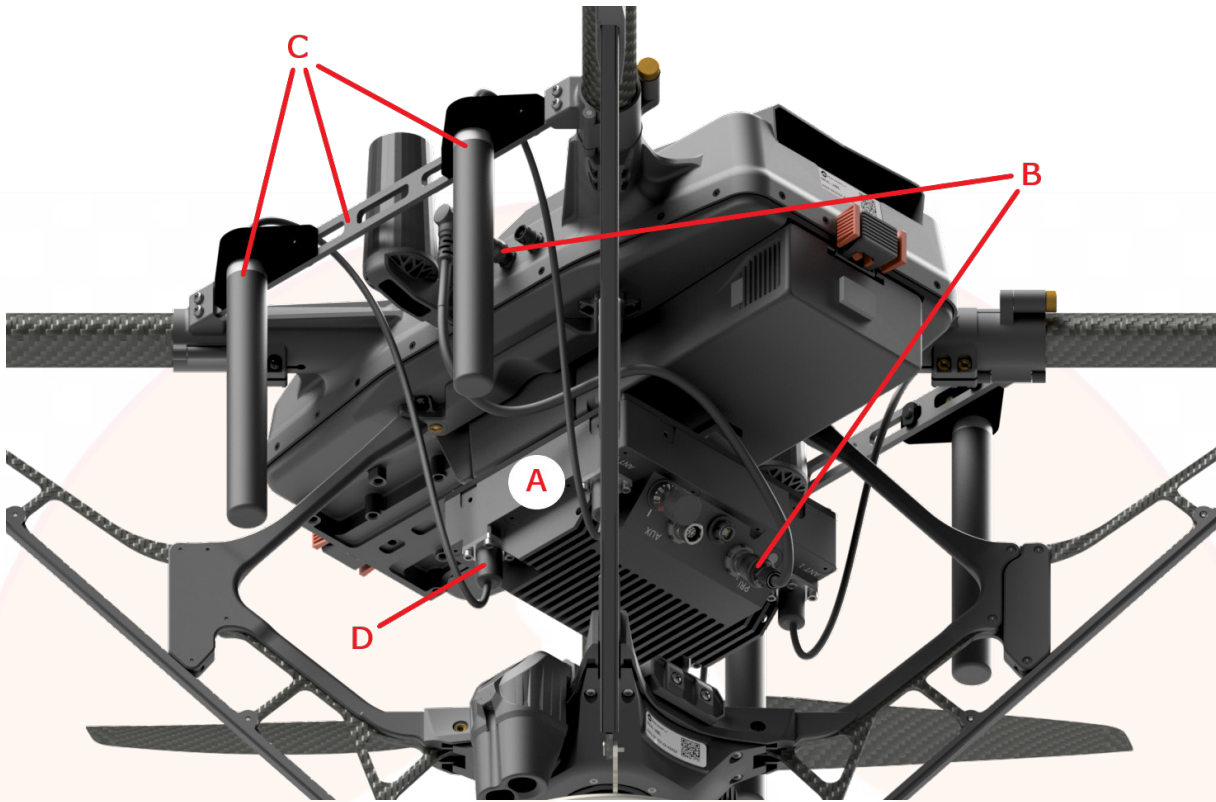


Figure 20: SC4400E Radio Installation

2. Slide the plate and radio onto the aircraft Picatinny Rail (**Figure 20, A**) following the '[Universal Radio Plate Installation](#)' instructions above.
3. Connect the HL, SC-4400E Primary Port Cable Assembly to the **PRI** connector on the radio and then plug it into the **E1** connector on the aircraft (**Figure 20, B**).
4. Install two Antenna Brackets with two Octane Antennas each onto both sides of the aircraft (**Figure 20, C**) (see [Bracket](#) and [Antenna](#) installation instructions above).
5. Connect the Octane Antenna cables to the radio's **RF TNC** connection. Ensure each antenna cable is plugged into the same corners of the radio as the aircraft (**Figure 20, D**).



SC4200E-BB (Silvus StreamCaster Enhanced) Payload Kit Installation

(I-P-6205-SC4200E-BB/P-6205-SC4200E-BB, P/N 1001685)

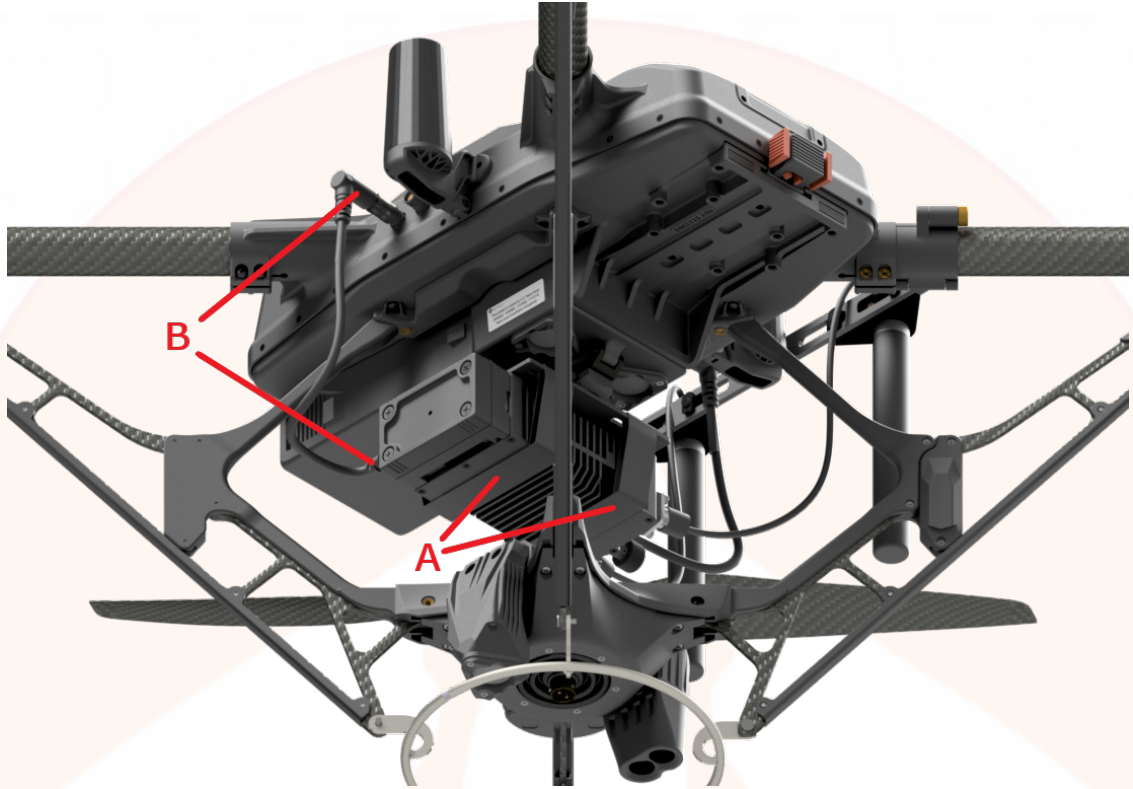


Figure 21: SC4200E-BB Radio Installation 1

1. Insert the SC4200E-BB radio into the two straps attached to the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 21, A**).
2. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above.
3. Connect the Battery Eliminator 10.8V Power Cable Assembly to the back of the radio and plug it into the **P1** connector on the aircraft (**Figure 21, B**).



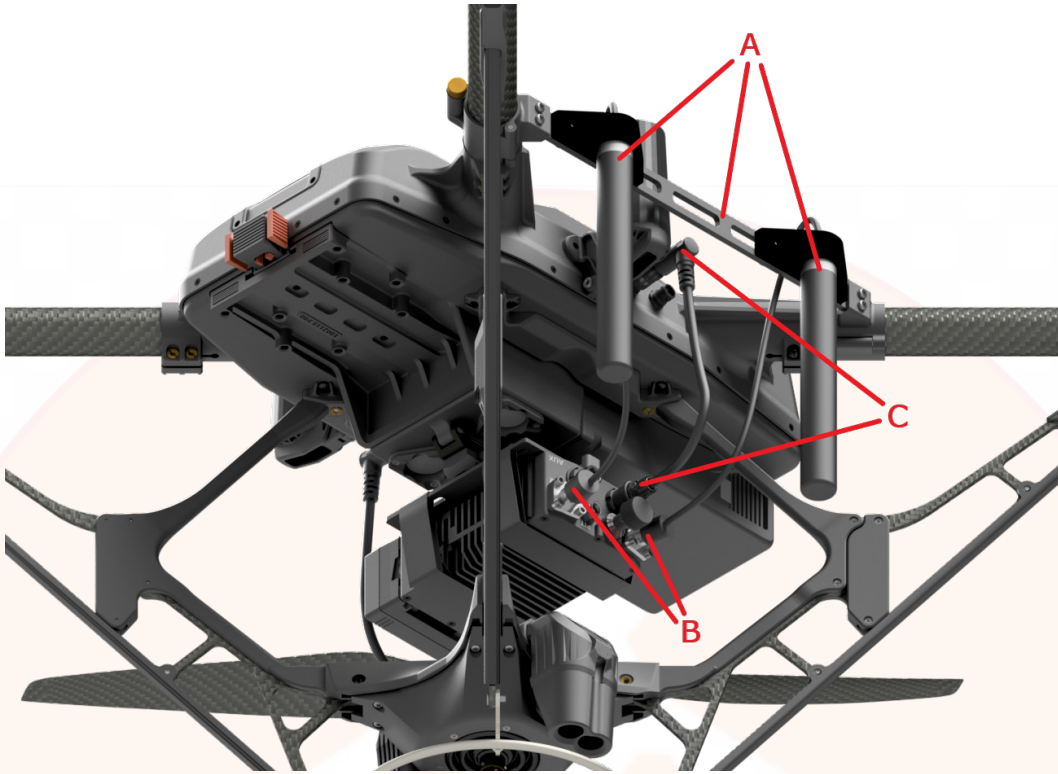


Figure 22: SC4200E-BB Radio Installation 2

4. Connect one Antenna Bracket with two Octane Antennas (**Figure 22, A**) to the left side of the aircraft (see [Bracket](#) and [Antenna](#) installation instructions above).
5. Connect the Octane Antenna cables to the radio's **A1** and **A2** connectors (**Figure 22, B**).
6. Connect the HL, SC-4200E Primary Port Cable Assembly to the radio's **PRI** connection and plug it into the aircraft's **E1** connector (**Figure 22, C**).



SC4200E-EB (Silvus StreamCaster Enhanced) Payload Kit Installation

(I-P-6205-SC4200E-EB/P-6205-SC4200E-EB, P/N 1001684)

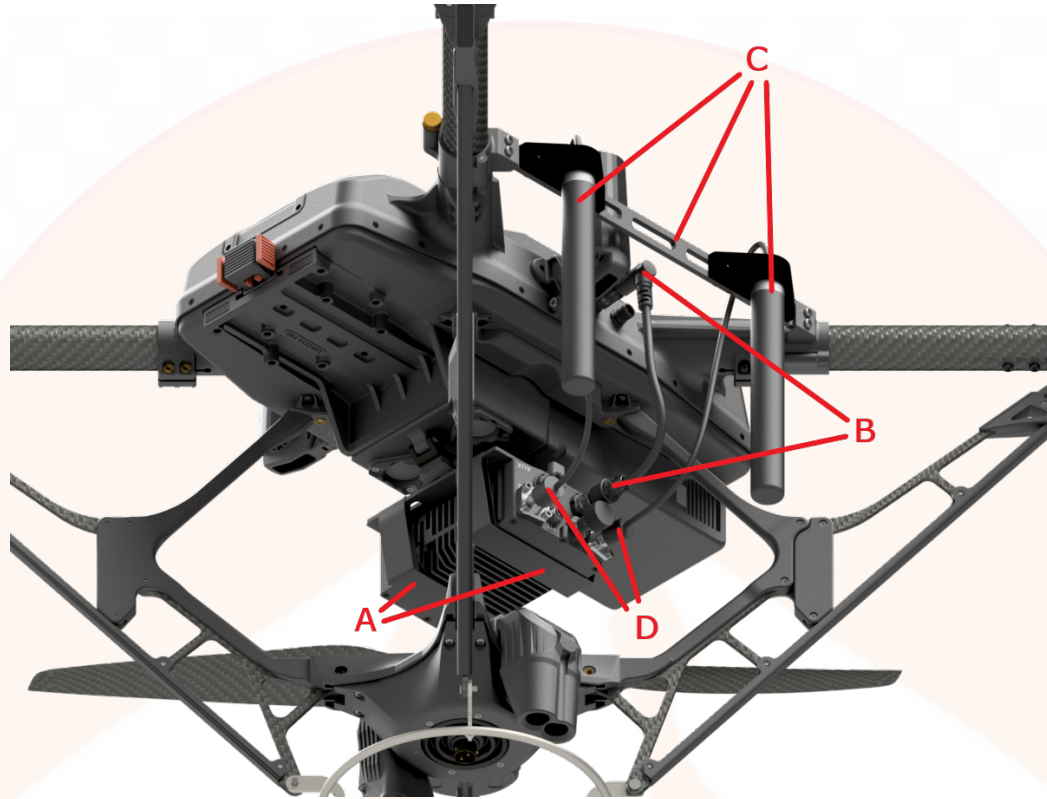


Figure 23: SC4200E-EB Radio Installation

1. Insert the SC4200E-EB radio into the two straps attached to the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 23, A**).
2. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above.
3. Connect the HL, SC-4200E Primary Port Cable Assembly to **PRI** on the radio and plug it into the aircraft **E1** connector (**Figure 23, B**).
4. Install one Antenna Bracket with two Octane Antennas (**Figure 23, C**) on the left side of the aircraft (see [Bracket](#) and [Antenna](#) installation instructions above).
5. Connect the Octane Antenna cables to the radio's **A1** and **A2** connectors (**Figure 23, D**).



MPU5 (Persistent Systems Wave Relay) Payload Kit Installation **(P/N 1001082)**

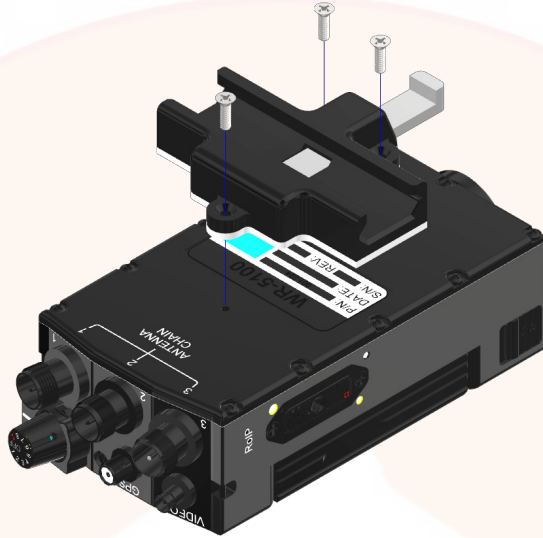


Figure 24: MPU5 Radio Plate

1. Install the MPU5 Radio Plate (**Figure 24**), oriented as shown above, onto the MPU5 radio using the provided screws (3x).

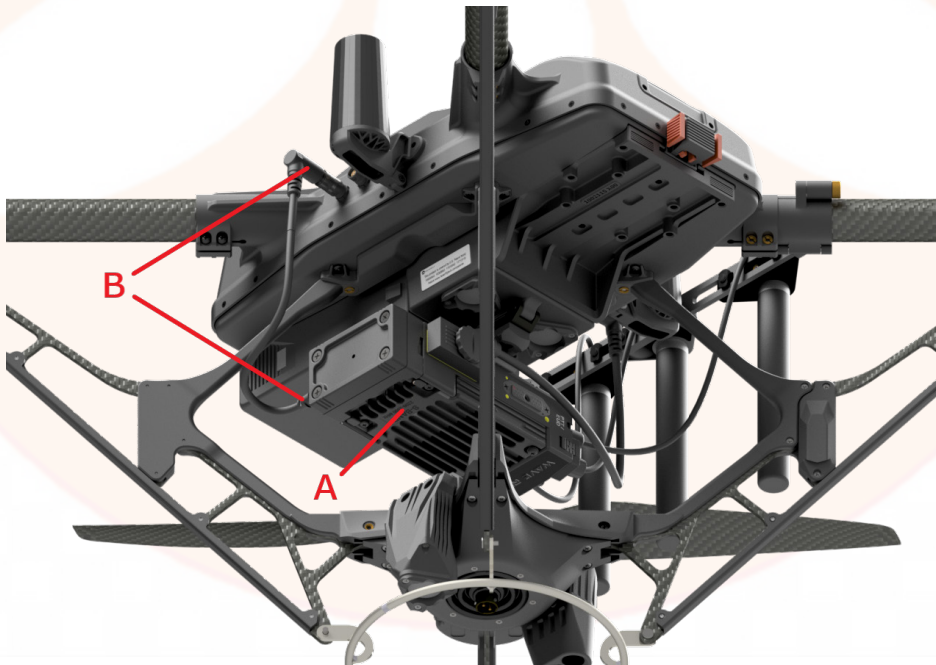


Figure 25: MPU5 Radio Installation 1

2. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above (**Figure 25, A**).
3. Connect the HL, Battery Eliminator 10.8V Power Cable Assembly to the back of the radio and then plug it into the aircraft **P1** connector (**Figure 25, B**).



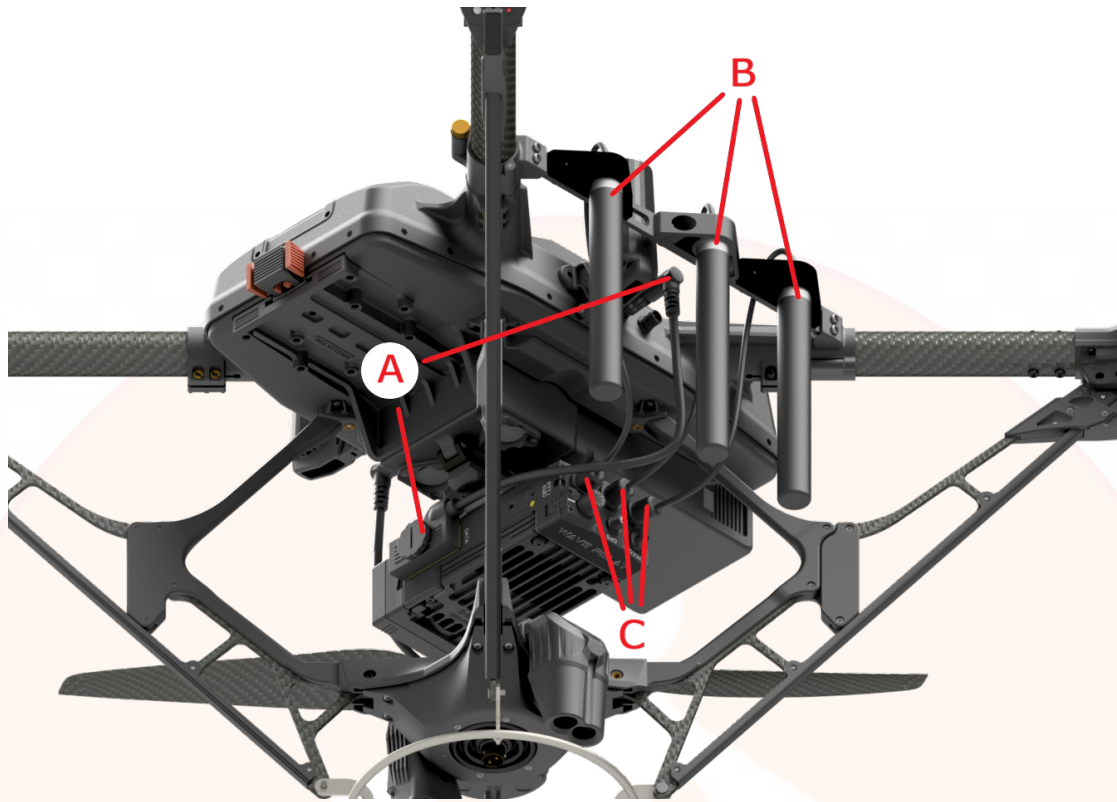


Figure 26: MPU5 Radio Installation 2

4. Connect the Ethernet Cable Assembly to the side of the radio labeled **DATA** and plug it into the aircraft **E1** connector (**Figure 26, A**).
5. Connect one Antenna Bracket with three Octane Antennas (**Figure 26, B**) to the left side of the aircraft (see Bracket and Antenna installation instructions above).
6. Connect **TNC** Female to **RP-TNC** Male Adapters to the Octane Antenna cables and then connect them to the radio's 'Antenna Chain' connectors; insert each antenna cable into the connector closest to it (**Figure 26, C**).



PRC-163 (Multi-Channel Handheld) Payload Kit Installation

(I-P-HL-PRC163/P-HL-PRC163, P/N 1001959)

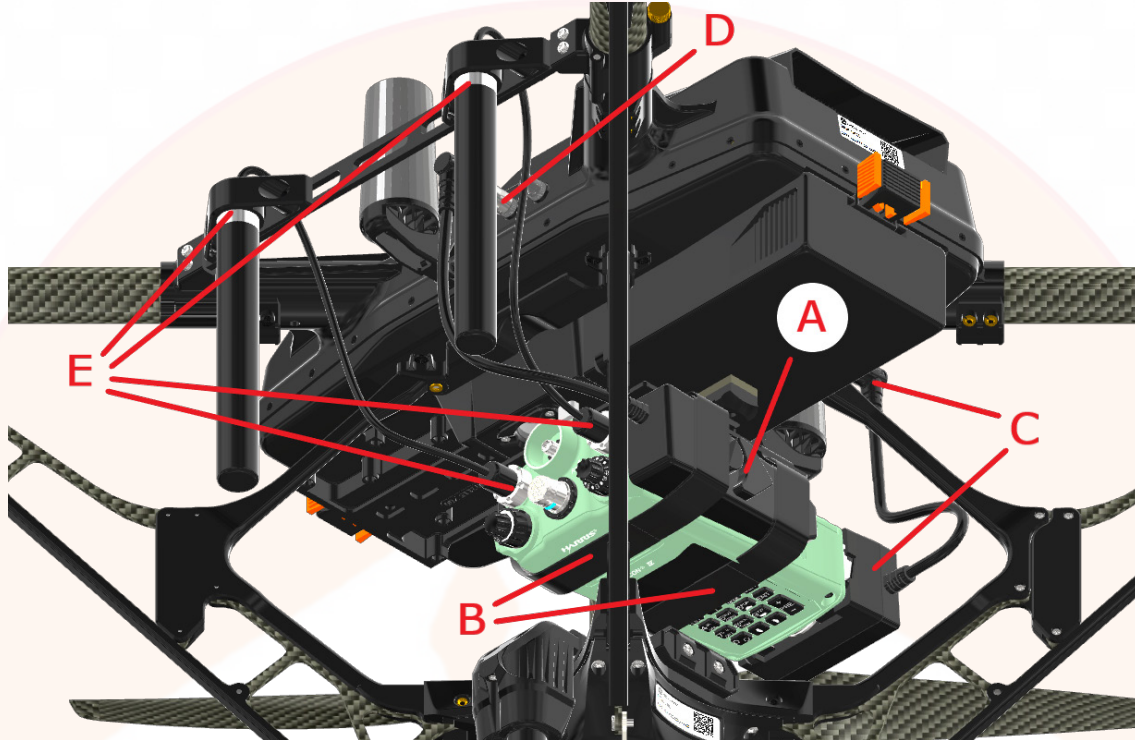


Figure 27: PRC-163 Radio Installation

1. Attach the HL, PRC-163 Ethernet Cable Assembly to the side of the radio (**Figure 27, A**).
2. Insert the PRC-163 radio into the two straps on the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 27, B**).
3. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above.
4. Connect the HL, PRC-163 Power Cable Assembly to the back of the radio and plug it into the aircraft **P1** connector (**Figure 27, C**).
5. Connect the HL, PRC-163 Ethernet Cable Assembly to the aircraft **E1** connector (**Figure 27, D**).
6. Connect one Antenna Bracket with two Octane Antennas to the left side of the aircraft (see [Bracket](#) and [Antenna](#) installation instructions above), then connect the cables to the radio's **RT1** and **RT2** connectors (**Figure 27, E**).



PRC-161 BATS-D (Battlefield Awareness and Targeting System - Dismounted) Payload Kit Installation

(I-P-HL-PRC161/P-HL-PRC161, P/N 1001960)

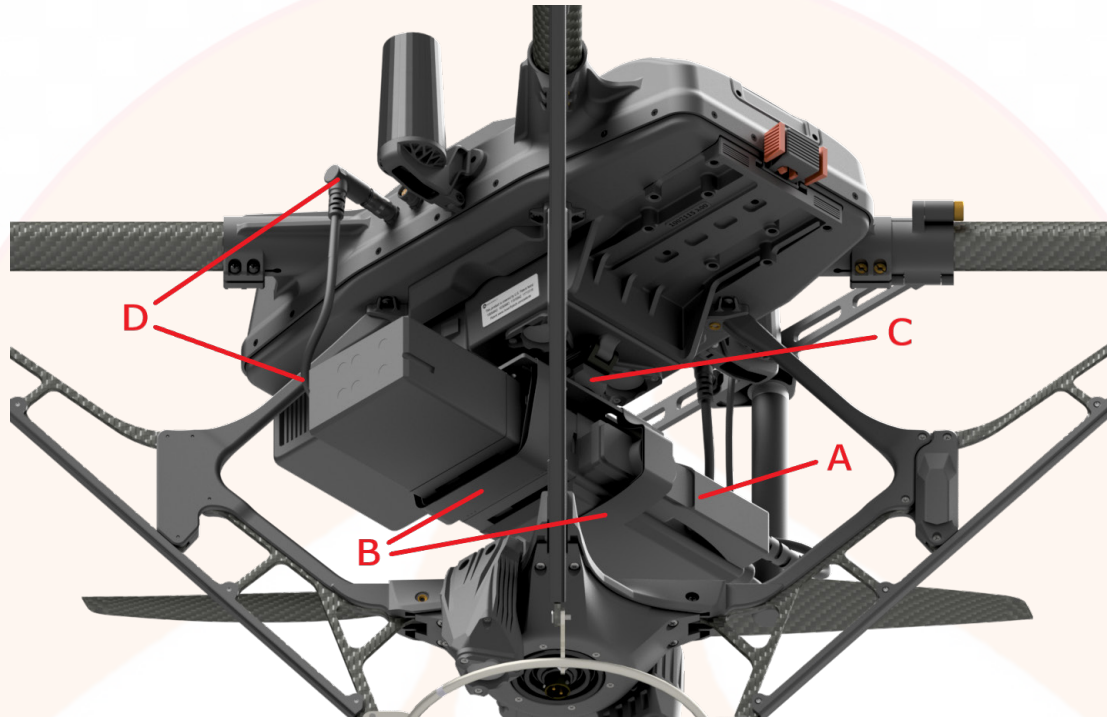


Figure 28: PRC-161 BATS-D Radio Installation 1

1. Connect the HL, PRC-161 Ethernet Cable Assembly to the side of the radio (**Figure 28, A**).
2. Insert the PRC-161 radio into the two straps on the Universal Radio Plate, centered and oriented as shown, and then tighten the straps to secure the radio in place (**Figure 28, B**).
3. Slide the plate and radio onto the aircraft Picatinny Rail following the '[Universal Radio Plate Installation](#)' instructions above (**Figure 28, C**).
4. Connect the HL, PRC-161 Power Cable Assembly to the back of the radio and plug it into the aircraft **P1** connector (**Figure 28, D**).



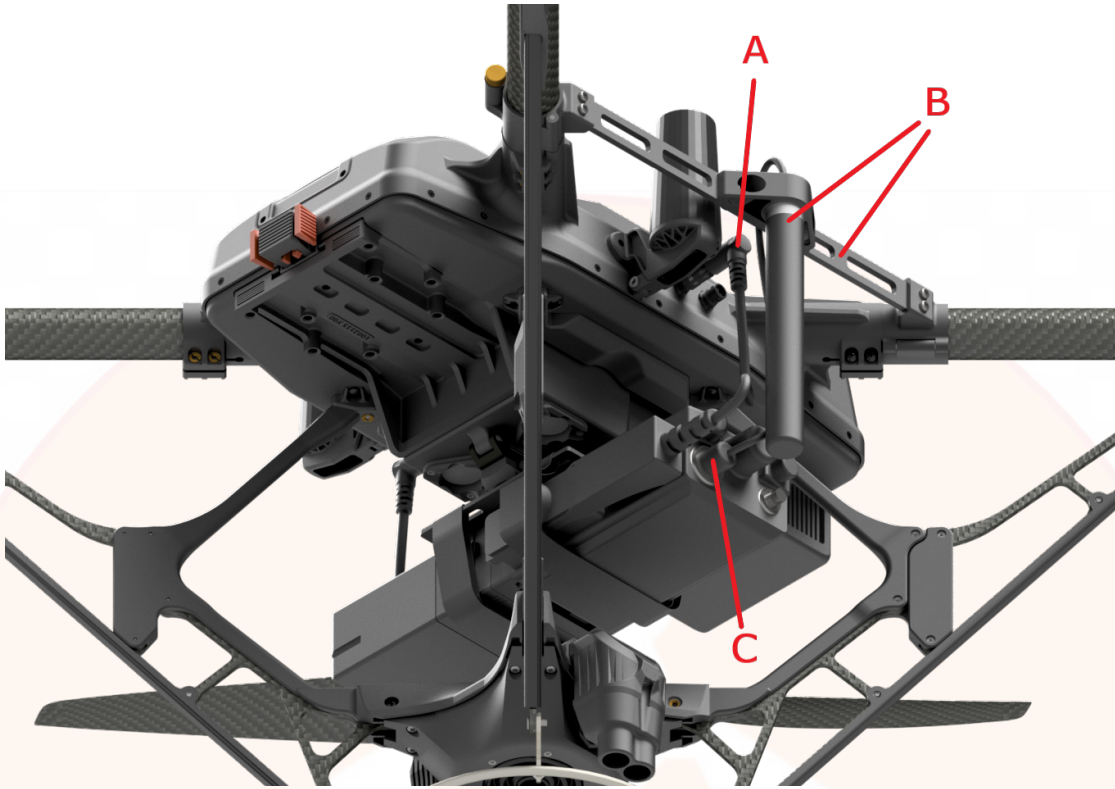
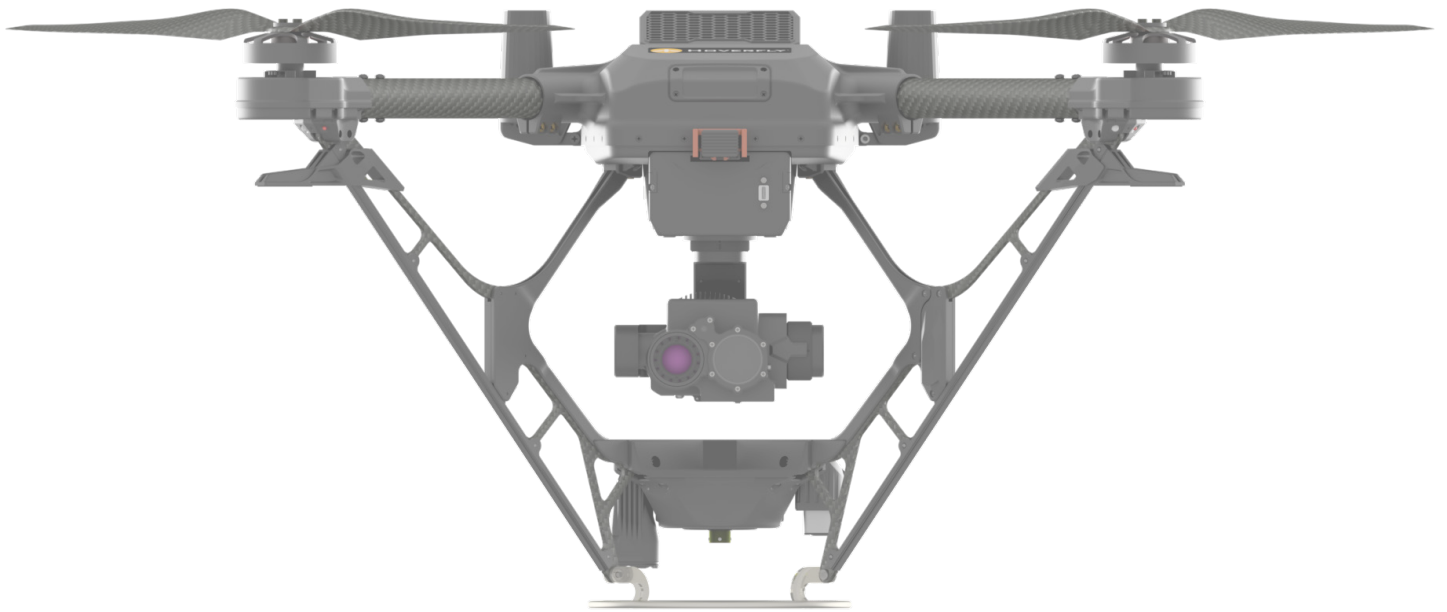


Figure 29: PRC-161 BATS-D Radio Installation 2

5. Connect the HL, PRC-161 Ethernet Cable Assembly to the aircraft **E1** connector (**Figure 29, A**).
6. Connect one Antenna Bracket with one Octane Antenna (**Figure 29, B**) to the left side of the aircraft (see [Bracket](#) and [Antenna](#) installation instructions above).
7. Connect the Octane Antenna cable to the radio's **RF TNC** connector (**Figure 29, C**).





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