CNIC FlyAway Kit

User Guide

SPAWAR
Systems Center
Charleston

Copyright

Prepared by:
Alutiiq Business Services, LLC
For
Commander Naval Installations Command (CNIC), and
Space and Naval Warfare Systems Center Charleston (SSC-C)

Approved by: Stuart Pearce Date: 9 May 2008

Uncontrolled Copy – For Reference Only

Important Note: A hard copy of this document may not be the document currently in effect. To verify the controlled version or to obtain a copy of this document, please contact the department that prepared the document.

SPAWAR
Systems Center Charleston

05 May 2008

Change Record

A – ADDED **M** – MODIFIED **D** - DELETED

CHANGE NUMBER	DATE	NUMBER OF FIGURE, TABLE OR PARAGRAPH	A, M, D	TITLE OR BRIEF DESCRIPTION
1	04/29/08	Misc	A	Initial Draft
2	05/05/08	Misc	A,M,D	Initial Review
3	05/13/08	Misc	M	First Release Version

SPAWAR
Systems Center
Charleston

Contents

Figures

Tables

1 Preface

Chapter Areas:

CNIC FlyAway Kit

1 Preface

Communications Disaster Recovery Overview

In its continuing effort to support Fleet, Fighter, and Family, Commander Naval Installations Command (CNIC) has instituted the Emergency Management Communications Requirements (EMCR) effort. The purpose of this program is to quickly and efficiently reestablish vital communication links to land-based Naval Facilities impacted by natural and/or man-made disasters. Due to potential catastrophic damage to the affected sites' communication infrastructures, compact, transportable recovery communication systems are required to provide data, voice, and video communication via Satellite Communications.

EMCR entails three tiers, or levels, of emergency equipment that have been developed for possible deployment. Moving from Tier I to Tier III, each tier provides a increasing level of communication capabilities. Moving from Tier III to Tier I, each tier provides an increased level of compact portability.

Tier I includes an ICP Light Kit that is made up of a small BGAN Terminal. Very light weight and portable; it can be transported easily by one person.

Tier II consists of two different solutions. The first is a ManPack that can be transported and set up by an individual. The second solution is a the CNIC FlyAway Kit: three cases that can be transported in a van, truck, or similar vehicle. This solution is easily set up and deployed by one or two individuals. This manual covers the processes and procedures required for deploying and stowing the CNIC FlyAway Kit.

Tier III consist of a complete communications package mounted on or transported with a Humvee, providing a complete mode of transportation and communication deployment. This Tier III solution is managed under the Telephony Disaster Recovery project.

2 Configuration

Chapter Areas:

CNIC FlyAway Kit

2 Configuration

Configuration Overview

The following diagram illustrates the standard connections on the back of a FlyAway Kit's electronics case (case 3); the modem and router are shown.

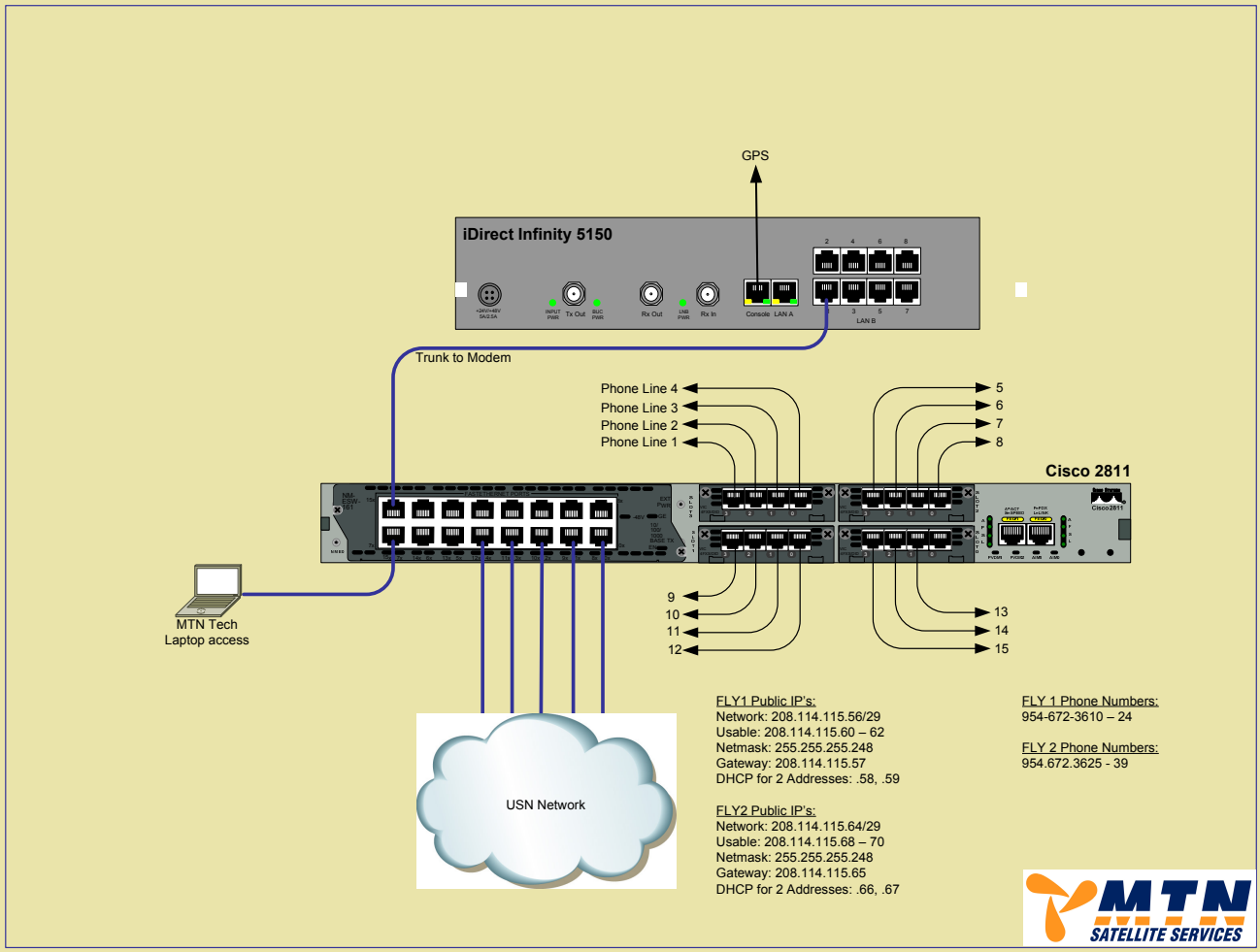


Figure 1: FlyAway Kit Configuration

3 Getting Started

Chapter Areas:

CNIC Flyaway Kit

3 Getting Started

Equipment Overview

The CNIC Flyway Kit consists of three portable cases that contain the communication equipment's dish, feed horn, pedestal, and electronics. Case one is the **Pedestal Case**. The pedestal comprises the drive systems and support structure for the dish and feed horn. Case two is the **Accessories Case**. The Accessories Case contains the feed horn, feed horn strut, and any included LNBs (Low Noise Block). The lid of case two contains two soft bags holding the four panels that make up the carbon fiber dish. The lid also contains the two dish support struts. Case three is the **Electronics Case**. This case contains all the electronics required for the communication solution; the ACU (Antenna Control Unit), a power supply, a router, and a modem. The cables connecting the ACU to the pedestal are also stored in case three.

Placement of the FlyAway Kit

The Flyaway Kit cases should be placed in area where there is room to open each case, store the lids, and set up the dish and feed horn on the pedestal. The pedestal case should be placed on a stable, flat surface with a six-foot safety zone maintained around the pedestal case. This is important when the dish is operational.

CNIC FlyAway Kit Assembly Process

Assembly and disassembly of the CNIC FlyAway Kit follow standard step-by-step processes. These processes are addressed in detail throughout the remaining sections of this manual. Although the disassembly of the kit is similar to the assembly steps followed in reverse, please ensure the disassembly steps are followed for stowing the kit. Errors in deploying or stowing the kit can result in damage to the kit and associated electronics.

To familiarize yourself with the assembly and disassembly of the CNIC FlyAway Kit, the high-level steps have been listed for both processes. Please read through the steps as it will help with as you move through the individual assembly and disassembly procedures in each process.

4 Getting Started

The assembly process consists of the following individual procedures:

1. Opening the pedestal case
2. Positioning the outriggers
3. Connecting the pedestal and electronics case
4. Connecting to a power source
5. Deploying the pedestal
6. Assembling and mounting the dish
7. Assembling and mounting the feed horn assembly
8. Attaching the LNBs
9. Attaching the Block Up Converter
10. Searching for the target satellite

The disassembly process consists of the following individual procedures:

1. Stowing the pedestal
2. Removing the Block Up Converter
3. Removing the LNBs
4. Removing and disassembling the feed horn assembly
5. Removing and disassembling the dish
6. Completing the stowing of the pedestal
7. Disconnecting from the power source
8. Disconnecting the pedestal and electronics case
9. Stowing the outriggers
10. Coiling and stowing the cables
11. Closing and stacking the cases

4 Assembly

Chapter Areas:

4 Assembly

Assembly Steps

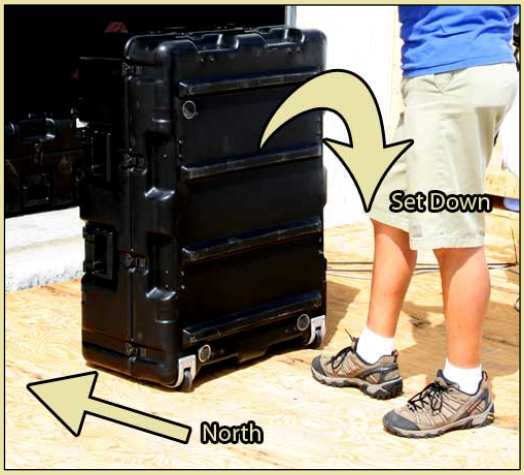
The following steps cover the assembly of the CNIC FlyAway Kit.

NOTE:	Several of these procedures indicate the need to use both hands to hold a piece of equipment until it is removed or secured. These procedures may require two people to complete the step.

Opening the pedestal case

1. Position the pedestal case (case 1) so the wheels will face north when the case is set down flat. This allows the dish to find south much quicker when deployed.

   In the southern hemisphere, the wheels should face south.

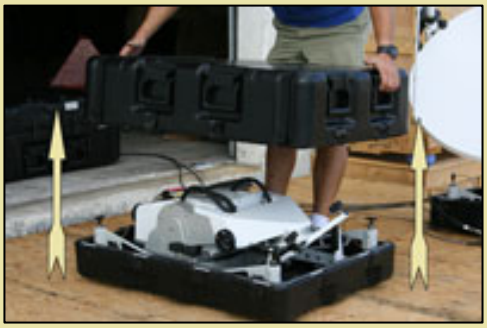


2. Ensure the case is on level ground and carefully set the case down flat. Ensure a 6-foot safety zone is maintained around the pedestal case (case 1).

4 Assembly

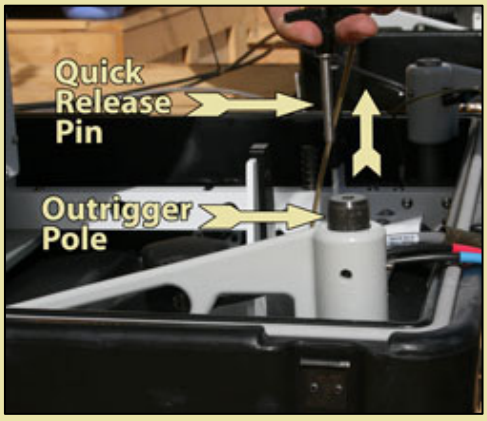
3. Remove the pedestal case (case 1) lid using the 12 latches on the sides of the case.

4. Lift the lid straight up and off of the base to clear any outriggers or equipment inside the case. Place the lid in a safe area.



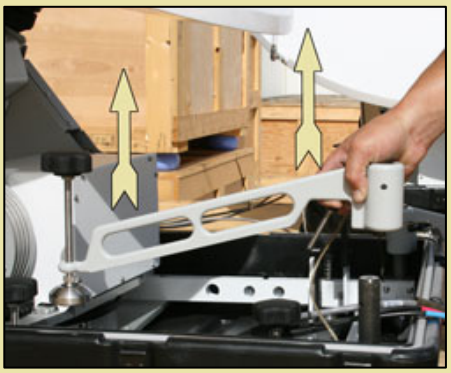
Positioning the outriggers

1. Remove the quick release pin from the top of one of the outrigger poles.



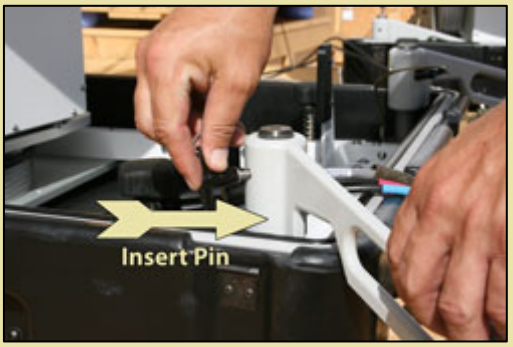
4 Assembly

2. Lift the outrigger straight up and off the outrigger pole.



3. Rotate the outrigger so it points straight out from pedestal case (case1) corner.
4. Push the outrigger down on the outrigger pole ensuring the guide pin inside the outrigger collar and groove on the outrigger pole align.
5. Push down or pull up on the outrigger to align the holes in the outrigger collar and outrigger pole.

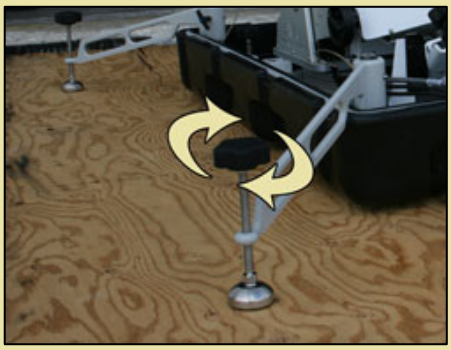
6. Insert the quick release pin through the holes in the outrigger collar and outrigger pole.



4 Assembly

7. Twist the knob on top of the outrigger foot until the foot touches the ground, and then turn the knob one additional time.

8. Repeat the **Positioning of the outriggers** procedure for each outrigger.



Connecting the pedestal and electronics cases

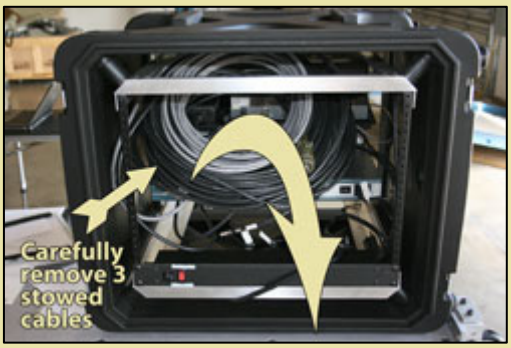
1. Remove the cap from the cable control pedestal (olive drab) in the base cable group.

2. Remove the front panel from the electronics case (case 3).

3. Remove the back panel from the electronics case (case 3).

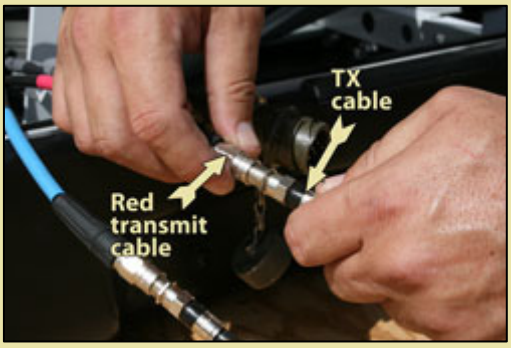
4 Assembly

4. Remove the stowed cables from the back of the electronics case (case 3).



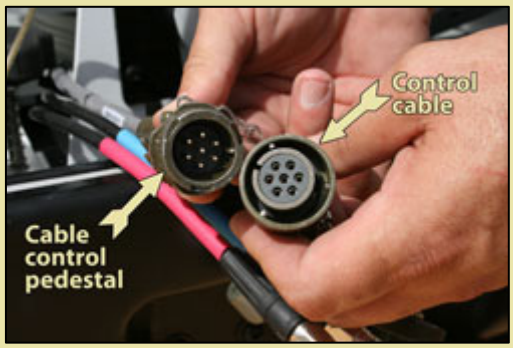
5. Connect the blue receive cable in the base cable group (located on the right side of the pedestal case when viewed from the rear of the pedestal assembly) to the corresponding RX cable from the electronics case (case 3). This is a coaxial connection. Finger tight is sufficient.

6. Connect the red transmit cable in the base cable group to the corresponding TX cable from the electronics case (case 3). This is a coaxial connection. Finger tight is sufficient.



4 Assembly

7. Connect the cable control pedestal (olive drab) in the base cable group to the control cable from the electronics case (case 3). Pay close attention to the "key ways" on the cable control pedestal. They will not allow the cables to be connected in another manner without being damaged. Finger tight is sufficient.



Connecting to a power source

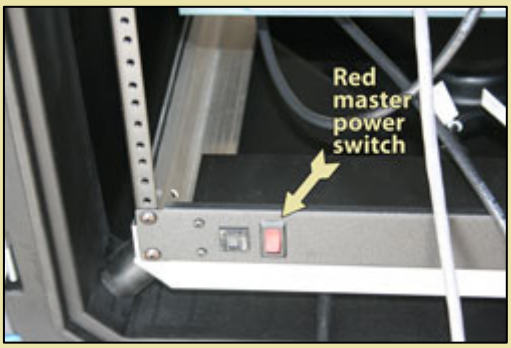
The power source for the FlyAway Kit must be operational before the connection is made.

1. Remove the power cable from back of the electronics case (case 3).

2. Connect the power cable to a regulated power source. It is strongly recommended to use a UPS, connecting the UPS to the power source and the electronics case power cable to the UPS.

4 Assembly

3. Press the red master power switch on the back on the electronics case (case 3).



Deploying the pedestal

1. Ensure the handles on the manual hand crank wheels are folded flat. If they are not, the pedestal assembly can be damaged during deployment. These wheels should not be used when there is power supplied to the pedestal.

4 Assembly

2. Press and hold the “plus” button on the front panel of the electronics case (case 3) ACU for three seconds.

The screen will display a **“STARTUP @” (target satellite longitude)** message.

If the dish is not installed, it will automatically stop at a 30-degree angle, and the ACU will display an “error” message.

4 Assembly

Assembling and mounting the dish

1. Remove the accessories case (case 2) lid using the 12 latches on the sides of the case.

2. Lift the lid straight up and off of the base to clear any equipment inside the case. Carefully place the lid next to the accessories case (case 2) base, as the lid contains additional equipment.

3. Disconnect the two straps holding the dish storage bags in place.

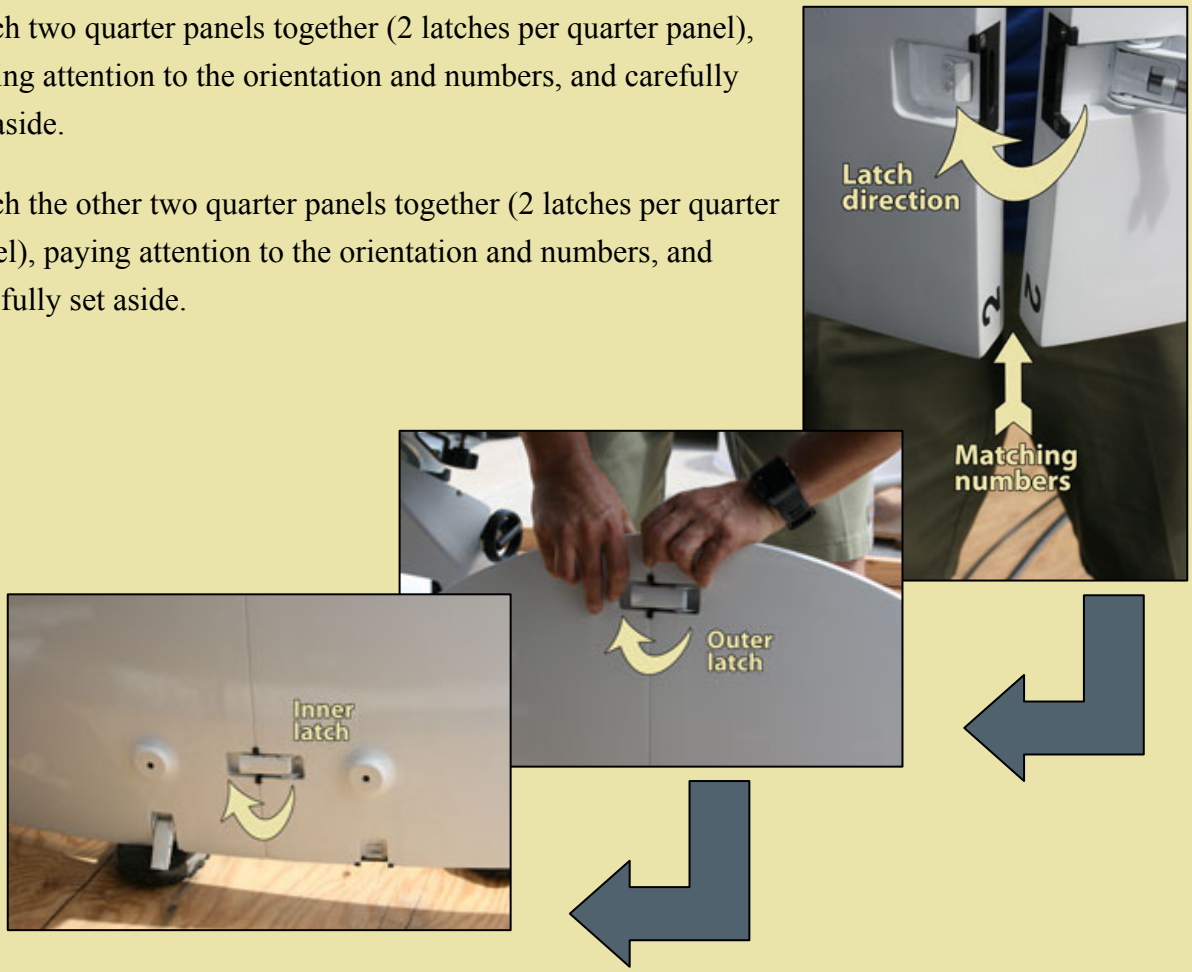
4. Remove dish storage bags from case lid.

5. Remove two quarter panels from each of the dish storage bags, noting the numbers on the corner edges of each dish quarter panel. The numbers must match to properly secure the quarters of each dish.

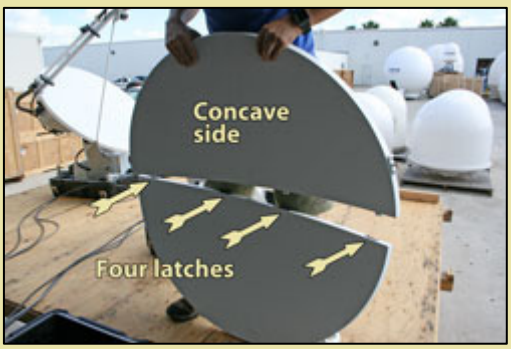
4 Assembly

6. Latch two quarter panels together (2 latches per quarter panel), paying attention to the orientation and numbers, and carefully set aside.

7. Latch the other two quarter panels together (2 latches per quarter panel), paying attention to the orientation and numbers, and carefully set aside.

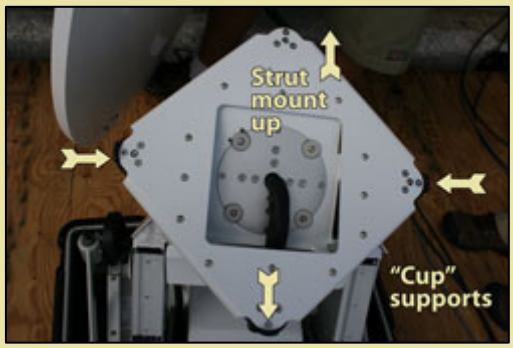


8. Latch the two halves of the dish together (4 latches), paying attention to the orientation and numbers.



4 Assembly

9. Place the dish, with the strut mount positioned at the top, on to the pedestal into the three “cup” supports. The top of the pedestal does not have an associated cup. Align the strut mount to the top of the pedestal where there is no cup.

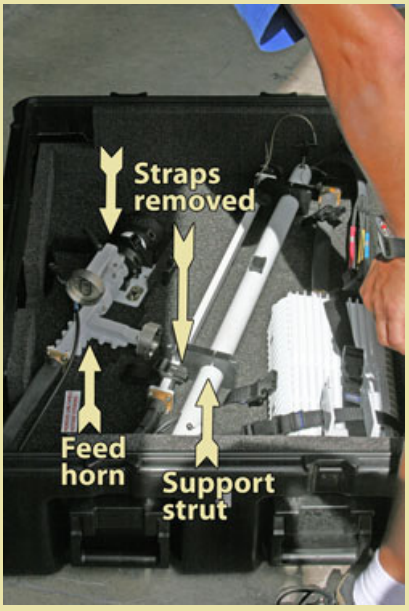


10. Tighten the four knobs on the back of the pedestal to securely mount the dish. Do not over-tighten the knobs. Finger tight is sufficient.

4 Assembly

Assembling and mounting the feed horn assembly

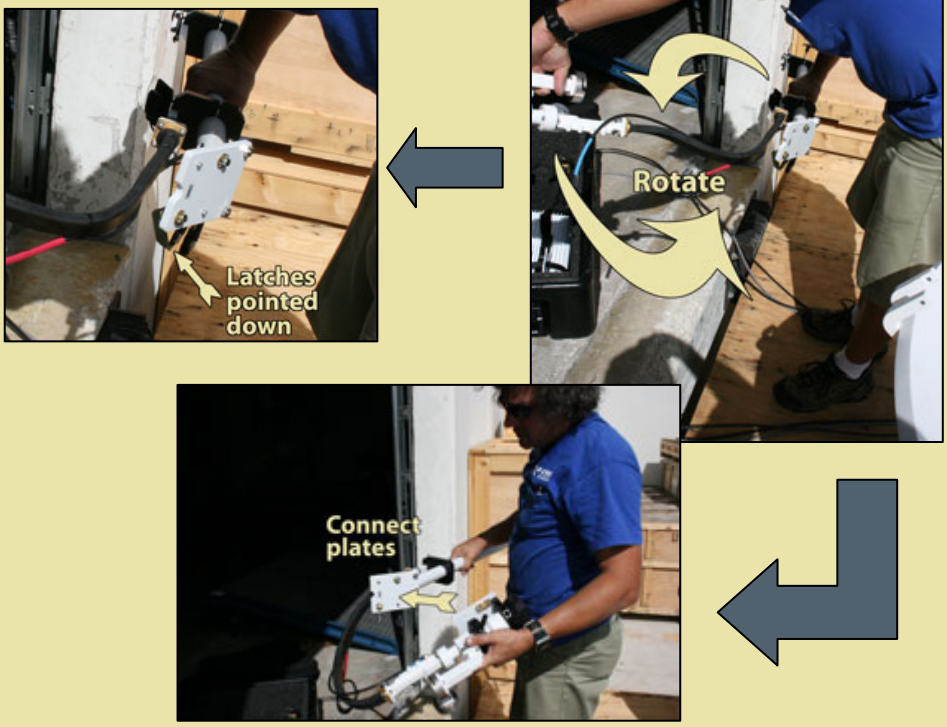
1. Remove the straps holding the feed horn assembly in place, noting the feed horn assembly is actually two pieces: the feed horn and the supporting strut.



2. Remove the feed horn assembly from the accessories case (case 2), grabbing the feed horn with one hand, and the strut with the other hand. This is done to avoid damaging the flexible wave guide cable connecting the feed horn and strut.

4 Assembly

3. Ensuring the two mounting plate latches on the strut are pointing down, rotate the feed horn around and place the two mounting plates together, taking care to align the pins.

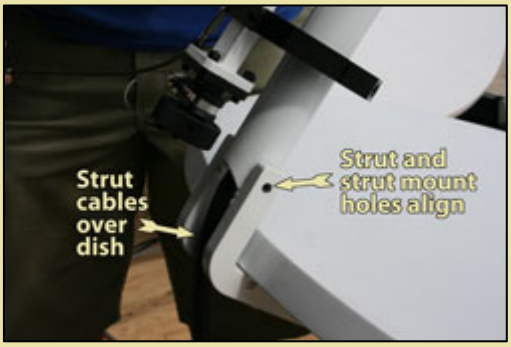


4. Turn each mounting plate latch a quarter-turn to secure the two mounting plates and connect the feed horn to the strut.

4 Assembly

5. Remove the quick release pin from the end of the strut.

6. Place the strut onto the strut mount at the top of the dish, ensuring the flexible wave guide cable is pointed up, the holes in the strut and strut mount are aligned, and the strut cables are guided over the top edge of the dish.



4 Assembly

7. Insert the strut's quick release pin through the strut and strut mount holes, taking care to guide the pin past the cabling.

8. Gently lower the feed horn assembly down to touch the dish.

9. Remove the two support struts from the accessories case (case 2) lid.

4 Assembly

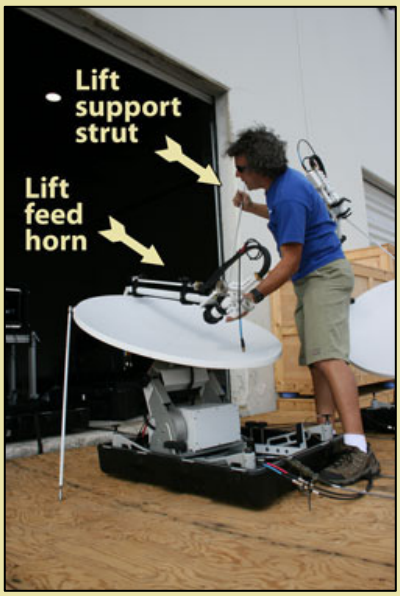
10. Match the numbers on the ends of the support struts to the number on the upper outside edges of the dish.

The numbers on the support struts, feed horn, and dish attachment points are located “deep” in the paint and may be hard to read.

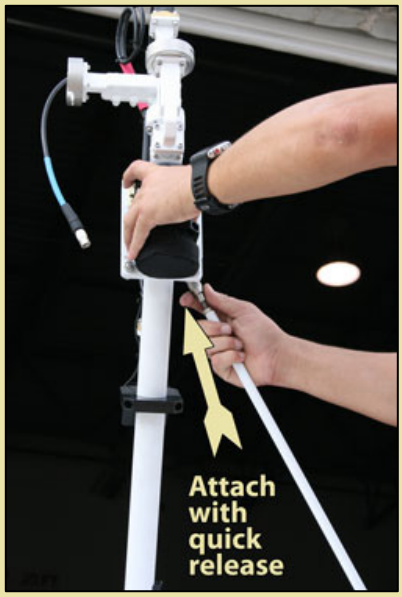
11. Attach both struts on the upper outside edges of the dish. The support struts use an air-hose type quick release.

4 Assembly

12. Lifting and supporting the feed horn with one hand, lift one support strut in the other hand.



13. Attach the end of the support strut to the feed horn with the quick release.



4 Assembly

14. Continuing to support the feed horn, lift the other support strut and attach it to the feed horn with the quick release.

Attaching the LNBs

Three LNBs will be used for access to the SeaMobile/MTN Ku-band satellite network (DirectNet).

1. NJR-2537S, LO 10.00 GHz, 10.95 – 11.70 GHz **(Band 1 LNB)**
2. NJR-2535S, LO 10.75 GHz, 11.70 – 12.20 GHz **(Band 2 LNB)**
3. NJR-2536S, LO 11.30 GHz, 12.25 – 12.75 GHz **(Band 3 LNB)**

DirectNet currently has service on the following Ku-band satellites. **Table 1** identifies each satellite by name, region, orbital location (longitude) and applicable receive configuration: A, B, C, or D.

4 Assembly

Name	Region	Orbital Location	Configuration
Galaxy-27	CONUS, Hawaii, Alaska	129°W	A
SatMex-5	CONUS, Caribbean	116.8°W	A
AM-1 EUR	Europe, Southwest Asia	40°E	B
NSS-7 CARIB	Caribbean	22°W	A
NSS-7 EUR	Europe	22°W	B
NSS-7 SOAM	South America	22°W	A
NSS-7 AFRICA	West & South Africa	22°W	B
Telestar-14 NAOR	North Atlantic	63°W	A
GE-23 NPOR	North Pacific	172°E	B
GE-23 SWP	Southwest Pacific	172°E	C
GE-23 SEP	Southeast Pacific	172°E	C
ABS-1 IOR	Indian Ocean	75°E	D
Telestar-12 CARIB	Caribbean	15°W	A

Table 1: Satellite Specifics for LNB Configurations

There are two possible polarization mounting locations on the FlyAway Kits: CROSS-POL and CO-POL. **Table 2** provides the four possible combinations (A, B, C, or D) of LNB model and polarization mount for DirectNet.

	CROSS-POL	CO-POL
NJR-2535S or Band 2	A	
NJR-2537S or Band 1	B	C
NJR-2536S or Band 3		D

Table 2: LNB Mounting Locations

4 Assembly

NOTE: **Table 2** dictates which LNB should be connected to a specific receive port. The receive cable should also be connected to the specified receive port. On the receive port that is not used, install one of the other LNBs to provide RF termination on the waveguide side.

This procedure is an example of only one possible LNB/port configuration. Please contact the MTN Network Operations Center (NOC) **prior to deployment** if there are any questions concerning the LNB configuration for your specific deployment location.

1. Remove the LNBs from the accessories storage bag in the accessories case (case 2).

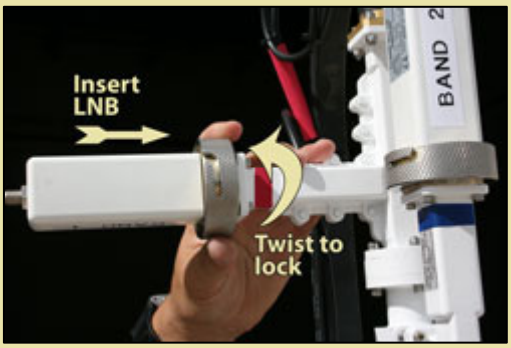
2. Reference **Table 1** to determine the proper configuration (A, B, C, or D) based on your location (region).
3. Reference **Table 2** to determine the correct LNB placement based on the configuration.
4. In this example, place the Band 2 LNB on the CROSS-POL port marked with blue tape, paying close attention to the indexing pin that determines the correct orientation.

5. Twist the connector to lock the Band 2 LNB in position.

4 Assembly

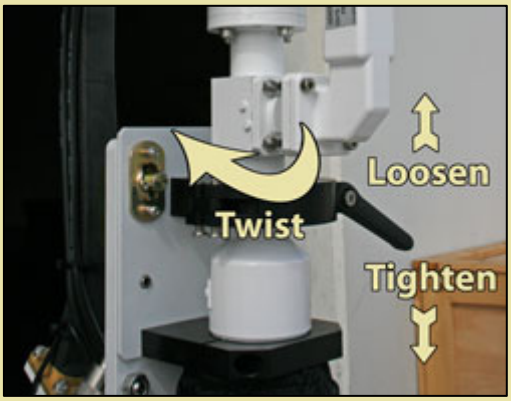
6. In this example, place the Band 1 LNB to the CO-POL port marked with red tape, paying close attention to the indexing pin that determines the correct orientation.

7. Twist the connector to lock the Band 1 LNB in position.

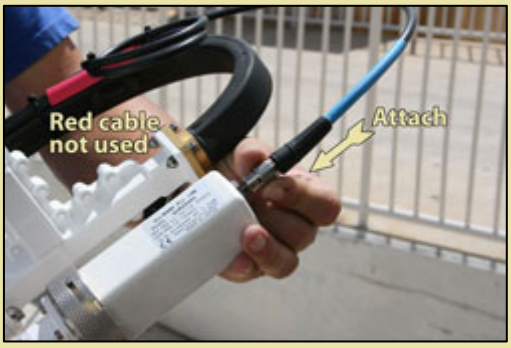


8. Loosen the clamp that secures the LNB assembly and rotate the assembly clockwise (as you face the dish) 90 degrees to the 9 o'clock position.

9. Tighten the clamp to secure the rotated LNB assembly.

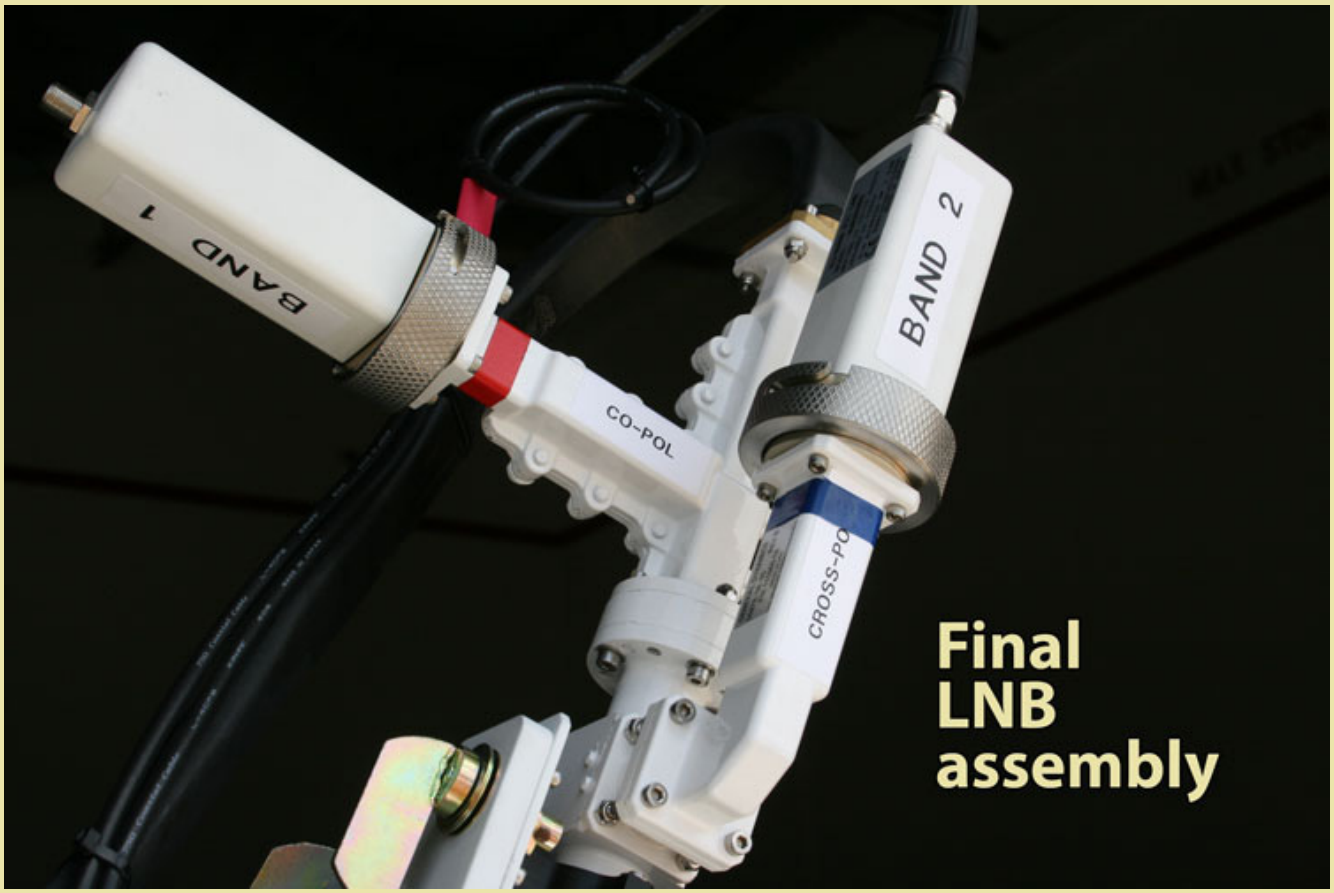


10. Connect the blue receive cable at the top end of the strut to the appropriate LNB (the LNB called out in the **Table 2** configuration). This is a coaxial connection. Finger tight is sufficient.



4 Assembly

Depending on the specific configuration, the final LNB assembly will appear as shown.

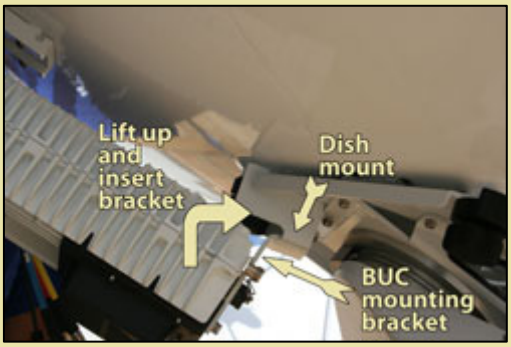


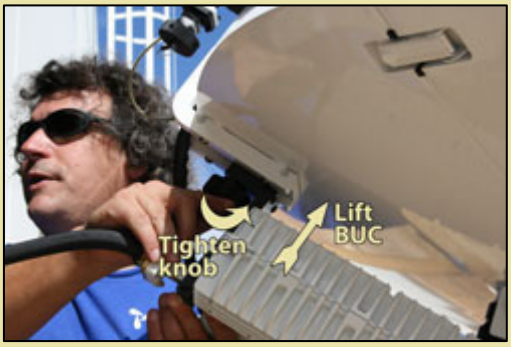
4 Assembly

Attaching the Block Up Converter (BUC)

1. Remove the BUC from the accessories case (case 2). Do not lift by the flexible wave guide.

2. Supporting the BUC with one hand, hook the white BUC mounting bracket onto the dish mount, and screw the top BUC knob into the threaded hole in the back of the main strut mount. There is only one mount and one threaded hole. Finger tight is sufficient.

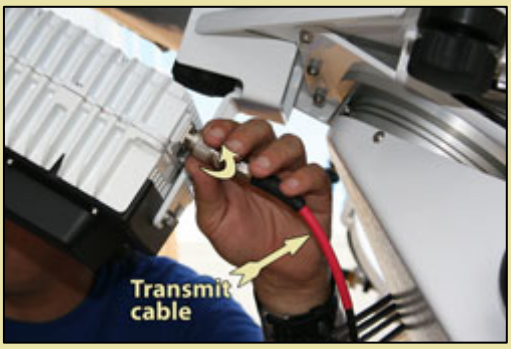




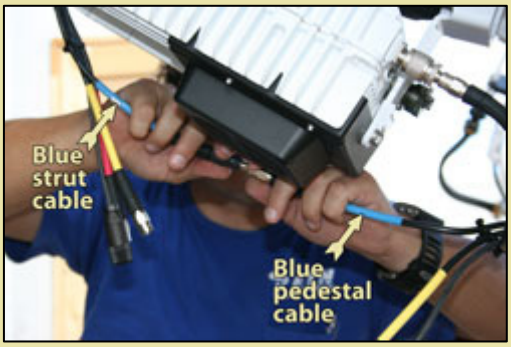
4 Assembly

3. Grab the four pedestal cables and route the cables around the back surface of the dish – not under the pedestal mount.

4. Connect the red Transmit cable in the pedestal group to the male connector on the back of the BUC with the threaded N-type connector. Finger tight is sufficient.

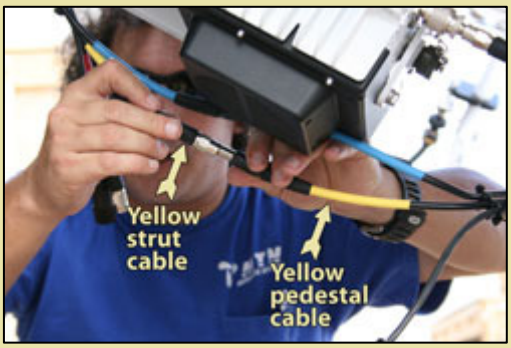


5. Connect the blue Receive cable from the pedestal cable group to the blue Receive cable on the strut cable group. This is a coaxial connection. Finger tight is sufficient.

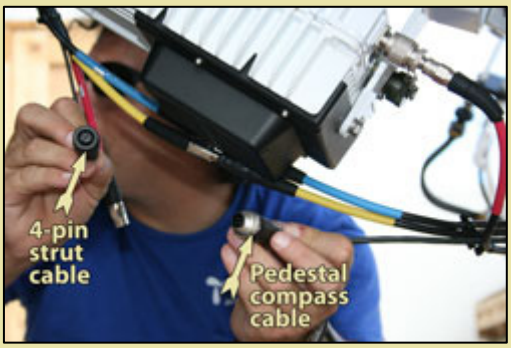


4 Assembly

6. Connect the yellow GPS cable from the pedestal cable group to the yellow cable on the strut cable group. This is a coaxial connection. Finger tight is sufficient.



7. Connect the four pin compass connector from the pedestal cable group to the four pin connector on the strut cable group. Finger tight is sufficient.



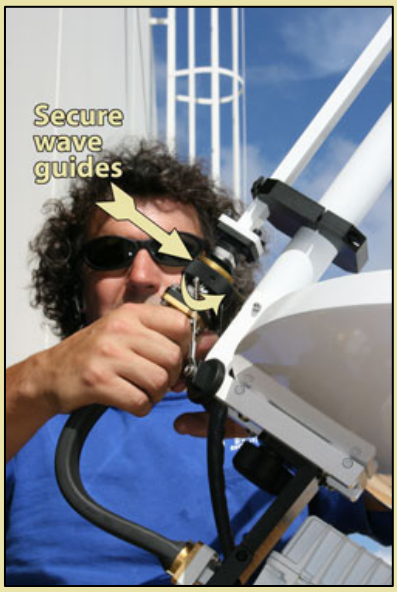
NOTE: The red cable from the strut cable group does not have a connection in this configuration and is not used.

8. Remove the protective cap on the end of the strut.

9. Remove the protective cap on the end of the flexible wave guide.

4 Assembly

10. Secure the flexible wave guide from the BUC to the rigid wave guide on the dish, noting the index pins. Finger tight is sufficient.



11. Remove the protective cover from the feed horn, and place the cover in the accessories case (case2).

4 Assembly

Searching for the target satellite

1. Press the “plus” button for three seconds on the ACU to deploy the dish, ignoring the error message on the ACU panel.

The ACU panel will display a **“STARTUP @” (target satellite longitude)** message. The antenna will begin searching for the target satellite.

NOTE: Maintain a six-foot radius around the dish as a safety zone.

5 Disassembly

Chapter Areas:

5 Disassembly

Disassembly Steps

The following steps cover the disassembly of the CNIC FlyAway Kit.

NOTE:	Several of these procedures indicate the need to use both hands to hold a piece of equipment until it is removed or secured. These procedures may require two people to complete the step.

Preparing the pedestal for stowing

1. Ensure the handles on the manual hand crank wheels are folded flat. If they are not, the pedestal assembly can be damaged when stowed. These wheels should not be used when there is power supplied to the pedestal.

5 Disassembly

2. Press and release the “minus” button on the front panel of the electronics case (case3). The screen will display an **“IDLE SatB@” (satellite longitude)** message.

3. Press and hold the “minus” key on the front panel if the electronics case (case 3) for three seconds. The screen will display a **“STOWing”** message.

5 Disassembly

4. The dish will roll to top center, and the elevation will move to 30 degrees.

The screen will display a **"REMOVE DISH!!"** message.

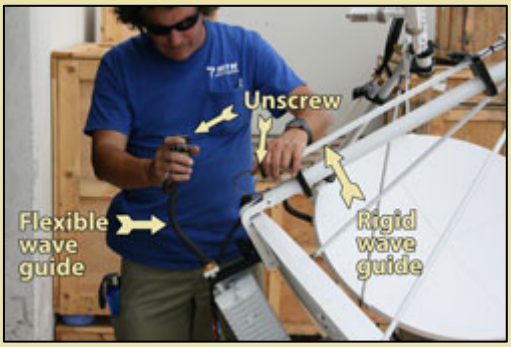
NOTE: You must remove the BUC, feed horn assembly, and dish now. If you do not remove this hardware, the equipment will be damaged.

---

5 Disassembly

Removing the Block Up Converter (BUC)

1. Unscrew the flexible wave guide on the BUC from the rigid wave guide on the dish, noting the index pins.

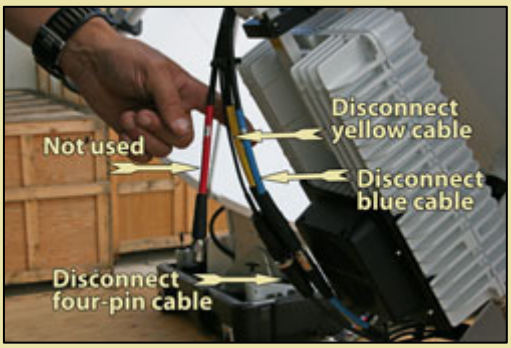


2. Secure the protective cap on the end of the flexible wave guide.

3. Secure the protective cap on the end of the strut.

5 Disassembly

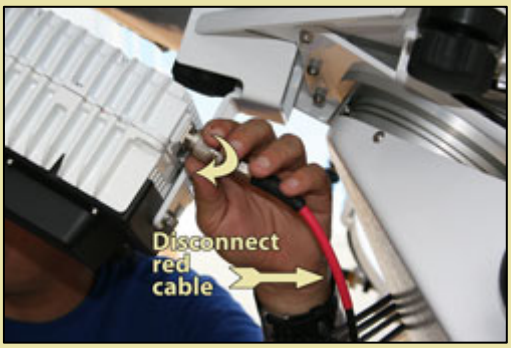
4. Disconnect the four pin compass connector on the pedestal cable group from the four pin connector on the strut cable group.



5. Disconnect the yellow GPS cable on the pedestal cable group from the yellow cable on the strut cable group. This is a coaxial connection.

6. Disconnect the blue Receive cable in the pedestal cable group from the blue Receive cable in the strut cable group. This is a coaxial connection.

7. Disconnect the red **Transmit** cable in the pedestal group from the male connector on the back of the BUC.



NOTE: The red cable from the strut cable group does not have a connection in this configuration and is not used.

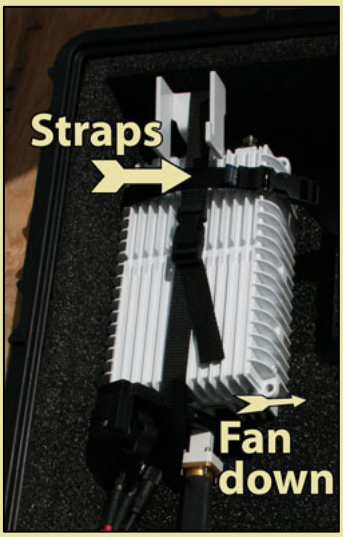
---

8. Lay the four pedestal cables over the side of the case.

5 Disassembly

9. Supporting the BUC with one hand, unscrew the top BUC knob from the threaded hole in the back of the main strut mount and lift the BUC and white mounting bracket from the dish mount. Do not lift or carry the BUC by the flexible wave guide.

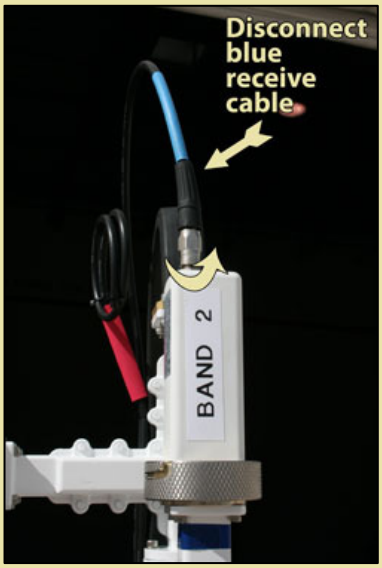
10. Place the BUC in the accessories case (case 2) with the fan facing down and secure the two straps.



5 Disassembly

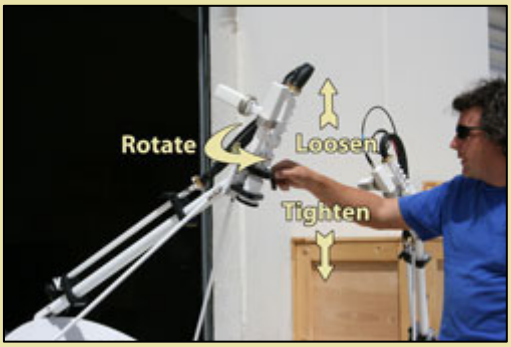
Removing the LNBs

1. Disconnect the blue receive cable at the top end of the strut from the appropriate LNB. This is a coaxial connection.



2. Loosen the clamp that secures the LNB assembly and rotate the assembly counter clockwise (as you face the dish) 90 degrees to the 6 o'clock position.

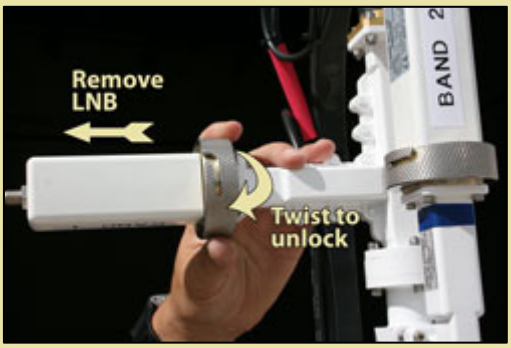
3. Tighten the clamp to secure the rotated LNB assembly.



5 Disassembly

4. Twist the connector to unlock the Band 1 LNB.

5. Remove the Band 1 LNB from the CO-POL PORT marked with red tape, paying close attention to the indexing pin that determines the correct orientation. Carefully set the LNB aside.



6. Twist the connector to unlock the Band 2 LNB.

7. Remove the Band 2 LNB from the CROSS-POL PORT marked with blue tape, paying close attention to the indexing pin that determines the correct orientation. Carefully set the LNB aside.

8. Place the LNBs in the accessories storage bag, and place the bag in the accessories case (case 2).

5 Disassembly

Removing and disassembling the feed horn assembly

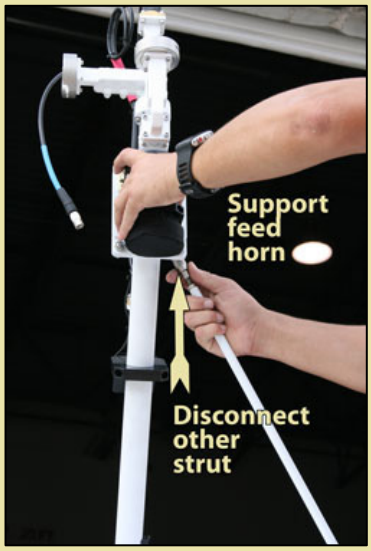
1. Attach the protective, elastic feed horn cover. The cover is stored in the accessories case (case 2).

2. Supporting the feed horn with one hand, disconnect a support strut from the feed horn with the quick release. The struts use an air-hose type connector.

5 Disassembly

3. Carefully lay the support strut out to the side.

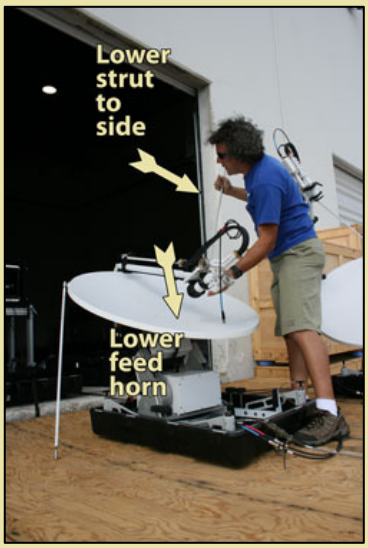
4. Continuing to supporting the feed horn with one hand, disconnect the other support strut from the feed horn with the quick release.



5 Disassembly

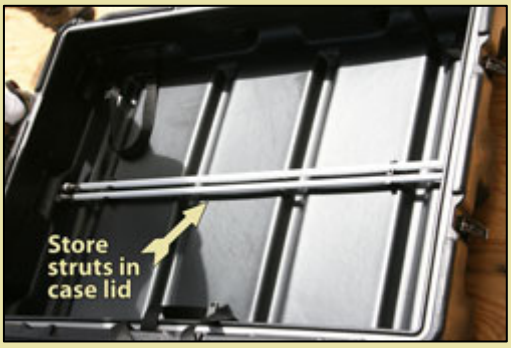
5. Carefully lay the other support strut out to the side.

6. Gently lower the feed horn assembly down to touch the dish.



7. Disconnect both struts from the upper outside edges of the dish.

8. Place the two support struts in the accessories case (case 2) lid for storage.



5 Disassembly

9. Gently raise and support the feed horn assembly from the face of the dish.

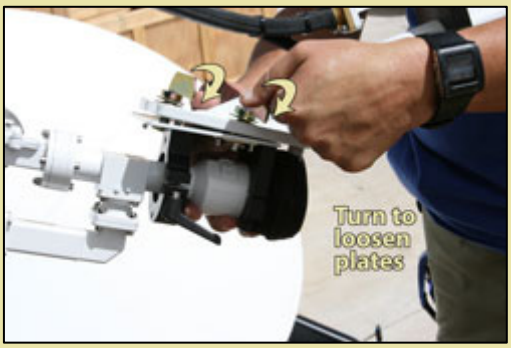
10. Remove the strut's quick release pin from the strut and strut mount holes, taking care to guide the pin past the cabling.

11. Remove the strut from the strut mount at the top of the dish, paying close attention to the flexible wave guide cable and the strut cables.

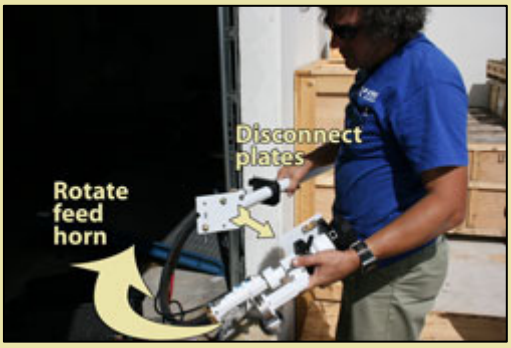
12. Replace the quick release pin into the holes on the end of the strut.

5 Disassembly

13. Holding the feed horn in one hand and the strut in the other hand, turn each mounting plate latch a quarter-turn to loosen the two mounting plates.

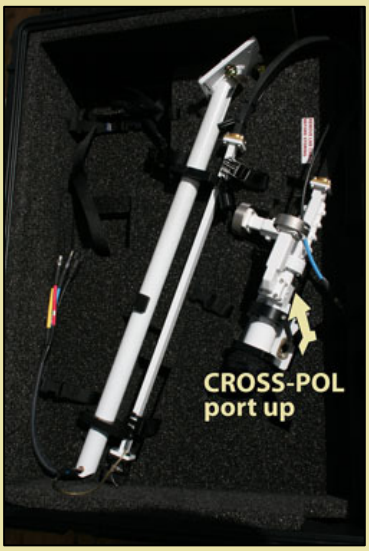


14. Rotate the feed horn around to disconnect the feed horn from the strut. Do not twist the flexible wave guide.

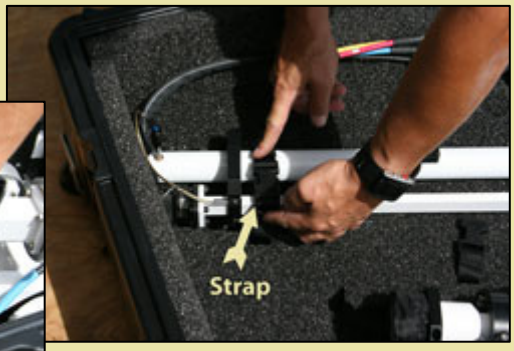


5 Disassembly

15. Place the feed horn assembly into the accessories case (case 2), fitting each item into the foam openings matching the equipment and ensuring the CROSS-POL port is in the up position.



16. Secure the three straps to hold the feed horn assembly in place.



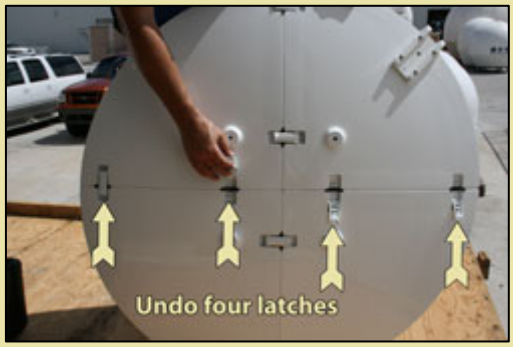
5 Disassembly

Removing and disassembling the dish

1. Supporting the dish, loosen the four knobs on the back of the pedestal until the dish is free of the pedestal.

2. Lift the dish off the pedestal and the three "cup" supports.
3. Gentle set the dish down.

4. Separate the dish into two halves by undoing the latches along one seam of the dish. Be careful not to drop the two halves of the dish. Gently set one half of the dish aside.



5 Disassembly

5. Separate one half of the dish into quarters by undoing the latches along the remaining seam. Gently set the dish quarters aside.

6. Separate the remaining half of the dish into quarters by undoing the latches along the remaining seam. Gently set the dish quarters aside.

7. Holding one dish storage bag in one hand, place one of the dish quarters panels on one side of the bag divider.

8. Place another dish quarter panel on the other side of the bag divider, ensuring the dish quarters panels are facing in the same direction.

5 Disassembly

9. Holding the other dish storage bag in one hand, place one of the dish quarters panels on one side of the bag divider.

10. Place the remaining dish quarter panel on the other side of the bag divider, ensuring the dish quarters panels are facing in the same direction.

NOTE: On the edge of one of the dish quarter panels is the mounting bracket for the feed horn assembly. This quarter panel must be placed BEHIND another quarter panel when placed in the storage bag, and the bracket must hang over the other dish quarter panel.

11. Zip closed the dish storage bags.

12. Place the dish storage bags into the lid of the accessories case (case 2) convex side up as shown.

13. Secure the dish storage bags with two straps, one for each bag. Everything should now be in the accessories case (case 2).

5 Disassembly

Completing the stowing of the pedestal

1. Ensure the handles on the manual hand crank wheels are folded flat. If they are not, the pedestal assembly can be damaged during deployment. These wheels should not be used when there is power supplied to the pedestal.

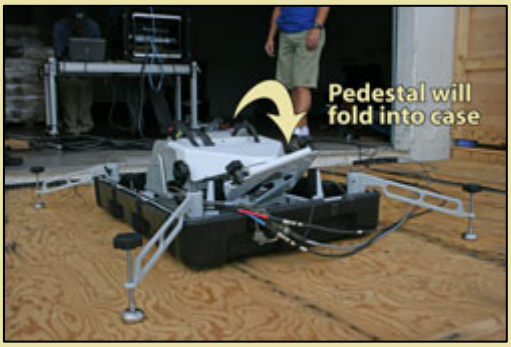
   Prior to stowing the pedestal, ensure the pedestal cables are clear of the pedestal front and are lying flat on the base to avoid pinching the cables during the stow process.

2. Press and hold the “minus” button on the front panel if the electronics case (case 3) for three seconds.

5 Disassembly

The screen will display a **“STOWing”** message.

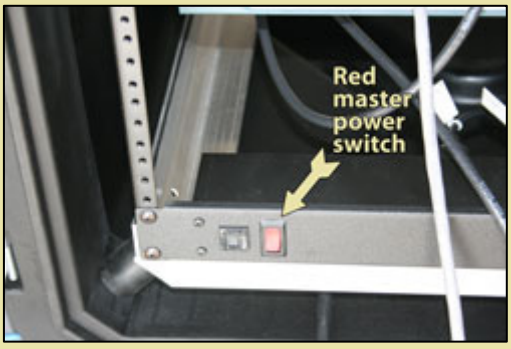
The unit will complete the stow process and position the rest of the pedestal into the case.



The screen will display a **“STOWED”** message.

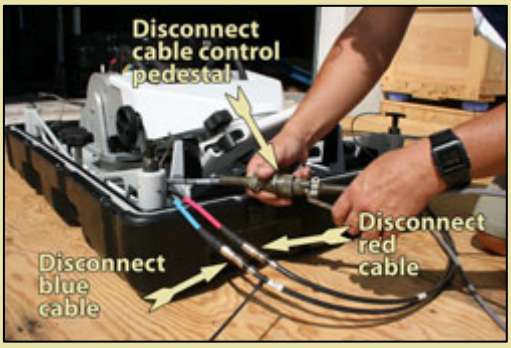
5 Disassembly

Disconnecting from the power source



1. Press the red master power switch on the back of the electronics case (case 3).
2. Disconnect the power cable from the power source.

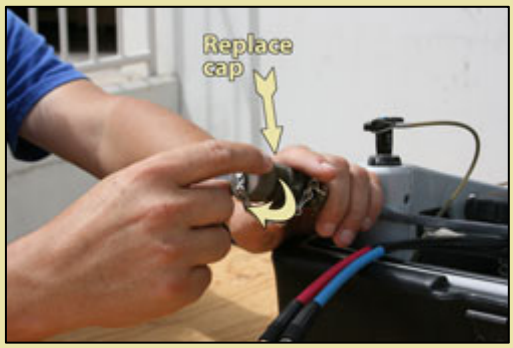
Disconnecting the pedestal and electronics case



1. Disconnect the blue receive cable in the base cable group from the corresponding RX cable in the electronics case (case 1). This is a coaxial connection.
2. Disconnect the red transmit cable in the base cable group from the corresponding TX cable in the electronics case (case 1). This is a coaxial connection.
3. Disconnect the cable control pedestal (olive drab) in the base cable group from the control cable in the electronics case (case 1). Pay close attention to the "key ways" on the cable control pedestal. They will not allow the cables to be disconnected in another manner without being damaged.

5 Disassembly

4. Replace the cap on the cable control pedestal (olive drab) in the base cable group.



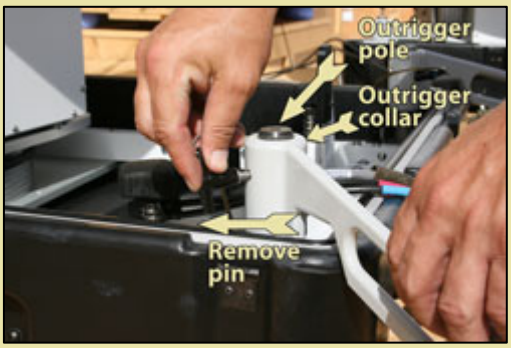
5. Replace the cap on the control cable from the electronics case (case 1).

Stowing the outriggers

1. Twist the knob on top of the outrigger foot until the foot lifts off the ground.

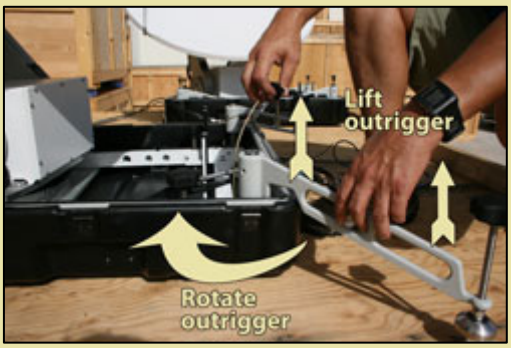
5 Disassembly

2. Remove the quick release pin from the holes in the outrigger collar and outrigger pole.



3. Lift the outrigger straight up and off the outrigger pole.

4. Rotate the outrigger so it points straight down the inside (long side) of the pedestal case (case1).



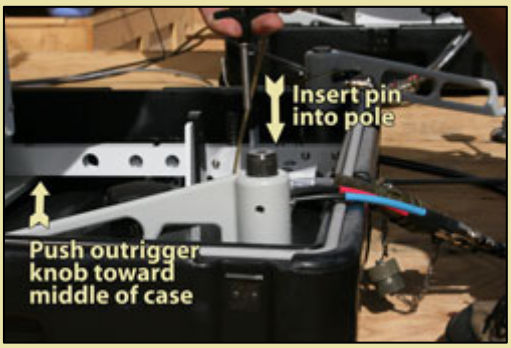
5. Push the outrigger down on the outrigger pole ensuring the guide pin inside the outrigger collar and groove on the outrigger pole align.

5 Disassembly

6. Insert the quick release pin in the top of the outrigger pole.

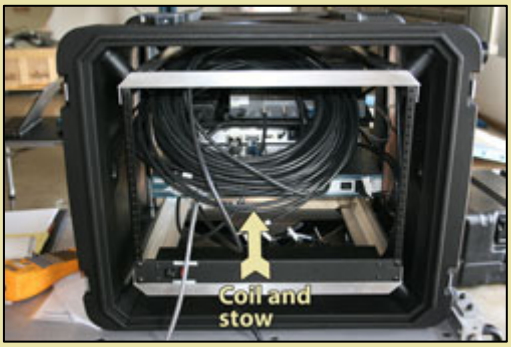
7. Push the knob of the outrigger as close to the pedestal as possible to avoid catching the lid on the outrigger when replacing the lid on the case.

8. Repeat the **Stowing of the outriggers** procedure for each outrigger.

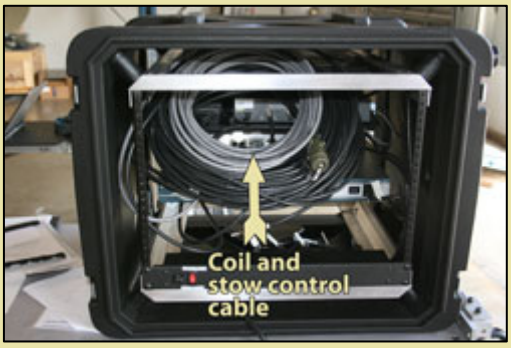


Coiling and stowing the cables

1. Coil the transmit and receive cables and stow in the back of the electronics case (case 3).



2. Coil the control cable and stow in the back of the electronics case (case 3).



5 Disassembly

3. Coil the power cord and stow in the back of the electronics case (case 3).

Closing and stacking the cases

1. Ensure no cables or equipment are hanging out of the pedestal case (case 1), the accessories case (case 2), or the electronics case (case3).
2. Carefully set the pedestal case (case 1) lid straight down on the base of the pedestal case (case 1).

3. Secure the lid using all 12 latches on the sides of the pedestal case (case 1).
4. Carefully set the accessories case (case 2) lid straight down on the base of the accessories case (case 2), paying close attention to the dish storage bags strapped inside the lid.
5. Secure the lid using all 12 latches on the sides of the accessories (case 2).

5 Disassembly

6. Secure the front panel of the electronics case (case 3) with the latches on the side of the case, noting the front panel is the panel displaying the logo.

7. Secure the back panel of the electronics case (case 3) with the latches in the side of the case.

Place the accessories case (case 2) on top of the pedestal case (case1) in a lid-to-lid manner. The accessories case (case 2) will be upside down on the pedestal case (case 1). The lids have "grooves" that allow the cases to securely fit together.