



Wind Sensor

WEATHERPAK[®]

KamLock Connector

Radio Antenna

Visibility Sensor

Junction Box

Tower Top

Tower Base

*Laptop Case
(Laptop, Radio and Antenna)*



4 Solar Panels Case

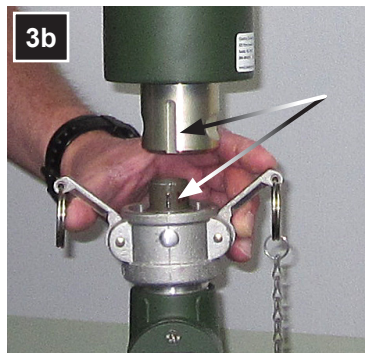
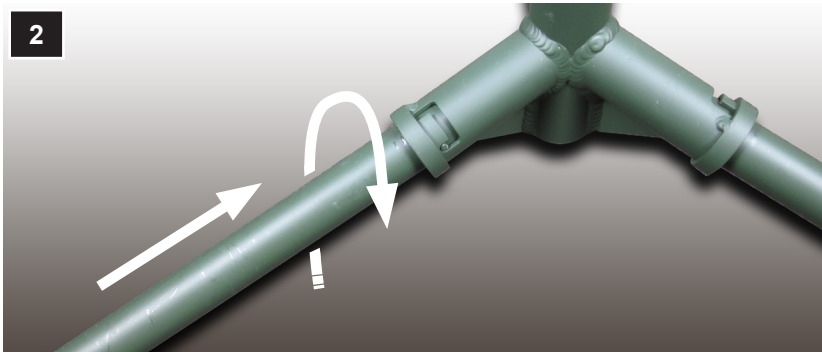


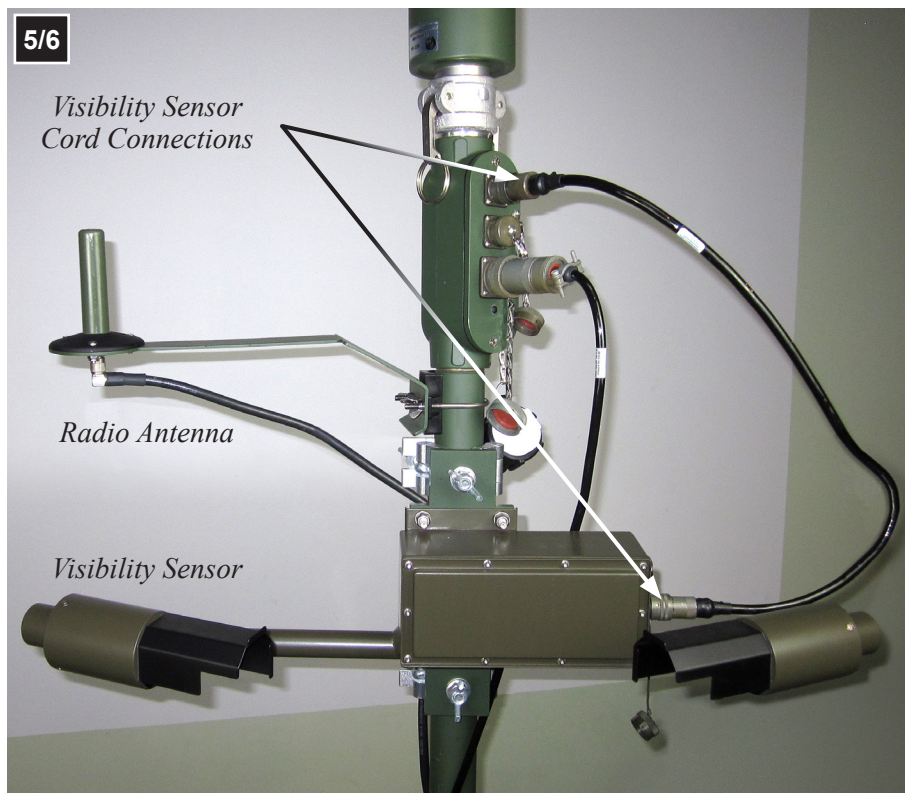
*Cloud Height Sensor
(Ceilometer)*



Tower Set-Up

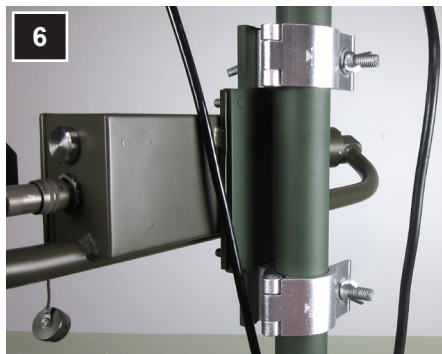
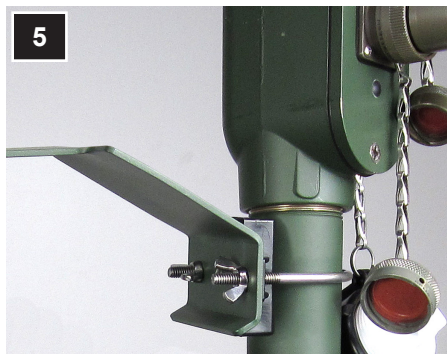
1. Select a level piece of ground about 4 meters in diameter. To avoid compass error, place the **WEATHERPAK®** at least 30 meters, laterally, from any mass of steel (trucks, buildings, etc). In other words, mounting on top of a van is OK, but right next to it is not an ideal location.
2. Assemble the **lower tower section**: Insert the three legs into the tower base and secure with a turn clockwise, forming a tripod. Place the tripod in the center of the 4-meter diameter area.
3. Carefully remove the **WEATHERPAK®** from the main case by lifting only from the base of the wind sensor. To secure the **WEATHERPAK®** to the **tower top**, first remove the cap from the top of the KamLock connector. Line up the slot on the WEATHERPAK® bottom connector with the pin slot in the KamLock connector. Carefully, but firmly, seat the **WEATHERPAK®** into the KamLock (the fit is precision-machined and may require an extra push). Push the arms of the KamLock clamp down to assure proper installation.
4. Place the entire unit (upper tower section and **WEATHERPAK®**) onto the tripod and turn clockwise to secure.





Mount the Visibility Sensor and Radio Antenna

5. Mount the **Radio Antenna** (located in the **Main Case**) to the top tower section, just below the junction box. Connect the cord to the bottom of the antenna and to the second from left top connector on the main case (see main case wiring diagram at the bottom of page 4).
6. Mount the **Visibility Sensor** (located in the **Main Case**) to the top tower section, below the antenna. Connect the cord to the side and the top connector in the junction box.





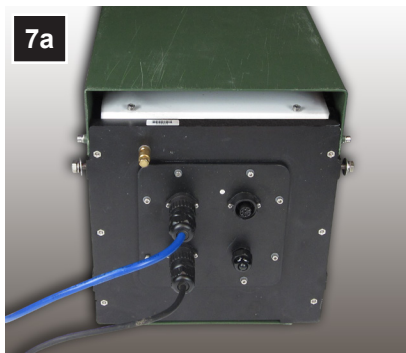
7



Set-up and connect the Ceilometer



7a



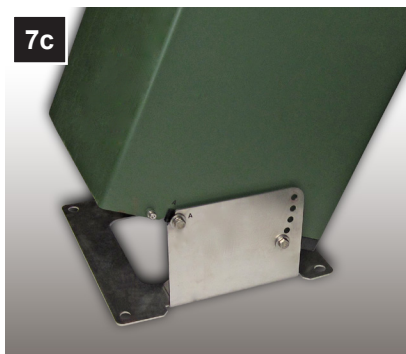
Place the ceilometer on its side. Attach one end of the data port (black) cord to the bottom left connector on the ceilometer. Attach the other end of the black cord to the top left connector on the main case.

7b



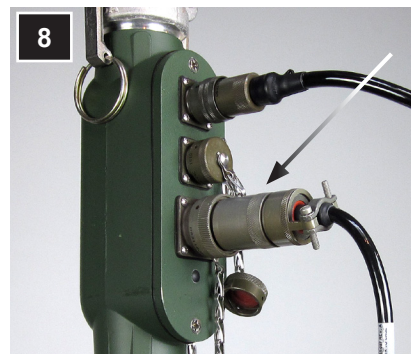
Plug the blue power cord from the ceilometer power box into the top left connector on the ceilometer. Plug the black cord from the ceilometer power box into the bottom right connector on the main case.

7c



Place the ceilometer upright on its base. Select the appropriate tilt position.

8



Attach the tower to main case cord to the bottom connector of the tower's junction box and to the main case's lower row left connector.

MAIN CASE WIRING





4 SOLAR PANELS CASE



*Solar Panel Tilt Angle From Horizontal

Latitude	Summer Angle	Winter Angle
25°	2.3	41.1
30°	6.9	45.5
35°	11.6	49.8
40°	16.2	54.2
45°	20.9	58.6
50°	25.5	63.0

4 Solar Panels Case Set-Up



Remove wing nuts from both screws in bracket. Line up bracket screws with pre-drilled holes in plate attached to case lid.



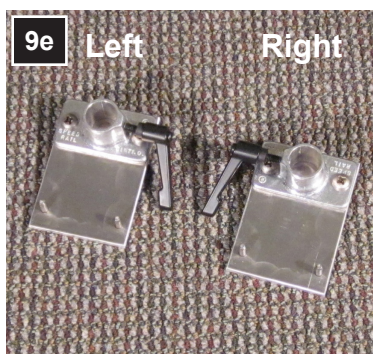
Push in.



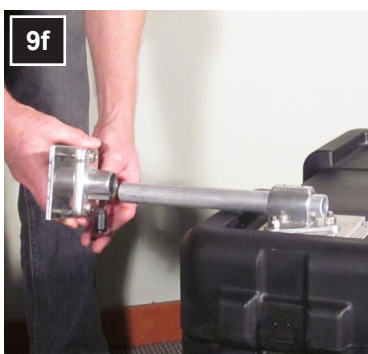
From the inside of the case lid, replace wing nuts over both screws and hand tighten.



Repeat 9a through 9c for the other side.



Attach the "left" small bracket with the black lever.



Position the "left" bracket over the end of the rod extending from the front left of the case lid.



Push in as far as possible and swivel black lever to the right.



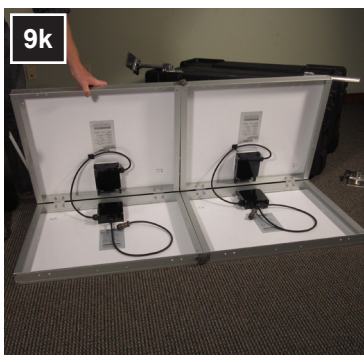
For now, do not attach the "right" end bracket.



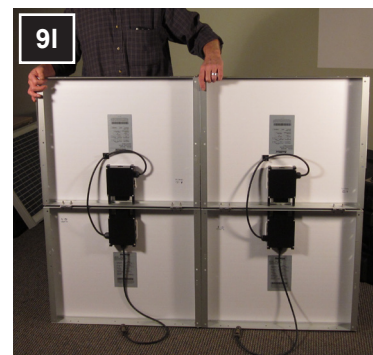
Open up the solar panels as shown above.



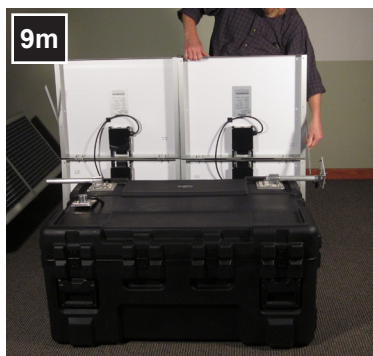
Lock each set of two panels.



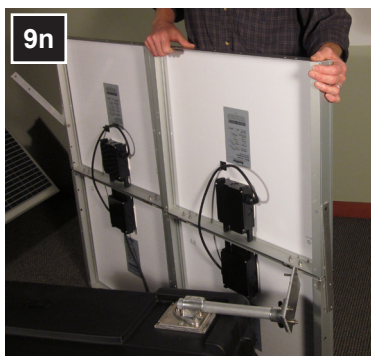
Open all four panels...



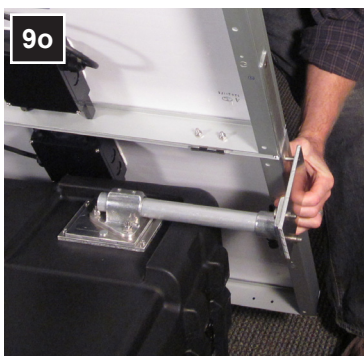
until they form a flat plane.



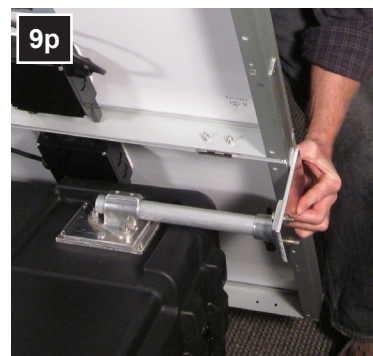
Rotate the long flat metal bracket on the side of the solar panels down...



until the holes in the bracket match the holes in the panel.



Raise the 4 solar panels and line up the pins from the end bracket with the holes on the side of the solar panels.



Push the solar panels until the pins are inserted into the holes as far as they go.



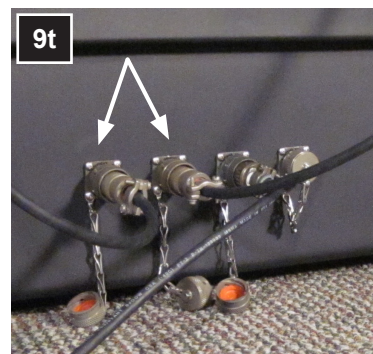
Repeat 9f and 9g to install the "right" end bracket for the other side; then repeat 9m through 9p to finish installing the other side of the solar panels.



Adjust the solar panels...



to the proper angle for your location. *page 5



Insert the two cords from the back of the solar panels into the two left connectors at the bottom front of the case; use either of the right connectors to attach the cord from this case to the main case.

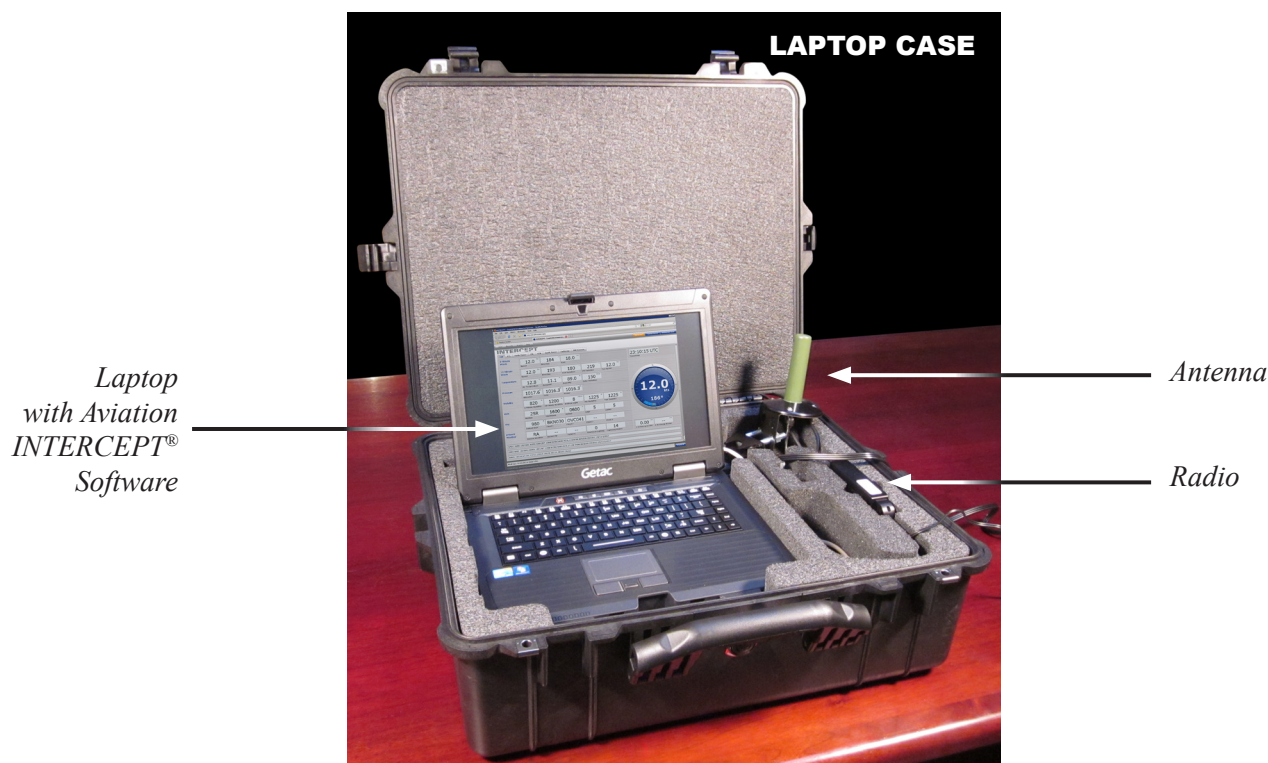


Using the AC Power Module (instead of Solar Panels)

10. Disconnect the cords from the main case to the 4 solar panels case, and to the two solar panels.

The AC power module has three connected cords. Plug one cord into the main case connector where the solar panel cord was plugged in (second from right, top row). Plug the other ms style connector into the 4 solar panels case where one of the solar panels was connected and be sure that all solar panels are disconnected from the case. Plug the AC power plug into a 110-120 VAC (50-60 Hz) outlet.

The AC power module will charge the batteries in the main case and the 4 solar panels case, as well as operate the system. Solar panels must be disconnected before the AC power module is connected. The batteries should be charged when placed into storage and every 6 months while in storage.



Laptop Case Set-Up

11. In the laptop case, the antenna is already connected to the radio. Mount the antenna so the green element points upward. Plug the laptop and radio power cords into 110-120V AC (50-60 Hz) power.



Laptop & Software Procedures

11.1 Laptop Power on Procedure

- a. Open the laptop and power it on.
- b. If asked for a User Name and/or Password, the laptop was shipped with the following Windows default account used at startup:

User Name: admin

Password: Coastal1

Note: User Names and Passwords are case sensitive.

- c. **(Windows 7 Users: Change Default Sleep Setting)**

When running INTERCEPT® on Windows 7, the default sleep settings must be changed. If the computer is allowed to automatically sleep, INTERCEPT® stops logging data at that time.

Change Sleep Setting

- a. Right click on the desktop and select **Personalize**.
- b. The Personalization page will open. On the lower right, click on **Screen Saver**.
- c. The Screen Saver Settings page opens. Click on **Change Power Settings**.
- d. The Power options page opens. On the left side, click on **Change when the computer sleeps**.
- e. The Edit Plan settings page opens. Using the dropdown button next to **put the computer to sleep**, change the option to **Never**.
- f. Click on **Save Changes**.

11.2 Launching INTERCEPT®

- a. Double click on the desktop icon called "INTERCEPT".
- b. When prompted for a User Name and Password, use the following:

User Name: admin

Password: coastal

Note: User Names and Passwords are case sensitive.

11.3 Changing Barometer Elevation Using Laptop

- a. Close INTERCEPT®.
- b. Stop the INTERCEPT® Service by double-clicking the desktop icon called "**Services**" (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called "**CES INTERCEPT**". Right click on "**CES INTERCEPT**" and select "**Stop**".
- c. Double click the desktop icon labeled **connect**. This terminal emulator called **ucon** has been set up to use **Com 1, 9600** bits per second, **8** data bits, **No Parity, 1 Stop** bit, **No Flow Control**.
- d. Type **cmd**.
- e. Wait for the prompt "**1>**" to appear.
- f. To set the barometer elevation, type **setcfg NV.ELEV xxxx** where **xxxx** is the elevation in meters followed by the **ENTER** key twice.
- g. After settings have been changed, type **restart** followed by **ENTER** key twice.
- h. Start the INTERCEPT® Service by double-clicking the desktop icon called "**Services**" (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called "**CES INTERCEPT**". Right click on "**CES INTERCEPT**" and select "**Start**".