

# TracVision® HD7



## Installation Instructions

**K|V|H Industries, Inc.**

# TracVision® HD7 Installation Guide

These instructions explain how to install the TracVision HD7 satellite TV antenna system on a vessel. Complete instructions on how to use the system are provided in the User's Guide.

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## Installation Steps

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# 1 Inspect Parts and Get Tools

Before you begin, follow the steps below to ensure you have everything needed to complete the installation.

- a. Unpack the box and ensure it contains everything shown on the Kitpack Contents List. Save the packaging for future use.

**IMPORTANT!**

Always lift the antenna by the baseplate and never by the radome or any portion of the internal antenna assembly (see Figure 1).

- b. Carefully examine all of the supplied parts to ensure nothing was damaged in shipment.
- c. Gather the tools and materials listed below. You will need these items to complete the installation.

- #0 Flat-head screwdriver
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- Electric drill and 1/2" (13 mm) drill bit
- 3" (80 mm) hole saw
- 5/8" open-end wrench
- 9/16" nut driver or wrench
- 7/16" open-end wrench
- Light hammer and center punch
- Wire strippers and terminal lug crimper
- Cutting pliers
- RG-6 or RG-11 RF coax cabling with Snap-N-Seal<sup>®</sup> F-connectors; refer to Step 4 on page 6 for details
- Satellite TV receivers and/or DVRs
- Surge protector or uninterruptible power supply (UPS) (recommended)

Figure 1 TracVision HD7 Antenna

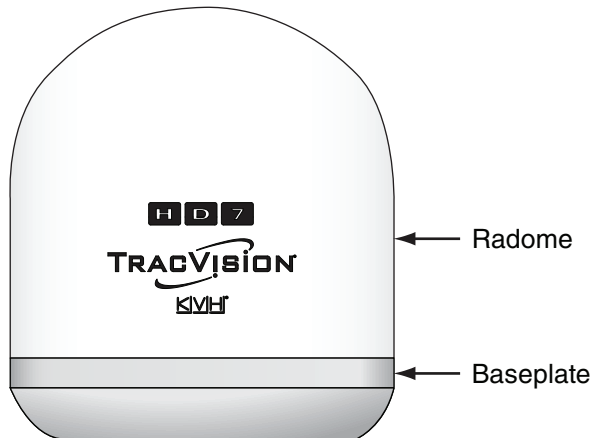


Figure 2 Antenna Control Unit (ACU)



# 2 Plan the Antenna Installation

Before you begin, consider the following antenna installation guidelines:

- The antenna must be mounted outside the radar's beam pattern.

**IMPORTANT!**

Do not mount the antenna at the same level as the radar because the radar's energy will overload/damage the antenna's LNB.

- Minimize blockage. The antenna requires a clear view of the sky to receive satellite TV (see Figure 3). The fewer obstructions, the better the system will perform.
- Make sure the mounting surface is wide enough to accommodate the antenna's base (see Figure 4). Also make sure it is flat, level (within  $\pm 1^\circ$ ), strong enough to support the antenna's weight (61 lbs (28 kg)), and rigid enough to withstand vibration.
- Select a location that is as close as possible to the intersection of the vessel's fore-and-aft centerline and midships.
- The antenna must be located within 100 ft (30 m) of the ACU.

Figure 3 Blockage from Obstruction

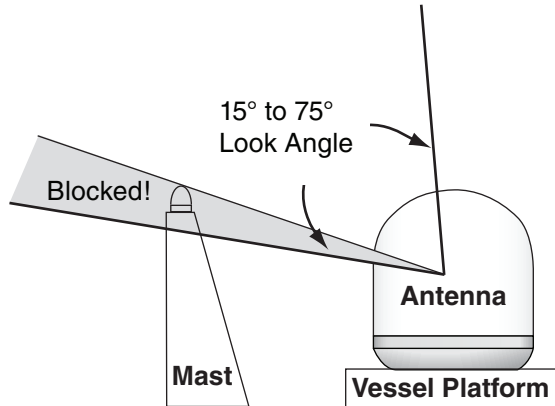
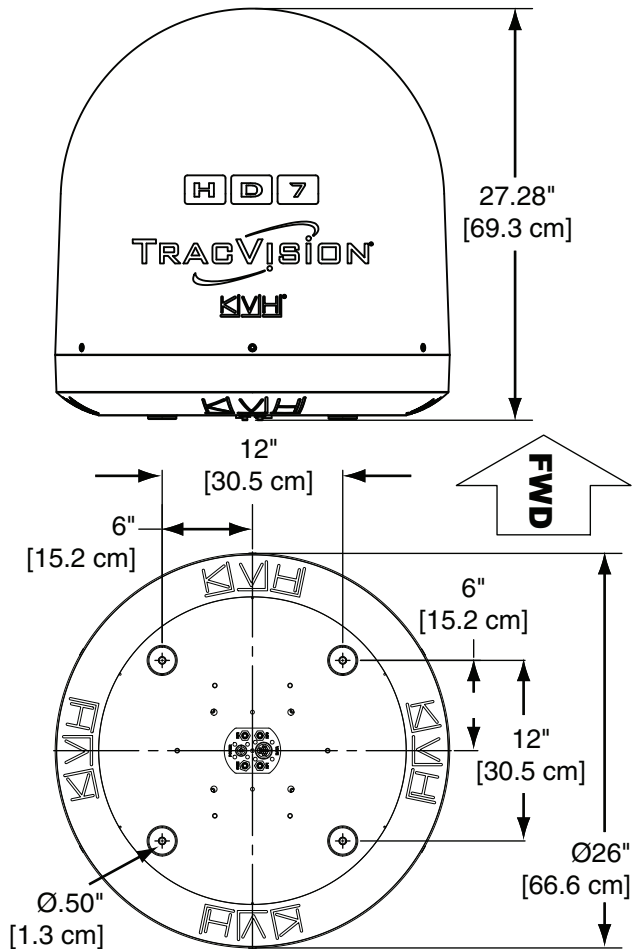


Figure 4 Antenna Dimensions



# 3 Plan the ACU Installation

Before you begin, consider the following ACU installation guidelines:

- Select an ACU mounting location in a dry, well-ventilated area belowdecks away from any heat sources or salt spray.
- The ACU's front panel should be easily accessible to the user.
- Ensure the supplied router location provides adequate WiFi reception. Do not install it in an area surrounded by metal or near any electrical devices that emit RF noise.
- The ACU must be located within 100 ft (30 m) of the antenna.
- You can choose from two ACU mounting options:

## Option A - Equipment Rack Mounting

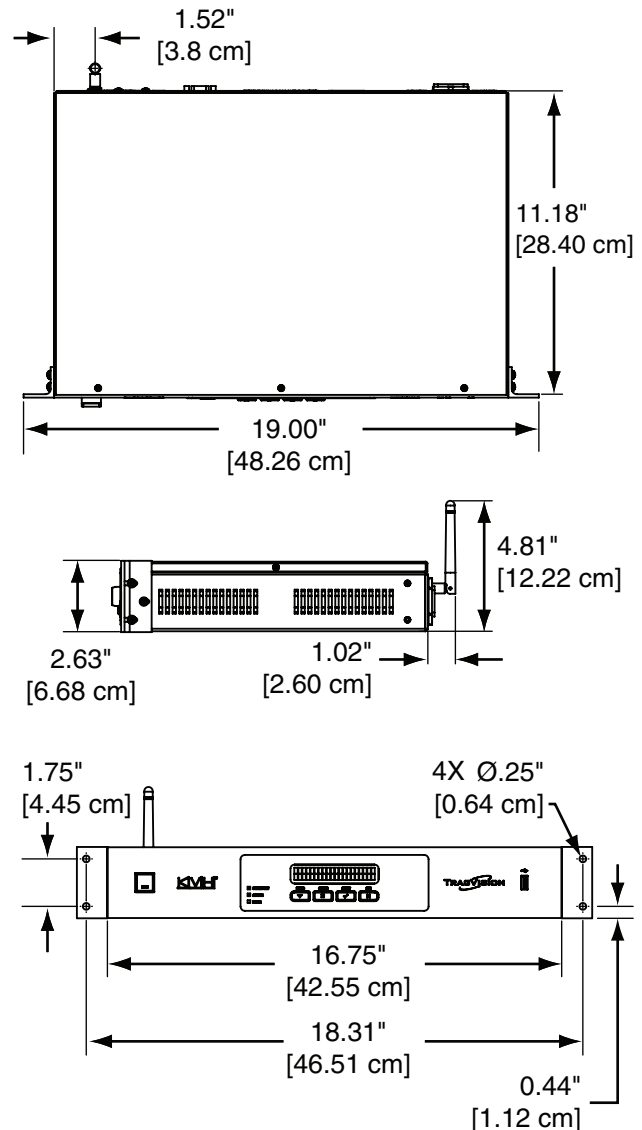
If desired, you can mount the ACU in a standard 19" (482.6 mm) equipment rack.

*NOTE: The ACU is 1.5U in height.*

## Option B - Horizontal Surface Mounting

If desired, you can remove the rack-mount brackets from the front panel of the ACU, and secure the ACU underneath or on top of a horizontal surface using the supplied horizontal mounting brackets.

Figure 5 ACU Dimensions



# 4 Determine RF Cable Requirements

Follow the instructions below to determine the quantity and type of RF cables needed.

## What Type of RF Cables are Needed?

To ensure optimal performance, refer to the table below to select the required RF cable type for your installation.

| For Lengths                    | Use RF Cable Type |
|--------------------------------|-------------------|
| Up to 100 ft (30 m)            | RG-6              |
| 100 ft (30 m) to 200 ft (61 m) | RG-11             |

**NOTE:** Only use RF cable lengths 200 ft (61 m) or less.

## How Many RF Cables are Needed?

The number of RF cables varies according to the quantity of receivers and/or DVRs. Consider the following guidelines.

- Since the 8-way splitter supports up to 8 tuners, you can connect any number of SWM receivers/DVRs that adds up to 8 tuners or less.
- Each receiver has a single tuner, and requires one RF cable. Each DVR has two tuners, and requires one RF cable.

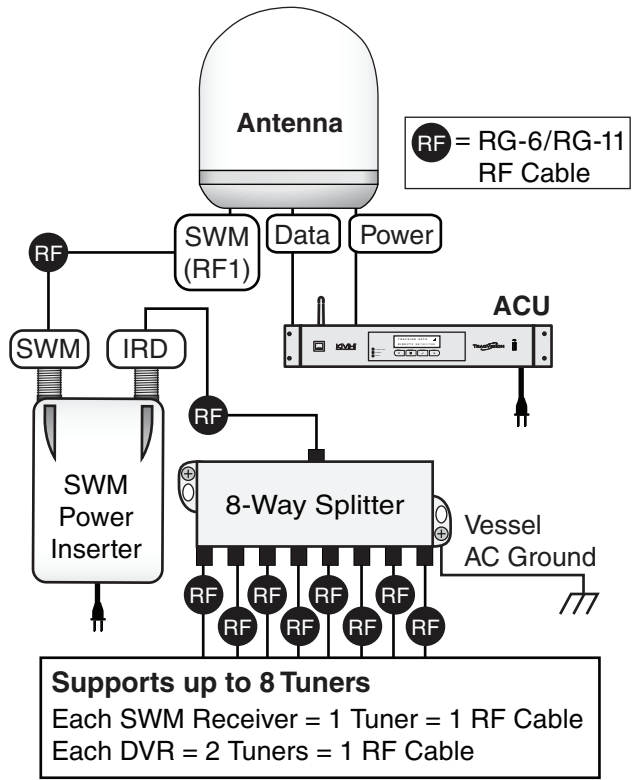
**NOTE:** One 100 ft (30 m) RG-11 RF cable is supplied with the TracVision HD7 system.

**NOTE:** Refer to Step 11 on page 14 for complete receiver/DVR connection instructions.

## What Type of RF Cable Connectors are Needed?

Be sure to use only Snap-N-Seal F-type connectors. Twist-on connectors and other low-quality connector types degrade performance.

Figure 6 Typical Wiring (DIRECTV Only)



# 5 Prepare the Antenna Site

Follow the steps below to drill the antenna's mounting holes and cable access hole.

- Unfold the antenna mounting template (supplied in the Customer Welcome Kit) and place it onto the mounting surface. Make sure the "FWD" (forward) arrow points toward the bow and is parallel to the vessel's centerline (see Figure 7).
- Using a light hammer and center punch, mark the locations for the four mounting holes and cable access hole on the mounting surface in the locations indicated on the template.
- Drill a 1/2" (1.3 cm) hole at the four mounting hole locations. Later, you will insert four 3/8"-16 bolts through these holes to secure the antenna to the mounting surface.
- Cut out the 3" (8 cm) hole at the cable access hole location. Smooth the edges of the hole to protect the cables. Later, you will route the cables through this hole and into the vessel.
- Clean and dry the antenna mounting surface.
- Peel off the paper backing from the supplied foam seal to expose the adhesive.
- Press the foam seal down firmly onto the mounting surface (not the antenna's baseplate), ensuring the hole in the foam seal aligns with the cable access hole in the mounting surface (see Figure 8).

**NOTE:** Apply the foam seal to the vessel mounting surface, not to the antenna's baseplate. You will have difficulty connecting the cables to the antenna if the foam seal is attached to the baseplate.

Figure 7 Antenna Mounting Holes Layout

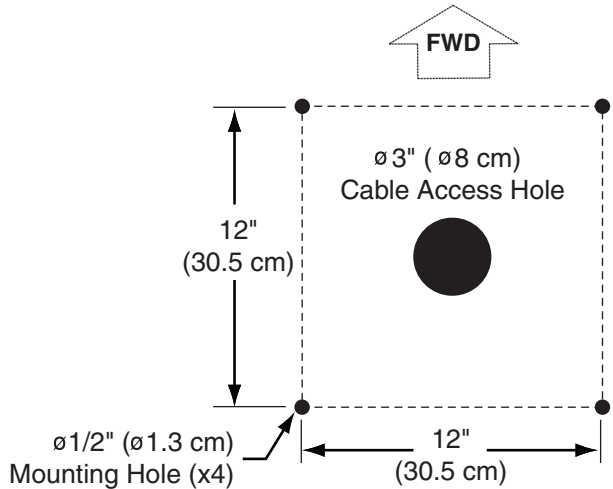
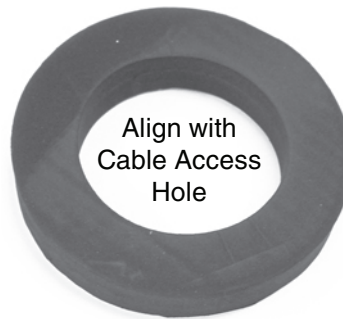


Figure 8 Foam Seal



# 6 Remove the Restraints

Internal restraints prevent the antenna assembly from moving during shipment. Follow these steps to remove these shipping restraints.

**NOTE:** Be sure to keep the shipping restraint hardware for future use.

- a. Using a #2 Phillips screwdriver, remove the six #10-32 Phillips screws securing the radome to the baseplate (see Figure 9).
- b. Carefully lift the radome straight up off the antenna. Then set it aside in a safe place.
- c. Using a 9/16" nut driver or wrench, remove the four bolts, two brackets, and two washers securing the antenna to the shipping pallet (see Figure 10).

**NOTE:** You will remove additional shipping restraints after you mount the antenna.

Figure 9 Radome Screws

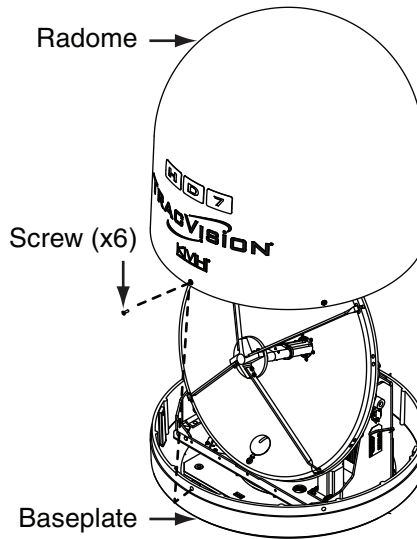
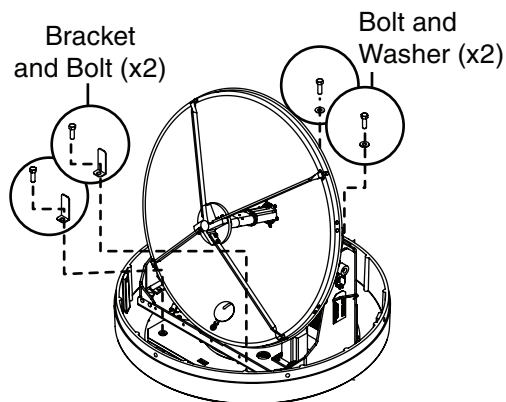


Figure 10 Shipping Restraints





# 7 Wire the Antenna

**IMPORTANT!**

To ensure the RF cables are fully seated during connection, ensure the sealing nuts on the antenna's RF connectors are flush with the antenna base before you connect RF cables.

## Connect the Power and Data Cables

Connect and hand-tighten the data and power cables to the antenna (see Figure 11).

## Connect an RF Cable to SWM (RF1)

- Connect an RF cable to the antenna's SWM (RF1) connector. Then, using a 7/16" open-end wrench, tighten the RF cable for 1/4 turn.
- Using a 5/8" open-end wrench, turn the sealing nut on the connector (between the RF cable and the antenna) until the O-ring forms a seal against the F-connector.

## Connect Additional RF Cables - Non-SWM Receivers/DVRs Only

Follow the instructions below if you need to connect non-SWM receivers/DVRs. Non-SWM receivers/DVRs include Bell TV, DISH Network, and legacy DIRECTV receivers.

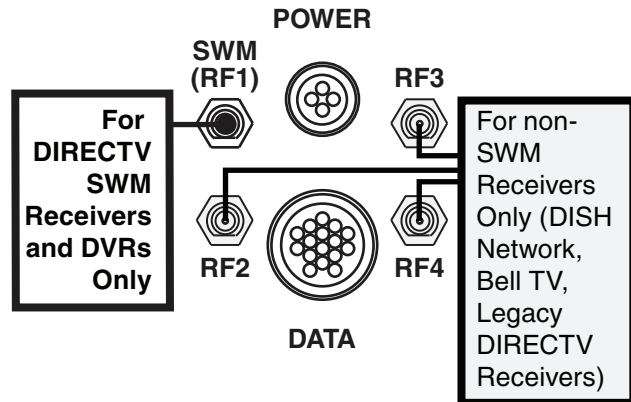
*NOTE: SWM-compatible receivers/DVRs are listed in the table at right.*

- Connect RF cables to the antenna's RF2 and RF3 connectors (see Figure 11).
- Using a 7/16" open-end wrench, tighten the RF cables to the antenna for 1/4 turn. Then using a 5/8" open-end wrench, turn the sealing nut on the connector until the O-ring forms a seal against the F-connector.
- Label the ends of the SWM (RF1), RF2, and RF3 cables for easy identification later.

## Route Cables

Route the cables belowdecks through the cable access hole. Leave an adequate service loop, approximately 8" (20 cm) of slack, in the cables for easy serviceability.

Figure 11 Antenna Connectors/Compatible Receivers



| SWM Receiver/DVR Models* |
|--------------------------|
| HR20                     |
| HR21                     |
| HR21 Pro                 |
| HR22                     |
| HR23                     |
| H20                      |
| H21                      |
| H22                      |
| H23                      |
| R16                      |
| R22                      |
| R23                      |
| D12                      |
| D13                      |

*\*NOTE: Additional SWM-compatible receivers/DVRs might become available at any time. If your receiver or DVR model is not listed here, check the receiver's/DVR's manual to see if it is SWM-compatible.*

# 8 Mount the Antenna

Follow the steps below to mount the antenna to the mounting surface.

- a. Place the antenna baseplate over the holes drilled in the mounting surface.
- b. Ensure the forward arrow inside the baseplate points toward the bow and is parallel to the vessel's centerline (see Figure 12).

**IMPORTANT!**

You will need to rotate the antenna assembly by hand to see all four mounting holes. Rotate the antenna assembly slowly to avoid damaging the antenna.

- c. At each of the four baseplate mounting holes, place a 3/8" fender washer on a 3/8"-16 bolt and insert the bolt into the hole from above (see Figure 13).
- d. Secure each mounting bolt to the mounting surface using a 3/8" flat washer, a 3/8" lock washer, and a 3/8"-16 hex nut from below (see Figure 13).
- e. Tighten all four bolts until the four rubber feet on the baseplate are bottomed against the mounting surface and the foam seal is fully compressed.
- f. Using cutting pliers, cut and remove both of the tie-wraps equipped with paper tags (see Figure 14).
- g. Reinstall the radome onto the antenna. Secure the radome in place using the six #10-32 screws you removed in Step 6 on page 8.
- h. Install a plastic screw cap (supplied in the kit) over the six radome screws.

Figure 12 Forward Arrow Location

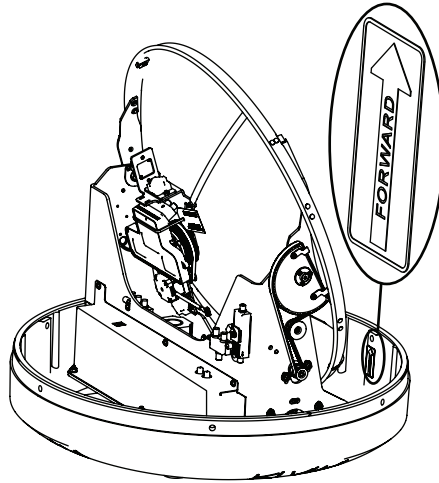


Figure 13 Antenna Mounting

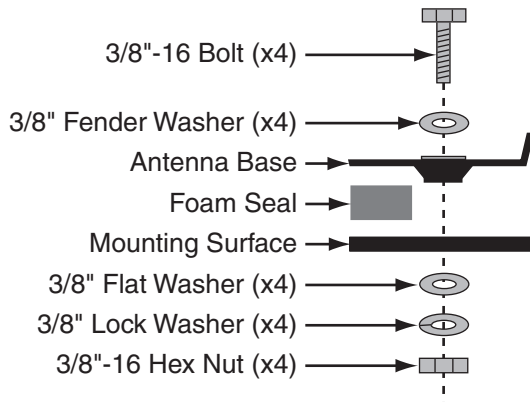
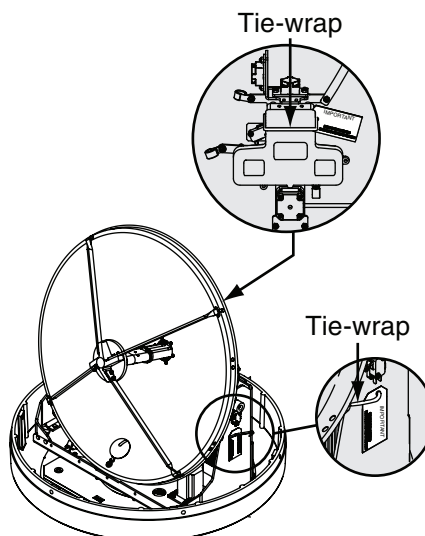


Figure 14 Shipping Restraint Tie-wraps



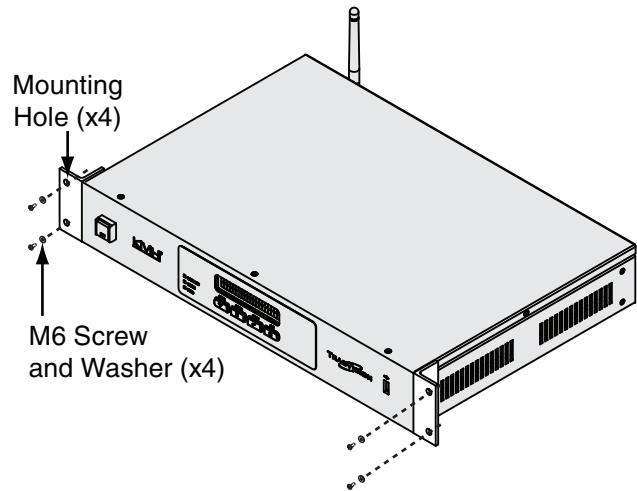
# 9 Mount the ACU

Follow the steps below to mount the ACU to a standard 19" (482.6 mm) equipment rack, or above or beneath a horizontal surface.

## Option A - Equipment Rack Mounting

- a. Align the four mounting holes on the front panel of the ACU, to the mounting holes on the equipment rack (see Figure 15).
- b. Secure the ACU to the equipment rack using four M6 screws and washers (see Figure 15).

Figure 15 ACU Equipment Rack Mounting



# 9 Continued Mount the ACU

## Option B - Horizontal Mounting

- a. Using a #1 Phillips screwdriver, remove the six screws securing the rack mounting brackets to the sides of the ACU (see Figure 16).
- b. Using a #1 Phillips screwdriver, secure the mounting brackets to the sides of the ACU in the bracket orientation for your installation (see Figure 17 or Figure 18). Then secure the mounting brackets using four supplied #6-32 Phillips screws and #6 washers.
- c. Using fasteners appropriate for the mounting surface, secure the ACU to the mounting surface using the four mounting bracket holes.

Figure 16 ACU Rack Mounting Bracket Removal

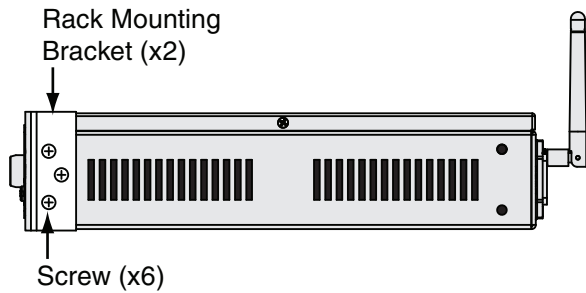


Figure 17 Horizontal Mounting Bracket Orientation

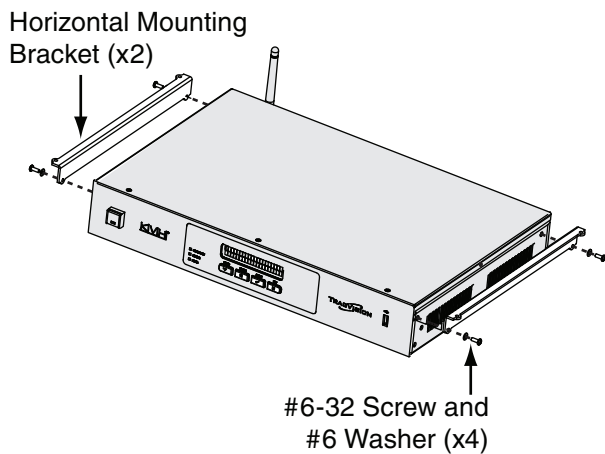
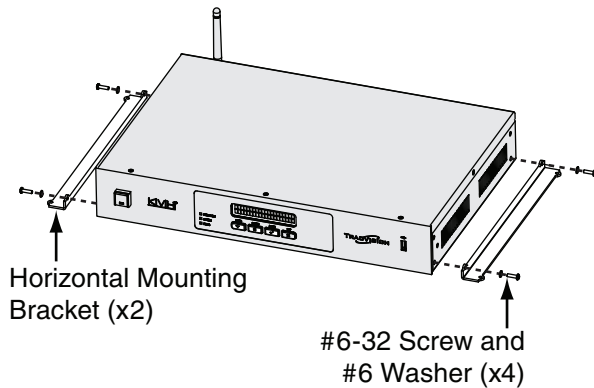


Figure 18 Horizontal Mounting Bracket Orientation



# 10 Wire the ACU

Follow the steps below to wire the ACU.

- a. Dress the data and power cables from the antenna. Using wire strippers, strip back the insulation of each wire approximately 1/4" (6 mm) and gently twist each wire to ensure a good electrical connection.
- b. Locate the ACU terminal strip connector supplied in the kitpack (see Figure 19).
- c. Connect the data cable wires to the terminal board connector, as shown in Figure 19. Then using a #0 flat-head screwdriver, tighten each terminal screw to secure the wires in place.
- d. Connect the power cable wires to the terminal strip connector, as shown in Figure 19. Then using a #0 flat-head screwdriver, tighten both terminal screws to secure the wires in place.
- e. Press and lock the terminal strip connector into place on the rear of the ACU (see Figure 20).
- f. Connect one end of the ACU's 120 VAC power cord to the rear of the ACU (see Figure 20). Then connect the other end into a UPS or surge protector.
- g. Optional - If you plan to connect the ACU to an onboard network using the supplied Ethernet cable, connect it to the ACU's Ethernet port (see Figure 21).

Figure 19 Terminal Strip Connector

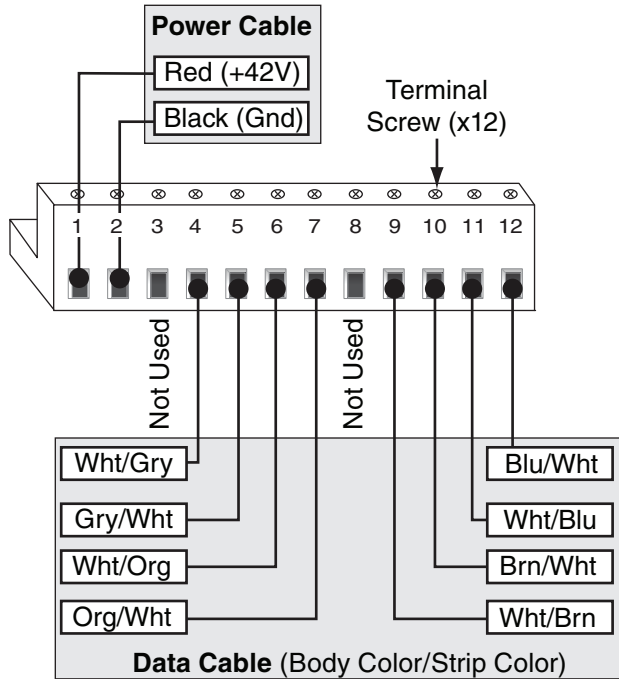


Figure 20 Terminal Strip/Power Supply

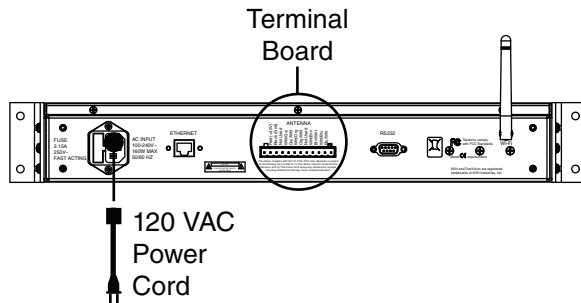
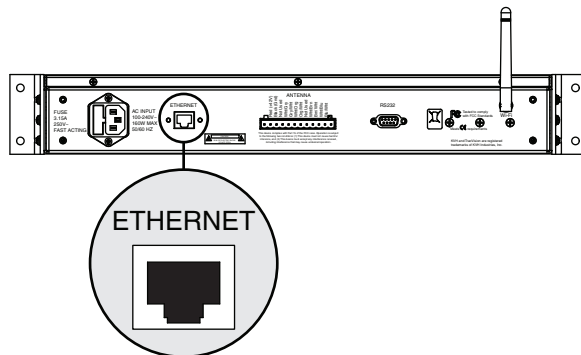


Figure 21 Ethernet Port



# 11 Wire for DIRECTV Service

Follow the steps below to wire the TracVision HD7 system for DIRECTV service.

## **IMPORTANT!**

This section explains how to wire SWM receivers/DVRs for DIRECTV service. If you need to install non-SWM receivers/DVRs, refer to the wiring diagrams in Appendix B on page 29.

## **Connect the Power Inserter and Splitter**

- a. Attach a Snap-N-Seal F-type connector to the SWM (RF1) cable from the antenna. Then connect the cable to the power inserter's SWM connector (see Figure 22).
- b. Connect one end of an RF cable to the power inserter's IRD connector. Connect the other end of the cable to the splitter's In connector (see Figure 22).

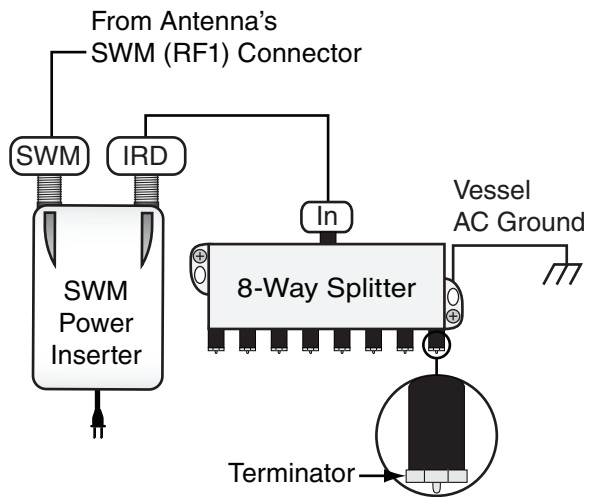
*NOTE: Only SWM-compatible splitters may be used.*

- c. Using the fasteners appropriate for the mounting surface, secure the power inserter to the mounting surface.

## **Mount and Ground the Splitter**

- a. Using the screws supplied with the splitter, secure the splitter to an appropriate mounting surface.
- b. Fasten one end of the supplied 25 ft (30 m) ground wire to the splitter's grounding screw. Connect the other end of the ground wire to a suitable AC ground (see Figure 22).

Figure 22 Power Inserter/8-Way Splitter Connections



# 11 Continued Wire for DIRECTV Service

## Connect Receivers/DVRs to the Splitter

Now you need to connect the receivers and/or DVRs to the splitter. Consider the following connection guidelines before you begin:

- Refer to the basic wiring diagrams in Figure 23 and Figure 24.
- Since the 8-way splitter supports up to 8 tuners, you can connect any number of SWM receivers/DVRs that adds up to 8 tuners or less.
- Each receiver has a single tuner, and requires one RF cable. Each DVR has two tuners, and requires one RF cable.
- If you need to connect more than 8 receivers or 4 DVRs, please contact KVH Technical Support.
- Connector labeling might vary between receiver and DVR models. Refer to the User's Guide for your selected receivers/DVRs for complete information.
- Always terminate any unused splitter connectors with a supplied terminator (see Figure 22 on page 14).

Figure 23 Basic SWM Receiver Wiring Diagram

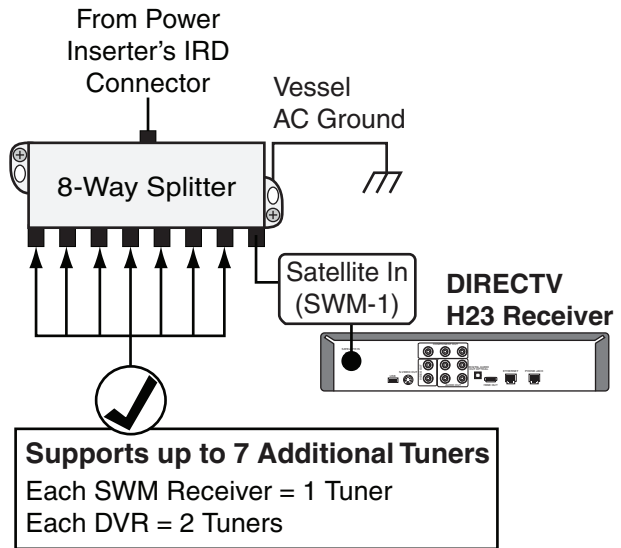
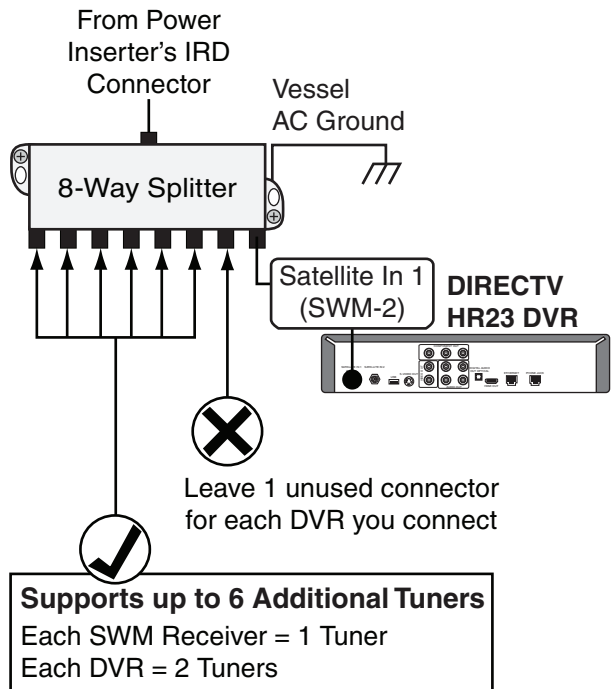


Figure 24 Basic SWM DVR Wiring Diagram



# 12 Configure Each Receiver/DVR

Follow the steps below to start up the TracVision system and configure each connected DIRECTV receiver/DVR for TracVision use.

## **IMPORTANT!**

If you need to configure DISH Network, Bell TV, or legacy DIRECTV receivers, refer to Appendix C on page 33.

## Power On the TracVision System

- Plug in the power inserter.
- Press the power button on the front of the ACU to turn on the TracVision system (see Figure 25).
- Wait up to 3 minutes for the Tracking screen to display on the ACU (see Figure 26). This indicates system startup is complete.

## Power On Connected Components

Plug in and turn on any connected receivers, DVRs, and televisions.

## Set Each DIRECTV Receiver/DVR to Dish

### Type: Slimline-3

- Press the Menu button on the receiver's/DVR's remote control to display its menu on the connected television.

*NOTE: Refer to your selected receiver/DVR manual for specific configuration instructions.*

- At the "Satellite DISH Setup" menu, set the Dish Type to **Slimline-3**.
- Repeat this procedure for each connected receiver/DVR.

Figure 25 ACU Power Button

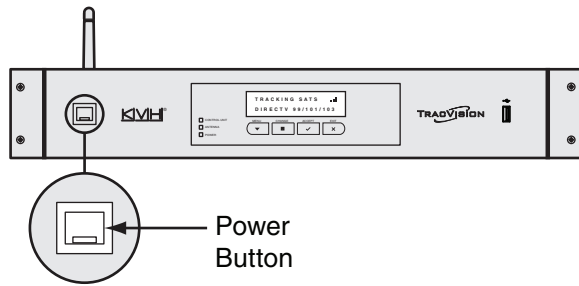


Figure 26 Tracking Screen





# 13 Connect the ACU to the Network

- Optional

This section details the ACU's default network settings, other available options, and methods for changing settings. When the TracVision system is connected to the vessel's onboard network, or you connect to the TracVision HD7 system using the supplied router, the following features are enabled:

- Remote operation of the TracVision HD7 system
- Remote viewing of the system's status, including current satellite signal levels, satellite settings, and other system information
- TracVision HD7 software updates can be checked for and installed remotely

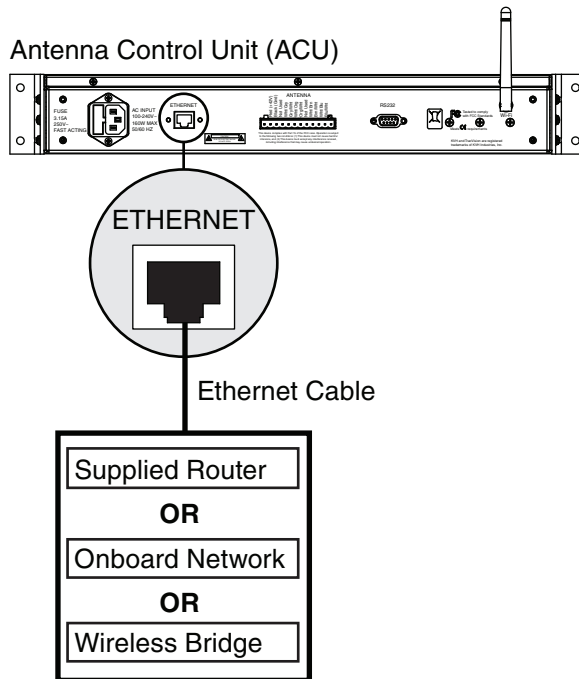
## Network Connection Options

Choose one of the options below to enable a network connection (see Figure 27).

- Connect the supplied router to the ACU's Ethernet port for wireless access (refer to the next page for details).
- Connect directly to the vessel's onboard network using the ACU's Ethernet port.
- Connect a wireless bridge, such as Linksys model #WET54G to the ACU's Ethernet port. This allows the TracVision HD7 system to join the vessel's network using a WiFi connection.

**TIP:** The ACU is Bonjour<sup>®</sup>-enabled. Once the ACU is connected to the vessel's onboard network, you can use Bonjour to easily connect to the ACU using a PC on the same network, without requiring the IP address. The ACU is displayed in Bonjour as: **hd7-<ACU serial number>**.

Figure 27 Connection Options



# 13 Continued Connect the ACU to the Network

## Connecting the Supplied Router

- Connect an Ethernet cable from the ACU's Ethernet port to an Ethernet port on the supplied router.

**IMPORTANT!**

Do not connect to the router's Internet port.

- Restart the TracVision HD7 system. Then apply power to the router. Then follow the instructions below to determine the ACU's IP address.

*NOTE: No router setup is required. However, if desired, refer to the router's manual for alternate setup and configuration settings.*

## Determining the ACU's IP Address

You can find the IP address assigned to the ACU in the View Enet Settings menus (see Figure 28).

## Ethernet Settings for Network Integration

### Default Settings

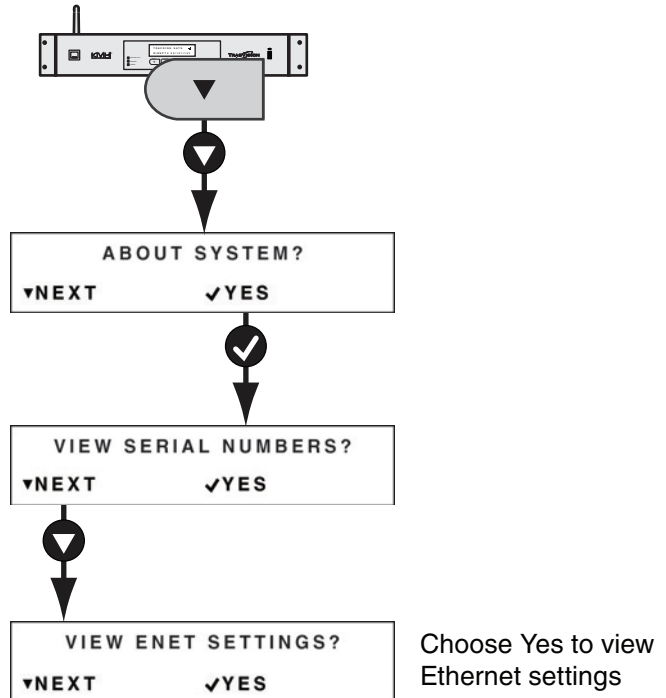
The ACU is set up as a DHCP client; the vessel's router can automatically assign an IP address when connected to the ACU's Ethernet port. In this case, you will need to connect your PC to the network, or use an existing PC connected to the network, to access the ACU's web interface.

If an IP address is not assigned during startup, the ACU will assign its own static IP address to the Ethernet port. This allows you to easily connect your PC directly to the ACU's Ethernet port.

### Alternate Settings

If there is no Ethernet network onboard the vessel, and/or no DHCP server is on the network, the ACU will assign itself an IP address that begins with 169 (i.e. 169.x.x.x). In this case, you can connect your PC directly to the ACU's Ethernet port. If your PC is configured for automatic IP assignment by default, it should also assign a similar IP address on the same IP network.

Figure 28 Viewing Network Settings on the ACU



# 13 Continued Connect the ACU to the Network

## Changing Network Settings

Choose one of the methods below if you need to change network settings:

- Option A - Use the Web Interface (Recommended)
- Option B - Use the ACU Buttons

### Option A - Use the Web Interface (Recommended)

Follow the instructions below to use the web browser on your PC to change network settings.

*NOTE: If you have difficulty accessing the web interface, you might need to adjust your PC's connection settings. Refer to Appendix A on page 25 for more information.*

- Using a PC connected to the vessel's network, open the web browser.
- Enter the ACU's IP address into the web browser's address bar (Figure 29).
- Log in to the web interface using the username and password below (see Figure 30).

username: **admin**  
password: **password**

- Select the Settings tab. Then choose Edit to modify the desired network settings (see Figure 31).

Figure 29 Entering the IP Address (Example)

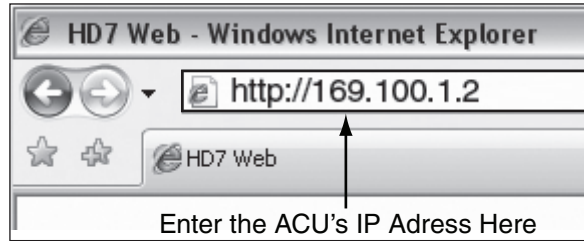


Figure 30 Web Interface Login Screen

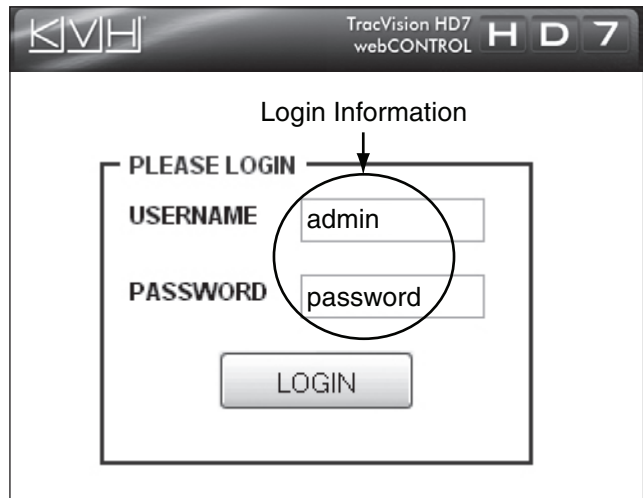


Figure 31 Network Settings on the Web Interface

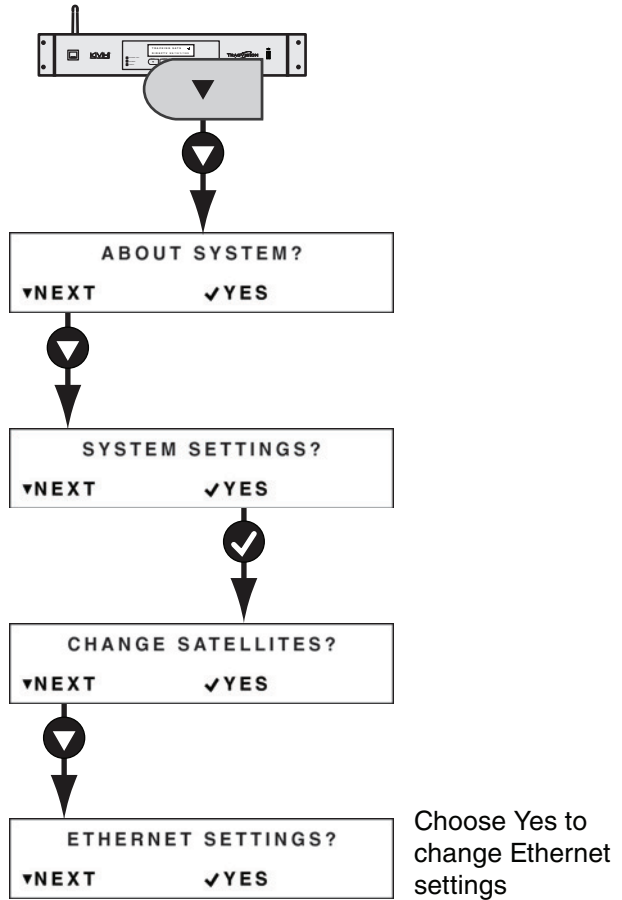


# 13 Continued Connect the ACU to the Network

## Option B - Use the ACU Buttons

Use the flowchart in Figure 32 to access the Ethernet Settings menu and change the desired network settings.

Figure 32 Network Settings Menus



# 14 Update the Software if Necessary

Choose one of the following options to check for and install software updates.

**NOTE:** Checking for updates requires Internet access.

**TIP:** You can view the ACU's current IP address, and other Ethernet settings at any time using the ACU buttons (see Figure 28 on page 18).

## Option A - Use the Web Interface

- Enter the ACU's IP address into the address bar of your web browser (see Figure 29 on page 19).
- Log in to the web interface using the username and password shown in Figure 30 on page 19. Then select Login.
- Select Check for Updates (see Figure 33). Then follow the onscreen instructions to check for and install available software updates.

## Option B - Use a USB Flash Drive

If you already have new software saved on a USB flash drive, use the ACU's power button to restart the ACU. Then just plug the flash drive into the USB port and follow the ACU's onscreen instructions to update the software (see Figure 34).

## Option C - Use the TracVision iPhone® App

If you have the KVH TracVision iPhone/iPod touch application loaded and configured for use with the network, follow the app's onscreen instructions to check for and install new software.

**TIP:** You can download the TracVision iPhone app for free from the Apple iTunes® app store.

Figure 33 Check for Updates on Web Interface

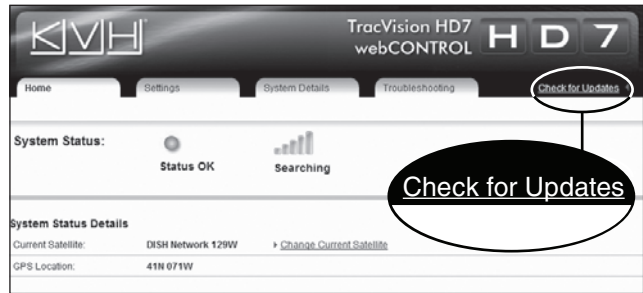
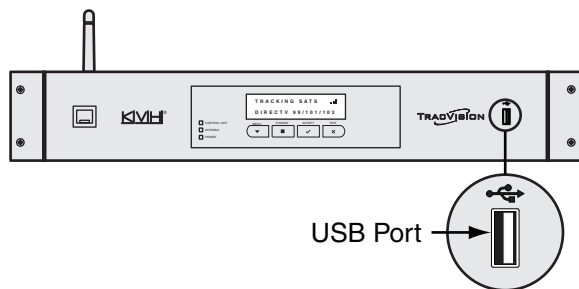


Figure 34 USB Port on ACU



Note: Software updates (.kvh or .os files) must be located in the USB flash drive's root directory. Be sure to keep only one of each file type on the flash drive.

# 15 Educate the Customer

Before you leave the vessel, test the system to ensure the antenna works properly. Then give the Customer Welcome Kit to the customer and explain how to use the system. Ensure the customer understands the following:

- Keep the radome installed on the antenna at all times.
- The antenna must have a clear view of the Southern sky to receive satellite TV. Common causes of blockage include bridges and boat masts.
- Heavy rain or snow might temporarily interrupt reception.
- Clean the radome regularly. Dirt buildup can affect reception.
- The vessel must be located within the satellites' coverage area to receive satellite TV signals.
- Please register the system with KVH. The registration process is quick, easy, online, and ensures the best possible service from KVH.
- You need to activate any connected receivers/DVRs for the desired satellite TV service before you can watch television. KVH can help activate a DIRECTV or DISH receiver/DVR.
- Refer to the supplied TracVision HD7 User's Guide for operation instructions and troubleshooting information.
- You can use the KVH TracVision iPhone/iPod touch app to communicate with the TracVision system, as long as it is connected to the vessel's onboard network. You can download the app for free at the Apple iTunes store.

Figure 35 Example of Blockage

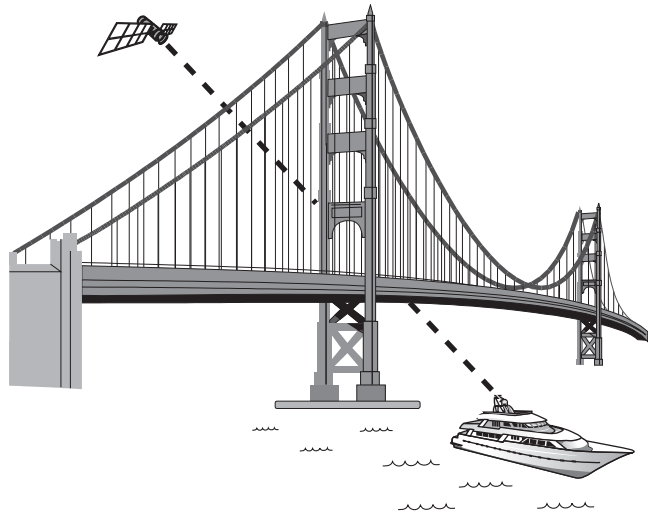


Figure 36 KVH TracVision iPhone/iPod touch App



# Appendices

This section provides additional information on receiver compatibility, receiver setup, and custom wiring instructions.

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# A Connecting a PC to the ACU

This section describes how to connect a PC directly to the ACU using the supplied Ethernet cable.

## Step 1 - Restart the TracVision System

- Press the power button on the front of the ACU to turn off the TracVision system (see Figure 37).
- Make sure nothing is connected to the ACU's Ethernet port (see Figure 39).
- Wait 30 seconds. Then press the power button to turn on the TracVision system.
- Wait up to 90 seconds for the Tracking screen to display on the ACU (see Figure 38). This indicates system startup is complete.

## Step 2 - Connect your PC to the Ethernet Port

Connect one end of the supplied Ethernet cable to your PC. Then connect the other end to the ACU's Ethernet port (see Figure 39).

## Step 3 - Check if the PC Self-Configured for Communication with the ACU

Depending on your PC's settings, connecting the PC to the ACU might automatically configure the PC's IP address to communicate with the ACU. Follow the steps below to check if the PC self-configured.

- Open the Run window in your PC's Start menu.
- Type "ipconfig" into the window. Then press Enter.
- The PC's current IP address is displayed onscreen.

Figure 37 ACU Power Button

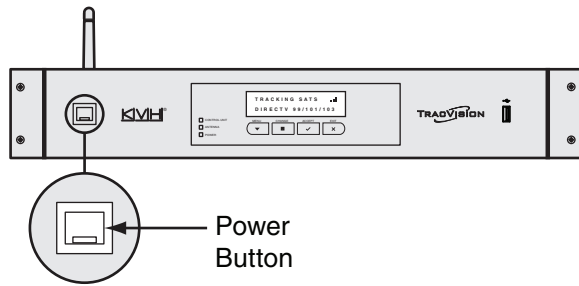


Figure 38 Tracking Screen

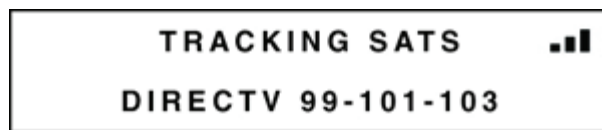


Figure 39 ACU Ethernet Port

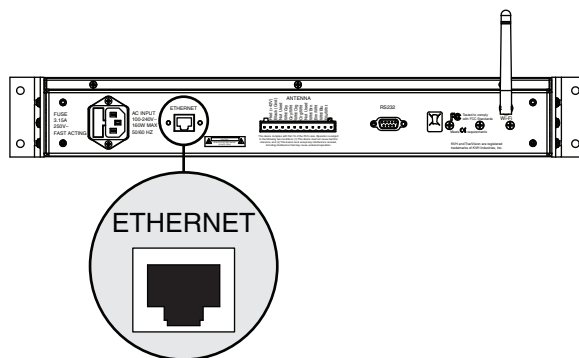
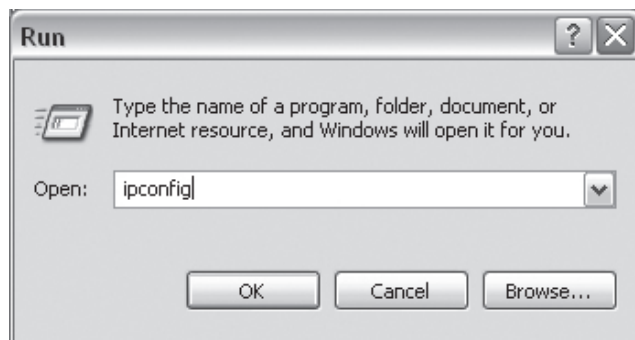


Figure 40 Run Window





# A Continued Connecting a PC to the ACU

- d. Compare the PC's IP address to the IP address assigned to the ACU. If the first three portions of the IP address match, the PC is configured to communicate with the ACU. For example, if the PC's IP address is 169.100.0.1, and the ACU's IP address is 169.100.0.2, your PC is configured for ACU communication; skip to "Access the Web Interface" on page 27.

**NOTE:** You can view the ACU's current IP address and other Ethernet settings using the ACU buttons (see Figure 28 on page 18).

## Step 4 - Configure Your PC Connection

The following instructions explain how to configure the Ethernet connection to the ACU on a PC with Windows XP. Specific configuration instructions might vary.

- a. Access Network Settings in the Control Panel (see Figure 41).
- b. Right-click the active connection. Then choose Properties (see Figure 41).
- c. Scroll down to TCP/IP Settings and highlight the selection. Then choose Properties (see Figure 42).
- d. If desired, record the current settings so you can restore them once you have finished.
- e. Choose to manually assign your PC's IP address and network settings (see Figure 43).
- f. Assign an IP address one digit higher than the ACU's IP address. Then click OK (see Figure 43).

**TIP:** For example, if the ACU IP address was 169.100.1.1, you would enter 169.100.1.2.

Figure 41 Connection Properties

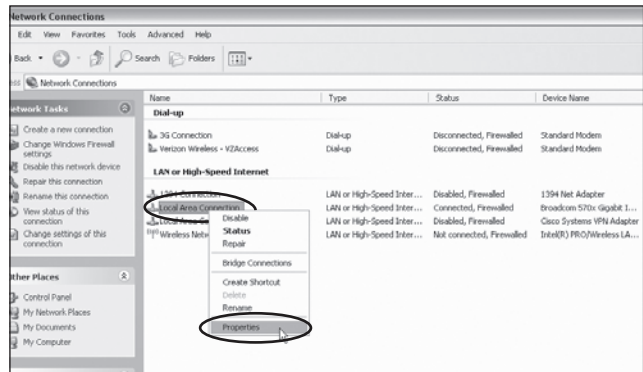


Figure 42 TCP/IP Settings

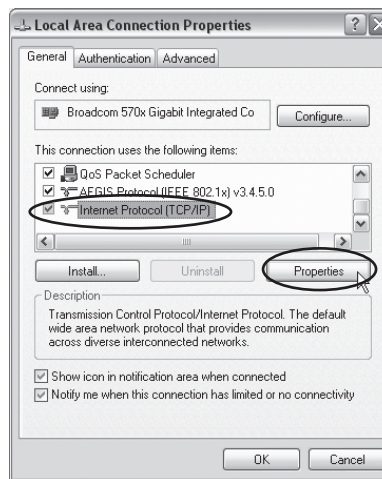
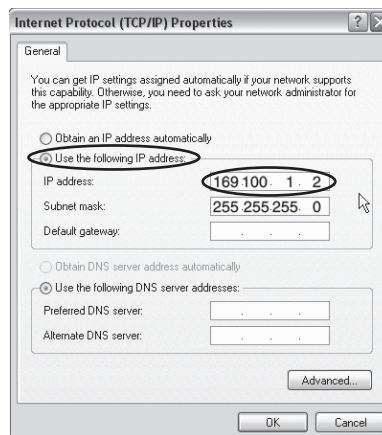


Figure 43 Manually Entering an IP Address



# A Continued Connecting a PC to the ACU

## Access the Web Interface

- a. Open your web browser.
- b. Type the ACU's IP address (not the IP address you just chose for your PC) into the address bar (see Figure 44).

**TIP:** You can view the ACU's current IP address and other WiFi/Ethernet settings using the ACU buttons (see Figure 28 on page 18).

- c. Log in to the web interface using the username and password below (see Figure 45).

username: **admin**  
password: **password**

Figure 44 Entering the IP Address (Example)

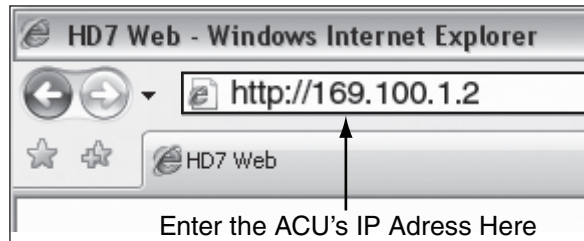
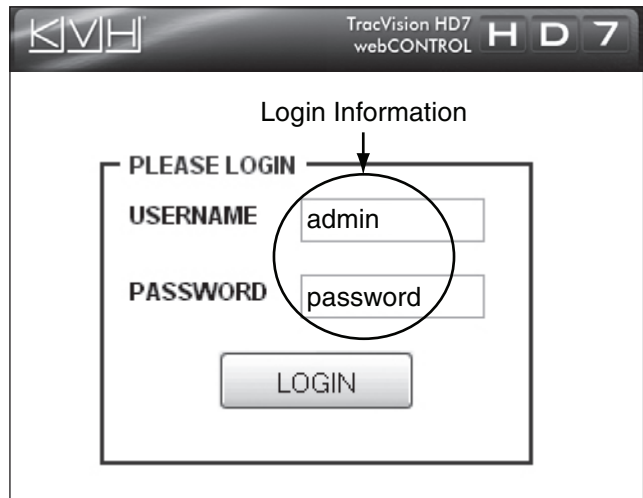


Figure 45 Web Interface Login Screen



# B Wiring Non-SWM Receivers

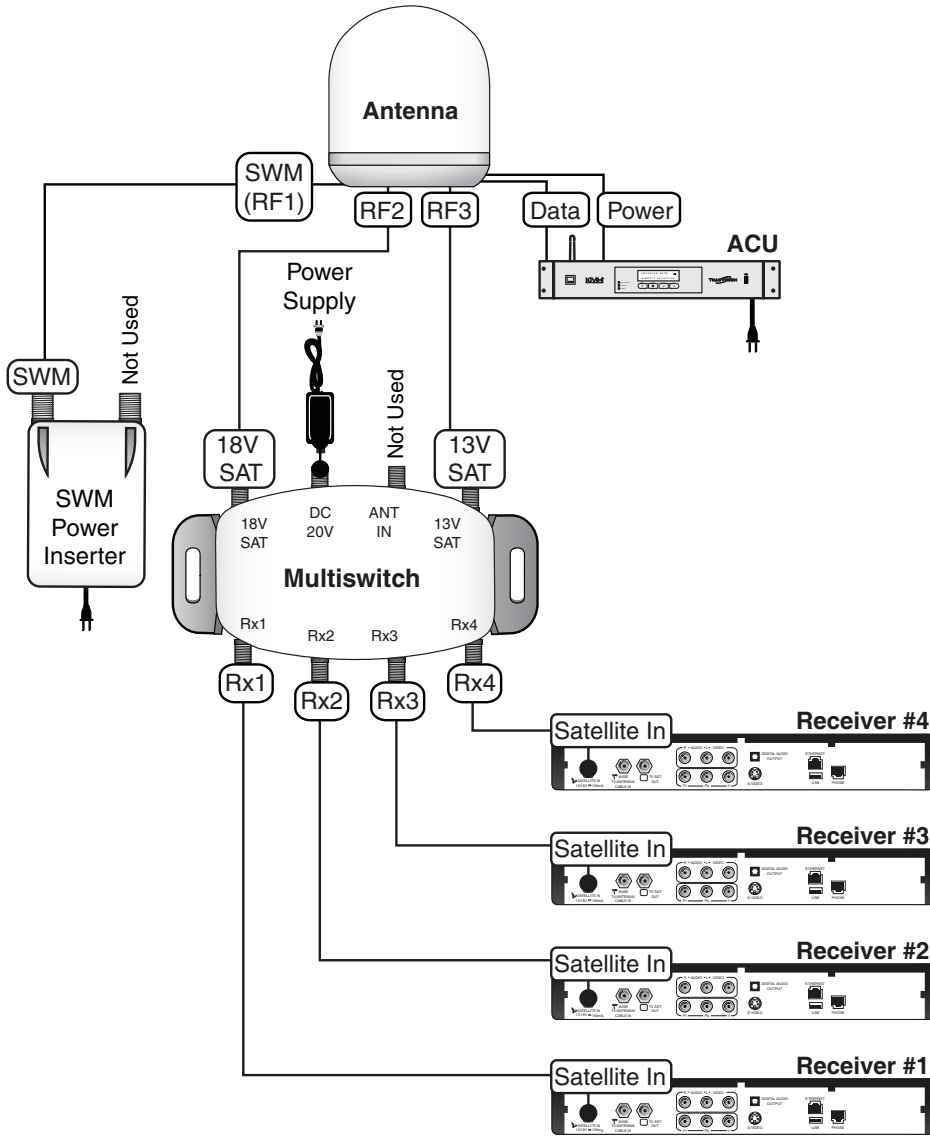
The following wiring diagrams illustrate how to connect non-SWM receivers/DVRs to the TracVision HD7 system. Non-SWM receivers/DVRs include Bell TV, DISH Network, and legacy DIRECTV receivers. SWM-compatible receivers/DVRs are listed in the table below.

| SWM Receiver/DVR Models* |
|--------------------------|
| HR20                     |
| HR21                     |
| HR21 Pro                 |
| HR22                     |
| HR23                     |
| H20                      |
| H21                      |
| H22                      |
| H23                      |
| R16                      |
| R22                      |
| R23                      |
| D12                      |
| D13                      |

*\*NOTE: Additional SWM-compatible receiver and DVR models might become available at any time. If your receiver or DVR model is not listed here, check the receiver's/DVR's manual to see if it is SWM-compatible. If your DIRECTV receiver/DVR is not SWM-compatible, use the wiring diagrams in this section.*

# B Continued Wiring Non-SWM Receivers

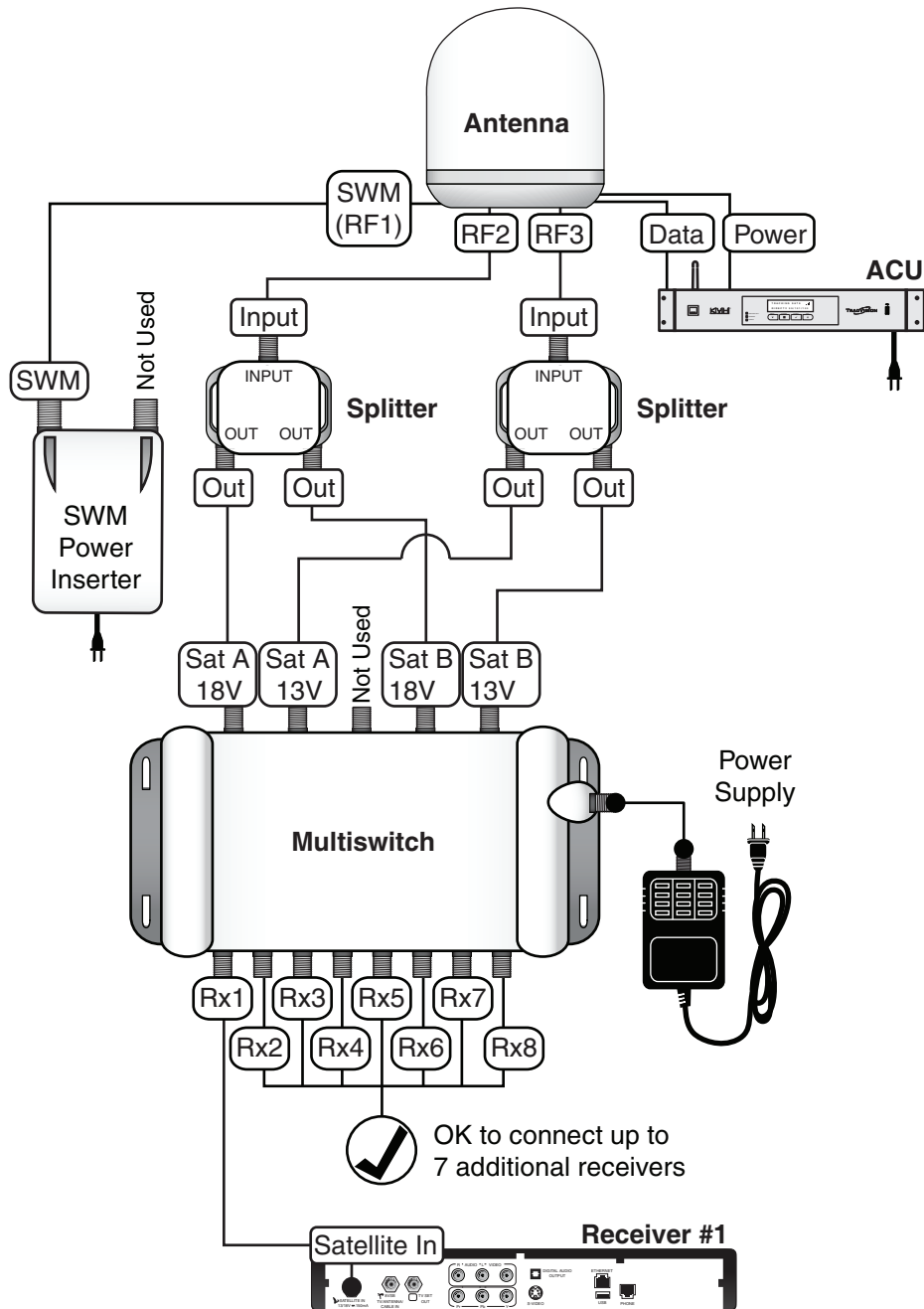
## Wiring Up to 4 Non-SWM Receivers



**NOTE:** The supplied SWM power inserter, shown above, is required, since it supplies power to the antenna's LNB.

# B Continued Wiring Non-SWM Receivers

## Wiring Up to 8 Non-SWM Receivers\*



*\*NOTE: If desired, you can connect up to 16 receivers using this wiring diagram and a 16-output multiswitch.*

*NOTE: The supplied SWM power inserter, shown above, is required, since it supplies power to the antenna's LNB.*

# C Configuring Non-SWM Receivers

Follow the steps below to set the TracVision HD7 system to use your selected satellite service, and/or configure the non-SWM receivers for use with the TracVision HD7 system.

## Step 1 - Set the Desired Satellite Service

Follow these steps to set the TracVision HD7 system for the satellite service provider of your choice.

### Option A - Use the Web Interface (Recommended)

Follow the instructions below to use the web browser on your PC to select the desired satellite service provider.

- a. Open your web browser.
- b. Enter the ACU's IP address into the web browser's address bar. Then press Enter (see Figure 46).
- c. Log in to the web interface using the username and password below (see Figure 47).

username: **admin**  
password: **password**

- d. Select the Settings tab. Then choose Advanced Settings (see Figure 48).
- e. Select the desired satellite service provider. Then choose Change Service (see Figure 48).

Figure 46 Entering the IP Address (Example)

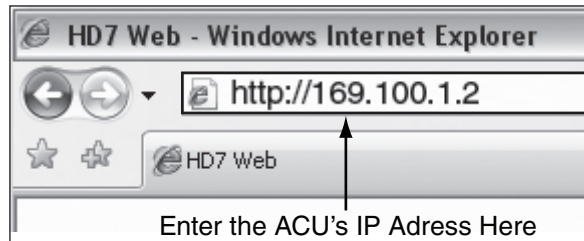


Figure 47 Web Interface Login Screen

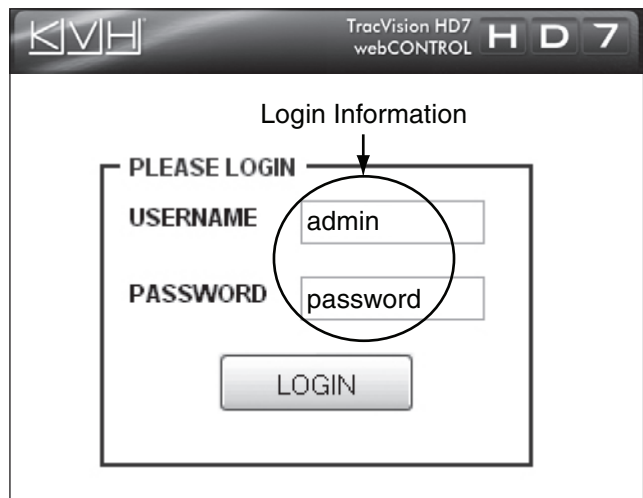
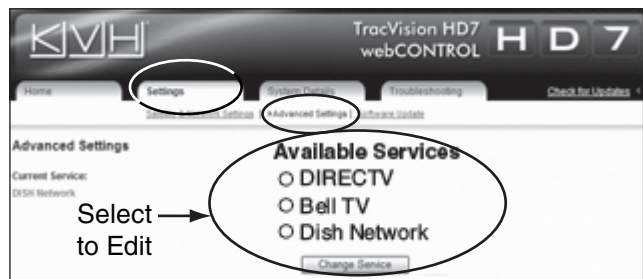


Figure 48 Advanced Settings

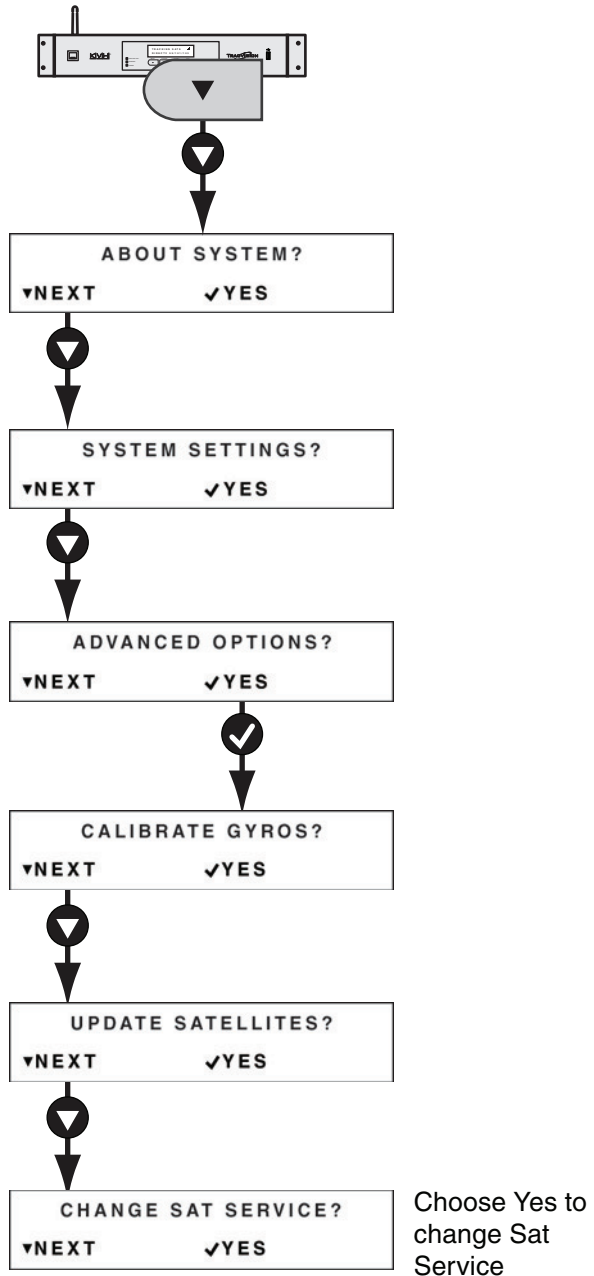


# C Continued Configuring Non-SWM Receivers

## Option B - Use the ACU Buttons

Use the flowchart in Figure 49 to access the Change Sat Service menu on the ACU. Then select the desired satellite service provider.

Figure 49 Changing Sat Service Menu



# **Continued** Configuring Non-SWM Receivers

---

## **Step 2 - Set Up the Receivers**

Follow the steps below to configure the non-SWM receivers.

### **DISH Network/Bell TV Receivers**

Follow the steps below to run one Check Switch test on each connected receiver.

*NOTE: Once the receivers are set up, you can switch satellites as needed using the ACU buttons, web interface, or TracVision iPhone/iPod touch app.*

- a. Ensure the antenna has an unobstructed view of the sky.
- b. Using the receiver's remote control (and a connected television), go to the "Point Dish/Signal Strength" screen (press MENU, 6, 1, 1 on most receiver models).
- c. Choose Check Switch, then press SELECT.
- d. Choose Test, then press SELECT.
- e. Wait up to 5 minutes for the test to complete and the receiver's Program Guide to load.

*TIP: Once complete, the Check Switch displays the current satellite, followed by "OK."*

- f. Using the receiver's remote, select the Program Guide to ensure it has loaded properly.

### **Legacy DIRECTV Receivers**

Using the receiver's remote control (and a connected television), set the "Satellite DISH Type" to "Round."



# D ACU Menu Structure

