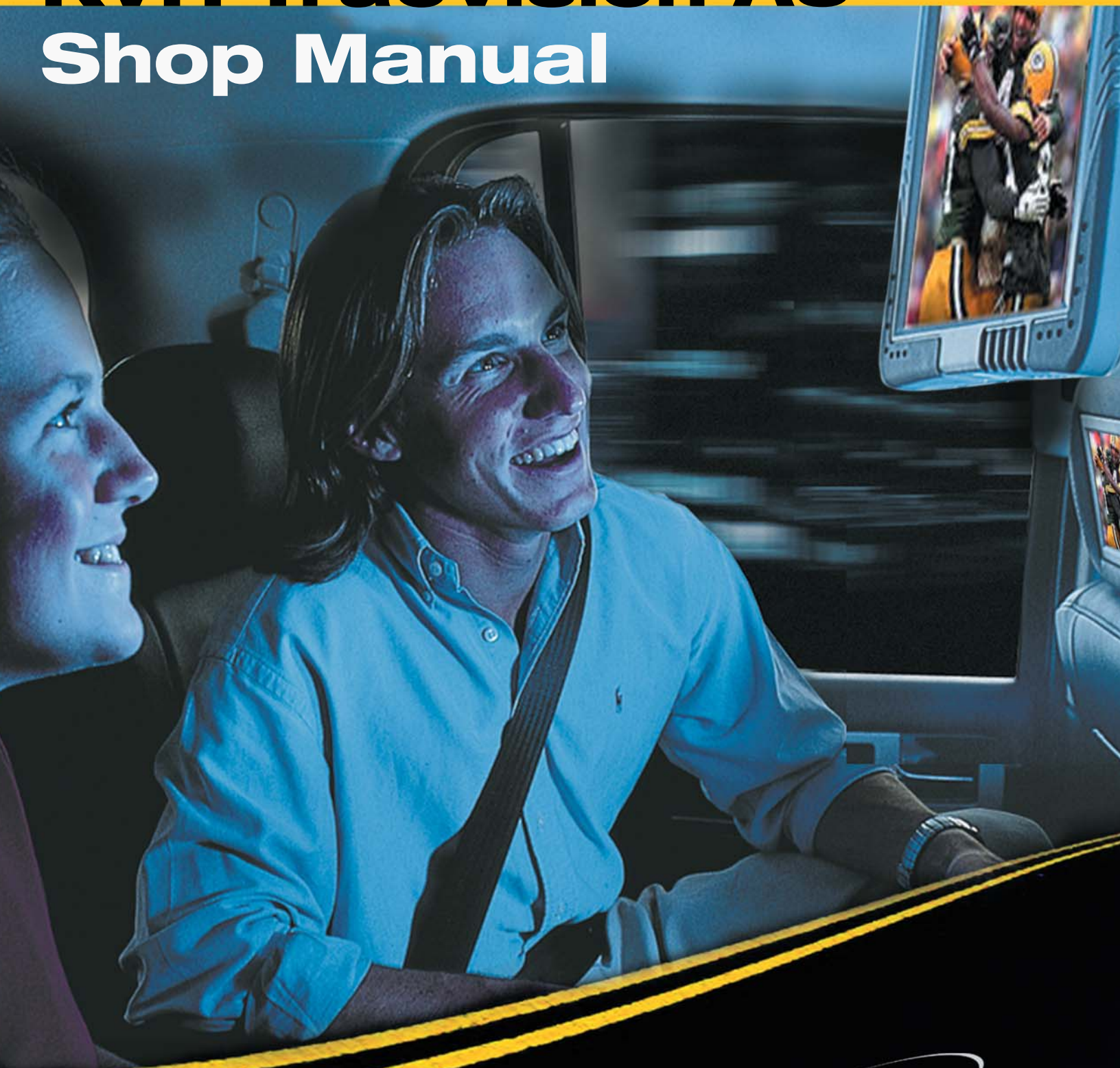


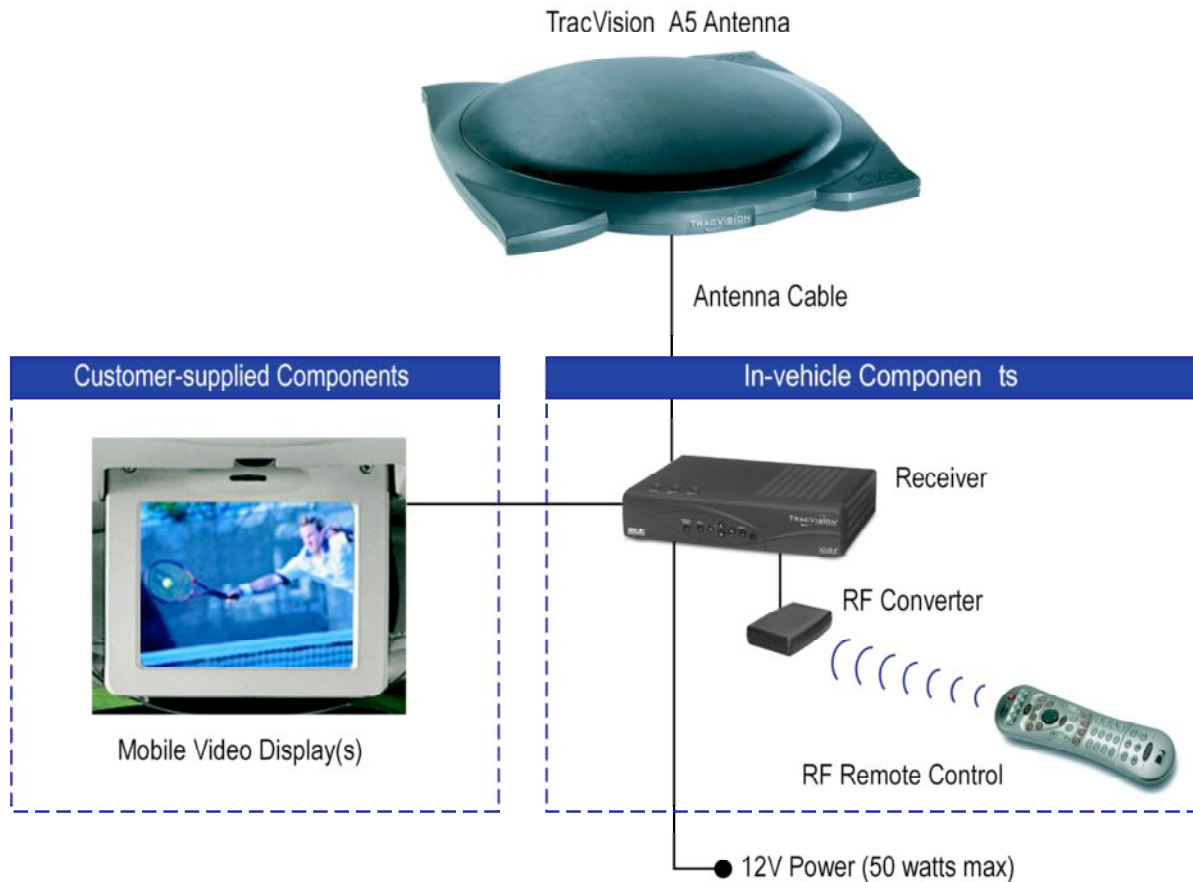
# KVH TracVision A5 Shop Manual



TRACVISION<sup>®</sup>  
● SATELLITE TV BY KVH



# TracVision A5 Overview



- Provides excellent satellite TV reception while driving along the open road.
- Antenna tracks the DIRECTV 101°W satellite, which is located in the southern sky.
- System includes an integrated DIRECTV receiver (with picture-in-guide APG), an RF converter, and an RF remote control.
- For detailed installation instructions, refer to the *TracVision A5 Installation Guide*. For complete operation instructions, refer to the *TracVision A5 User's Guide*.

Effective April 2005  
Subject to change without notice

KVH<sup>®</sup>

# Safe Handling

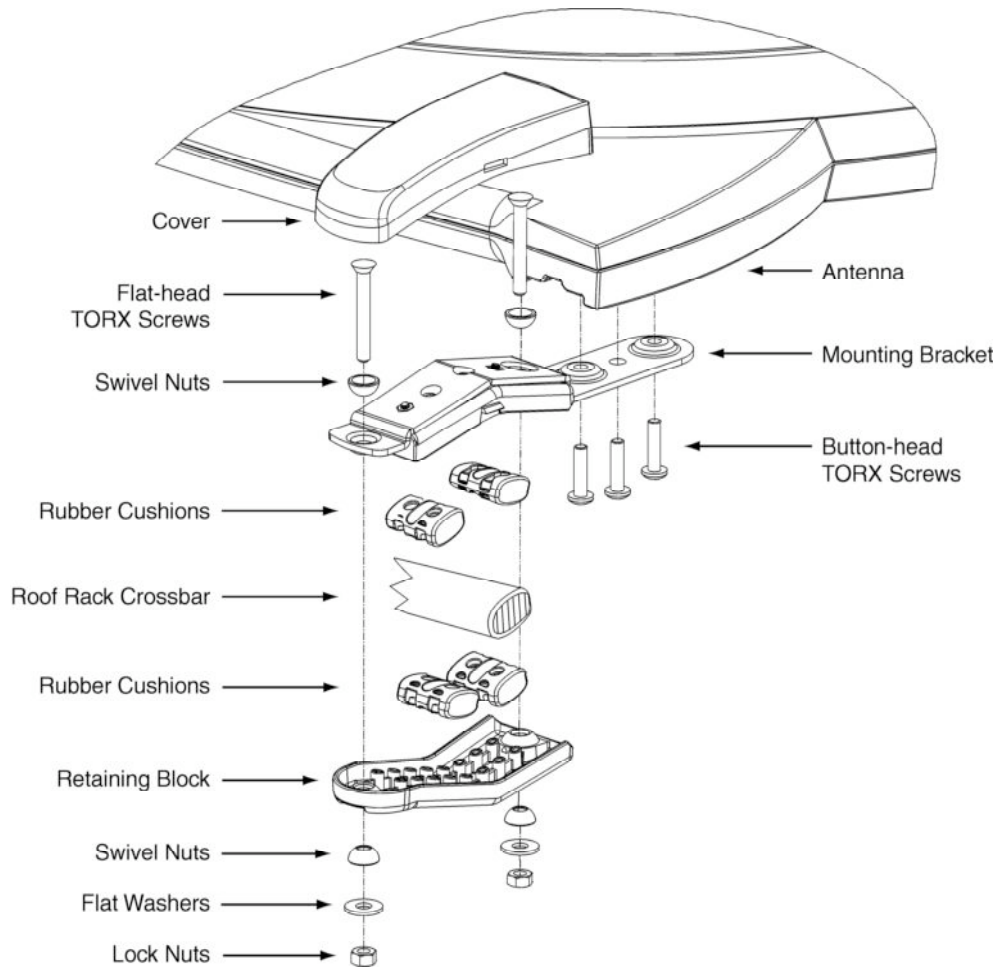


- Two people are required to lift the antenna. Do not try to install the antenna by yourself.
- Remove all six shipping restraints, as shown in the photos above.

Effective April 2005  
Subject to change without notice



# Mounting to a Roof Rack

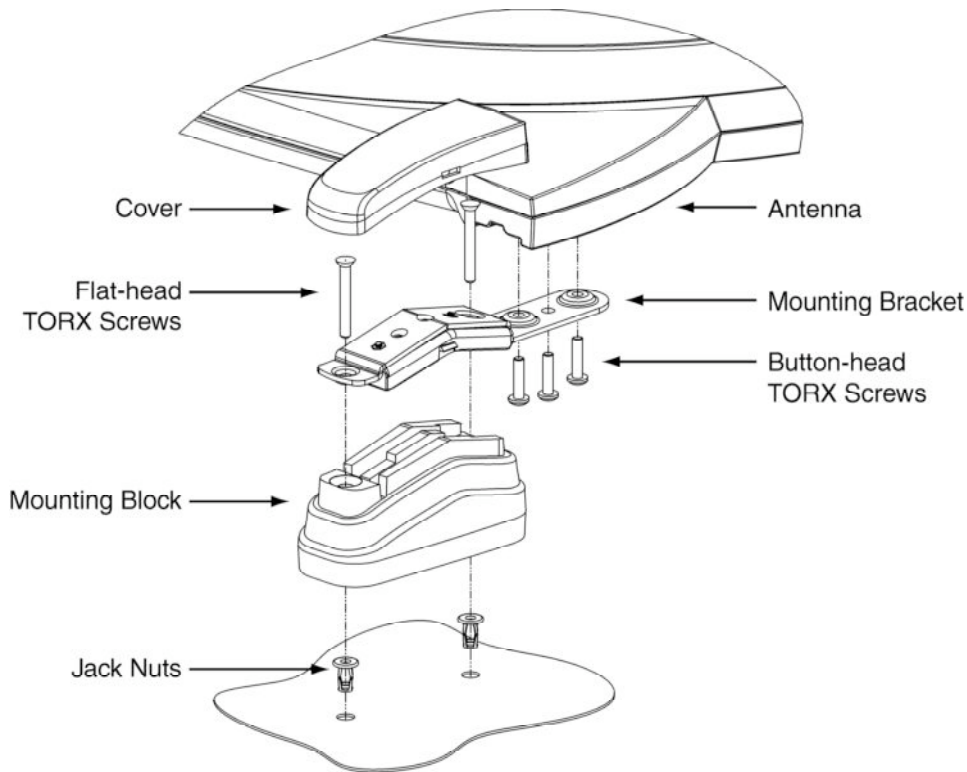


- Position the roof rack crossbars 35 $\frac{1}{2}$ " apart, measured center-to-center.
- At least 1" clearance is required between the underside of the antenna and the roof. To raise the antenna higher, use the spacers supplied in the kitpack (see page 2.7 of the *Installation Guide for details*).
- Always use the TORX hardware supplied in the kitpack. Do not use any substitutes.

Effective April 2005  
Subject to change without notice



# Mounting to the Roof

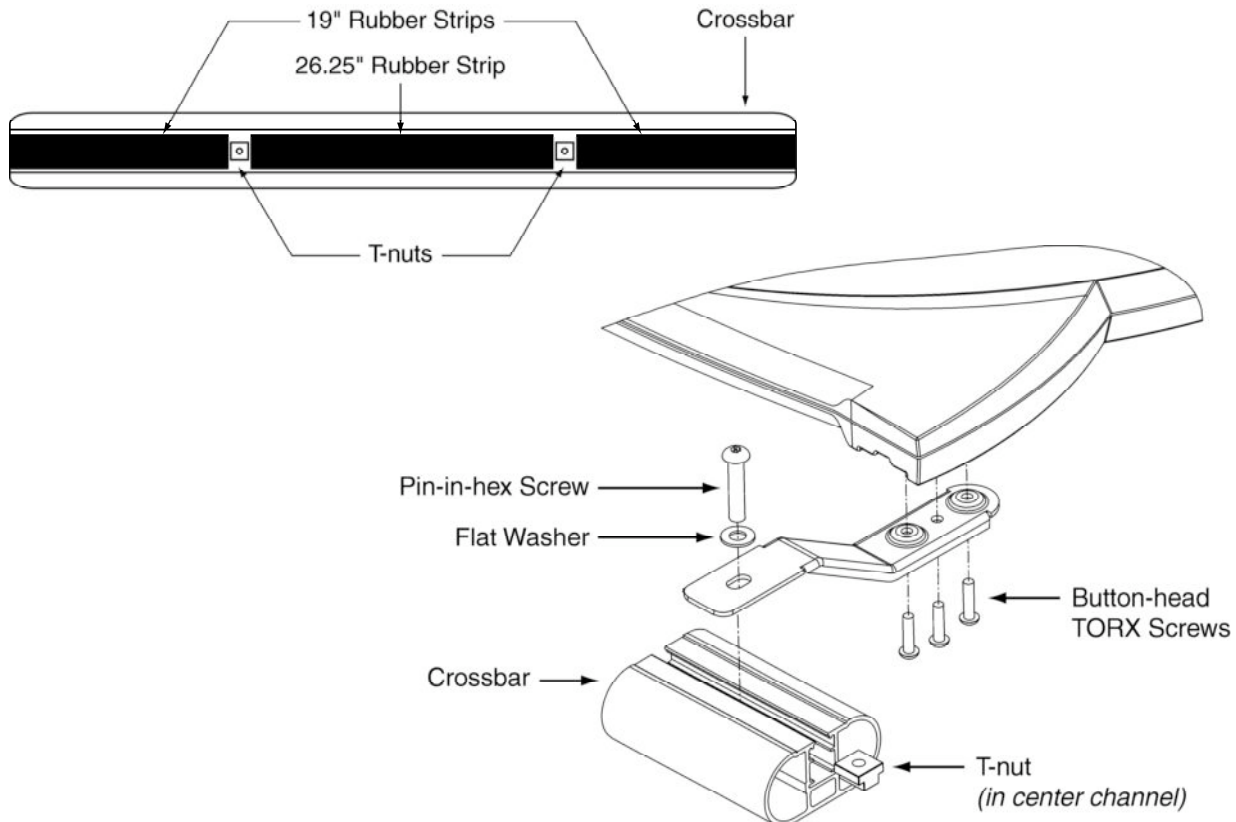


- KVH's roof-mount kit is designed only for flat metal roofs up to  $\frac{3}{16}$ " thick.
- Install a jack nut in all eight  $\frac{7}{16}$ " mounting holes. Ensure the jack nuts are securely attached to the roof.
- At least 1" clearance is required between the underside of the antenna and the roof. To raise the antenna higher, use the spacers supplied in the kitpack (see *page 2.11 of the Installation Guide for details*).
- Always use the TORX hardware supplied in the kitpack. Do not use any substitutes.

Effective April 2005  
Subject to change without notice



# Mounting to Hummer H2 Rack



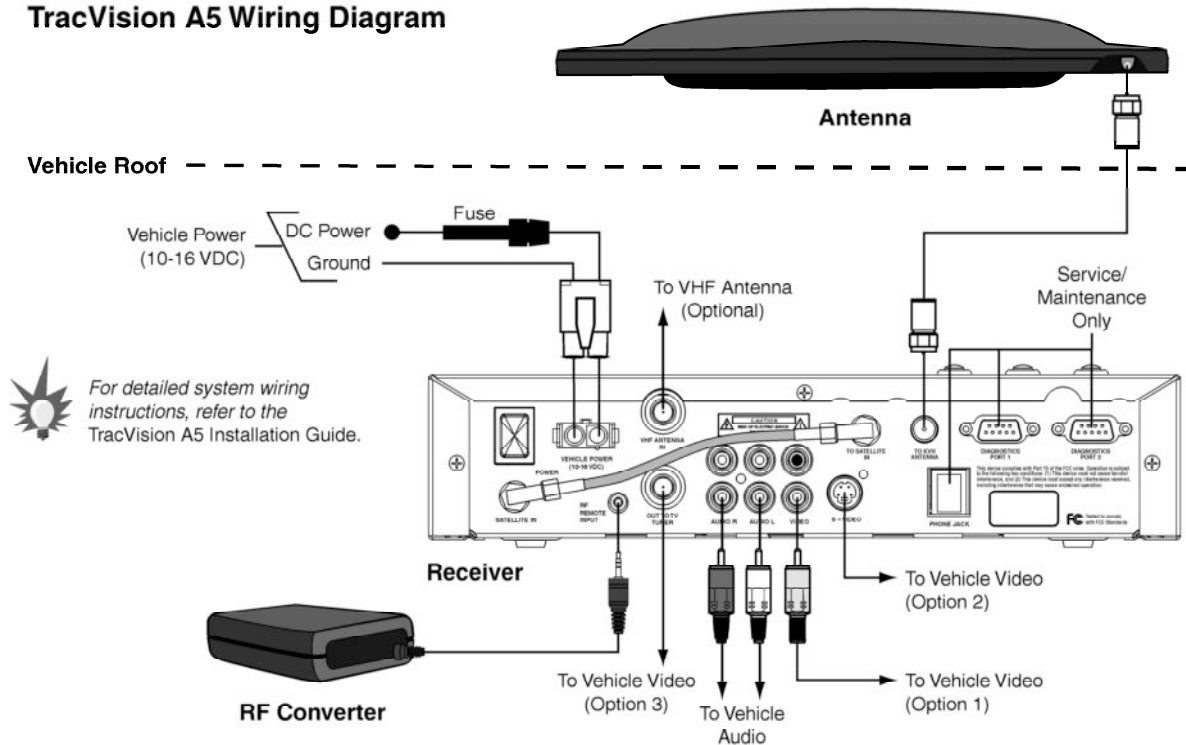
- KVH's Hummer kit is designed only for standard 2"-thick Hummer H2 roof rack crossbars.
- Position the roof rack crossbars  $39\frac{1}{2}$ " apart, measured center-to-center.
- Cut each crossbar's rubber strip into three pieces as shown above. These measurements are critical to position the T-nuts properly.
- Always use the TORX and pin-in-hex hardware supplied in the kitpack. Do not use any substitutes.

Effective April 2005  
Subject to change without notice



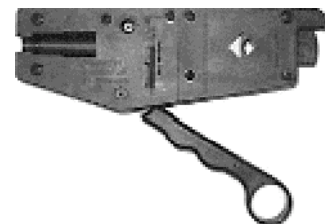
# Proper Wiring

TracVision A5 Wiring Diagram



- If you must cut the antenna cable, terminate the cable with the supplied Snap-N-Seal® F-connector. Low-quality connectors will degrade system performance.
- Always use an Augat tool (KVH P/N 19-0242) to attach F-connectors.
- Do not kink or stress the antenna cable.
- Tighten all connections adequately.
- Use high-quality video cable between receiver and monitor(s).
- Place the RF converter at least 3 feet away from the receiver and other electronic devices.

Augat Tool



Effective April 2005  
Subject to change without notice



# Connecting to Power

## Before you start:

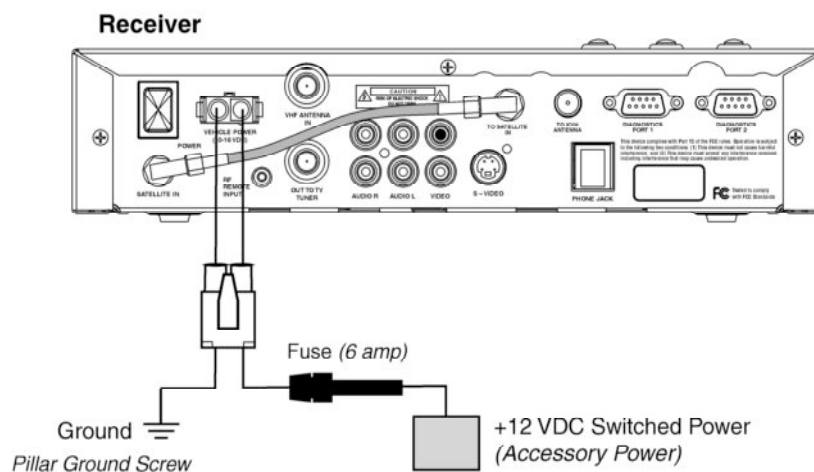
- Before connecting the power cable, remove the key from the ignition and remove the negative lead from the vehicle battery.

## Connecting the receiver power cable's red (positive) wire:

- Connect the red wire to +12 VDC switched (accessory) power. *With the vehicle running and the receiver turned on, power at the receiver must measure at least 11 VDC.*
- Do not wire any other device to the same power circuit.

## Connecting the receiver power cable's black (negative) wire:

- Connect the black wire to its own dedicated chassis ground (such as a pillar ground screw) within 18" of the receiver.
- The black wire must make contact between the metal of the ground screw and the metal of the vehicle frame.



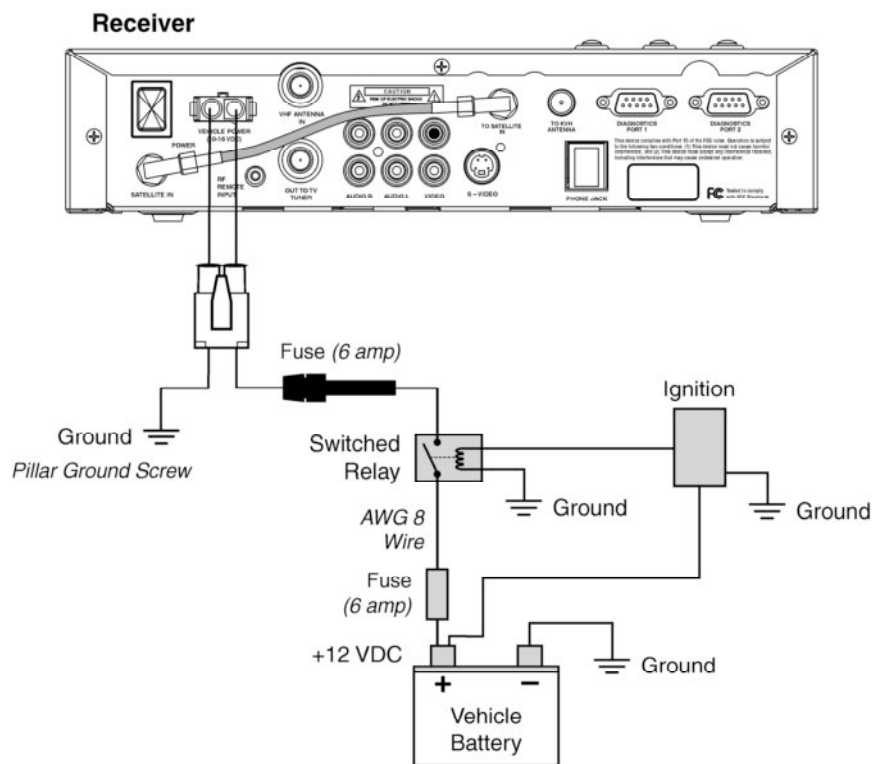
Effective April 2005  
Subject to change without notice



# Connecting to Power (cont'd)

**Do not connect the receiver directly to the vehicle's battery without following these additional steps:**

- Install a protective fuse (6 amps) within 18" of the battery.
- Install a relay, switched from the ignition, between the battery and the receiver.
- Use fire-resistant AWG 8 wire from the relay to the battery.



Effective April 2005  
Subject to change without notice



# Installation Checklist

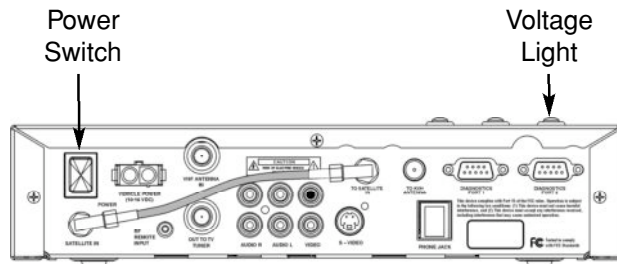
- ✓ You affixed the antenna serial number label to the red Activation Card.
- ✓ You removed all 6 of the antenna's shipping restraints.
- ✓ You used the proper TORX mounting hardware.
- ✓ You allowed at least 1" of clearance between the antenna and the vehicle's roof.
- ✓ You verified the antenna is securely attached to the vehicle.
- ✓ You used an Augat tool to attach the F-connector to the antenna cable (if you cut the cable).
- ✓ You connected the antenna cable, high-quality audio/video cables, and RF converter cable securely to the receiver.
- ✓ You connected the receiver's power cable to +12 VDC switched (accessory) power.
- ✓ You placed the RF converter 3 feet away from the receiver and other electronic devices.
- ✓ You installed the receiver in a dry location away from any heat sources, allowing 2 inches of empty space for ventilation.
- ✓ You installed 2 "AAA" batteries in the remote control.
- ✓ You completed an *Installation Report* (provided at the back of this manual) and faxed it to KVH at 401-849-0045.

# Proper Operation

## PLEASE NOTE!

If the TracVision system was left on when the vehicle was last turned off, TracVision will automatically turn on when you start up the vehicle. **DO NOT DO ANYTHING!** Wait 30-60 seconds for the Program Guide to load and you are ready to watch TV – if the Program Guide doesn't load, check for blockage as noted in step 6.

1. Start the car.
2. Ensure that the power switch on the receiver's rear panel is turned on and lit green. The Voltage light should be also be lit. *(The receiver beeps 2 or 3 times.)*
3. Turn on the video screen and select the satellite input *(not the VCR input)*.
4. If the TracVision system was left on when the vehicle was last turned off, **Message 1** then **Message 2** will appear on the screen.



### Message 1



*then*  
→

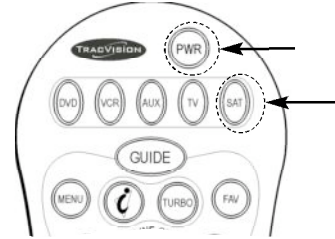
### Message 2



**CONTINUED ON NEXT PAGE...**

# Proper Operation (cont'd)

5. If Message 1 does not appear after 30 seconds, press the remote control's SAT button. Then press the PWR button. The receiver beeps twice. *(A single beep indicates that the system is turned off.)*



6. If Message 2 does not appear after Message 1, ensure that the antenna has a clear view of the satellite and there is no standing water (rain, dew, or ice) on the dome. The antenna requires an unobstructed view of the southern sky to receive satellite TV signals. Once the antenna finds the satellite, and the receiver downloads the Program Guide *(it may take 60 seconds)*, you can start watching TV.

**Note:**

Only the DIRECTV preview channels (such as channels 100 and 201) are viewable until the customer activates the receiver.



# Using the Receiver

## Activating a Receiver

- Before the customer can start enjoying satellite TV, he/she must activate the receiver (*after the system has been installed*).
- Don't forget to give the customer the red Activation Card, which comes attached to the back of the receiver. The customer needs this card in order to activate the receiver.
- Be sure to affix the antenna serial number label to the Activation Card.
- KVH's Activation Department: **1-866-551-8004**

## Replacing a Receiver

- First complete the *TracVision A5 Service Worksheet*, provided at the back of this manual. KVH needs this information before it can ship a replacement.
- Call KVH Technical Support at **1-888-584-5714** and ask for an RMA number. Write this number on the outside of the box.
- Be sure to tell the customer that he/she must call KVH to activate the new receiver **and deactivate the old receiver**. Activation and deactivation activity is governed by a contractual agreement between the customer and DIRECTV. Only the customer can call to activate/deactivate a receiver.
- **If the old receiver is not deactivated prior to return, DIRECTV will continue to bill the customer for the service and KVH will invoice the dealer for the full cost of the receiver.**



# What to Tell the Customer

- Don't forget to give the customer the Activation Card! The customer must call KVH at **1-866-551-8004** to activate.
- Make sure the customer understands how to use the remote control and how to turn on and operate the TracVision A5. Refer to the *Quick Start Guide* and *User's Guide*.
- Let the customer know the new height of the vehicle with the antenna installed.
- It is **dangerous** to watch television or operate the remote control while driving a vehicle. The TracVision A5 is designed for rear-seat entertainment only.
- The antenna tracks the DIRECTV 101°W satellite. It cannot receive channels on other satellites.
- The antenna must have a clear view of the southern sky to receive satellite signals. Common causes of blockage include trees, buildings, overpasses, tunnels, and mountains. The system will not work inside a garage.
- Heavy rain, dew, snow, or ice may temporarily interrupt reception or, if starting up, impair the antenna's ability to find the satellite.





# Do's and Don'ts - Antenna

## DO...

- DO remove all 6 wire shipping restraints.
- DO get another person's help to lift the antenna.
- DO install all three TORX screws at each mounting bracket.
- DO apply threadlocker (Loctite 425) to the threads of the mounting screws if you are reusing them. *Be careful not to drip threadlocker on the vehicle.*
- DO allow at least 1" clearance between antenna and roof.
- DO make sure the antenna is securely attached to the vehicle.
- DO make sure the roof rack crossbars are securely fastened to the vehicle, if you are mounting the antenna to the roof rack.
- DO inform the customer of the vehicle's height with the antenna installed.
- DO call KVH Technical Support at **1-888-584-5714** before you paint the antenna. Certain types of paint will affect reception.

## DO NOT...

- DO NOT attempt to lift the antenna by yourself.
- DO NOT use any substitute mounting hardware.
- DO NOT mount the antenna to a sloped surface.

Effective April 2005  
Subject to change without notice



# Do's and Don'ts - Antenna (cont'd)

## DO NOT...

- DO NOT twist or bend the antenna frame.
- DO NOT paint the antenna without calling KVH Technical Support first at **1-888-584-5714**. Painting the antenna with certain types of paint will reduce satellite signal reception.
- DO NOT use KVH's roof-mount kit if the roof is greater than  $\frac{3}{16}$ " thick.
- DO NOT install the antenna on an 18-wheel, commercial truck. The excessive vibration experienced on these vehicles will impair the antenna's ability to track the satellite.
- DO NOT mount the antenna sideways on the vehicle's roof. Be sure the connector is facing the rear of the vehicle. The front of the antenna is aerodynamically designed for the least noise and best moisture protection.
- DO NOT use abrasive cleaners, volatile solvents (such as methyl alcohol), or compounds that react with plastic when cleaning the antenna.



# Do's and Don'ts - Receiver

## DO...

- DO install the receiver in a dry, well-ventilated area away from any heat sources.
- DO allow at least 2 inches of empty space around the receiver for ventilation.
- DO place the RF converter at least 3 feet away from the receiver and other electronic devices.
- DO set up the program guide for the customer's time zone (see *page 4.8 of the TracVision A5 Installation Guide*).
- DO give the Activation Card to the customer. *Be sure to affix the antenna serial number label to the card.*
- DO order an additional A5 receiver from KVH if the customer requests two receivers.
- DO be sure to read carefully the "Power" Do's and Don'ts.

## DO NOT...

- DO NOT install the receiver near a heat vent.
- DO NOT install the receiver in an enclosed space with no ventilation.
- DO NOT place the RF converter behind a metal surface or in an area surrounded by metal (e.g., under a seat).



# Do's and Don'ts - Wiring

## DO...

- DO terminate the antenna cable with the supplied Snap-N-Seal F-connector.
- DO use an Augat tool to install F-connectors.
- DO check the integrity of the F-connectors. Resistance measured between center conductor and shield should indicate an open circuit.
- DO maintain a bend radius of at least 3" when routing the antenna cable.
- DO use high-quality video cables between receiver and monitor(s).
- DO tighten all connections adequately.
- DO use the rubber boot to protect the antenna connector.

## DO NOT...

- DO NOT use a screw-on, push-on, twist-on, or any other over-the-counter connector to terminate the antenna cable. Low-quality connectors will degrade system performance and may damage the TracVision equipment.
- DO NOT kink or stress the antenna cable.



# Do's and Don'ts - Wiring (cont'd)

## DO NOT...

- DO NOT route the antenna cable where it may become chafed.
- DO NOT disconnect the short cable that connects from one jack to another on the receiver's rear panel. The system will not work if this cable is disconnected.
- DO NOT connect any other type of receiver to the TracVision system.



# Do's and Don'ts - Power

## DO...

- DO remove the key from the ignition and remove the negative lead from the vehicle's battery **before** connecting the receiver power cable.
- DO connect the receiver power cable's red (positive) wire to +12 VDC switched (accessory) power.
- DO connect the receiver power cable's black (negative) wire to a bare metal chassis ground (such as a pillar ground screw) within 18" of the receiver.
- DO use fire-resistant AWG 8 wire, install a protective fuse (rated for 6 amps) within 18" of the battery, and install a relay, switched from the ignition, between the battery and the receiver, **if you are connecting the receiver to the battery.**

## DO NOT...

- DO NOT connect the receiver to unswitched power.
- DO NOT wire any other device to the same power circuit.
- DO NOT connect the receiver directly to the battery without following the additional steps described above.
- DO NOT use inadequate AWG wiring.
- DO NOT ground any other device at the same grounding point as the receiver.



# Do's and Don'ts - Operation

## DO...

- DO teach your customer how to operate the remote control. *For example, tell the customer to press the HUGHES button to turn the backlight on for nighttime operation.*
- DO give the remote control, manuals, Quick Start Guide, and Activation Card to the customer.
- DO install two “AAA” batteries in the remote control.
- DO inform your customer about the product's limitations (blockage issues, limited to DIRECTV 101°W satellite, etc.).

## DO NOT...

- DO NOT watch TV or operate the remote control while driving.



# Do's and Don'ts - Service

## DO...

- DO call KVH Technical Support at **1-888-584-5714** or e-mail at **techs@kvh.com** if you need assistance when installing or servicing the TracVision A5.
- DO obtain an RMA number from KVH Technical Support, and write the number on the outside of the box, before returning any antenna or receiver.
- DO install all 6 tie-wrap shipping restraints before packing an antenna for shipment (see the *TracVision A5 Antenna Reshipping Instructions* provided at the end of this manual).
- DO pack the antenna in its original shipping box using the original packaging materials.
- DO fill out a *TracVision A5 Service Worksheet* (provided at the back of this manual), call KVH at **1-888-584-5714**, and ensure the customer deactivates the receiver, before returning a receiver.

## DO NOT...

- DO NOT take apart an antenna or receiver to attempt repairs.
- DO NOT return a receiver without first completing a *TracVision A5 Service Worksheet*, calling KVH at **1-888-584-5714**, and ensuring the customer deactivates the receiver.
- DO NOT return any unit to KVH without an RMA number. Units received without an RMA number will be returned to you at your expense.



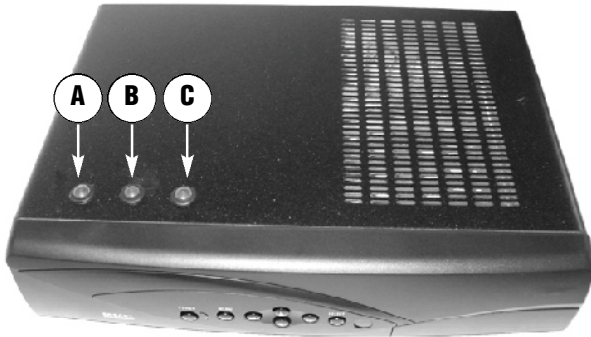
# Troubleshooting

SYMPTOM	Receiver power switch turned off	Blown fuse	Insufficient power	Loose cable connectors	Satellite signal blocked	Water, snow, or ice on antenna	Satellite coverage issue	Weak satellite signal	Receiver not activated	Receiver lost activation information	INPUT button not set up properly	Audio/video system not set up properly	System locked by pascode	Favorite channel list active	Remote control not programmed	Program Guide load interrupted	Receiver locked up	RF converter too close to receiver	Remote control batteries dead	Audio/video system faulty	Antenna faulty	Receiver faulty	Receiver set to "Unstacked LNB"
System does not power on	X	X	X	X						X								X		X	X	X	
No picture on video screen	X	X	X	X							X								X	X	X	X	
Intermittent picture for short intervals			X	X	X	X	X												X	X	X	X	
System works at rest, but not on the move				X																X			
System does not find satellite		X	X	X	X	X	X													X	X	X	
System restarts itself		X	X																				
Receiver beeps continuously at startup		X																					
Snowy DIRECTV television picture	X	X	X	X						X	X					X			X	X	X	X	
Picture jumbled, parts missing, freezing			X	X	X	X	X												X	X	X	X	
Certain channels do not work								X							X							X	
Remote does not work			X														X	X	X				
Remote does not operate other component										X				X									
Only Preview channels are accessible																							
Only certain channels are accessible																							
Program guide does not load																							X

- For complete troubleshooting information, refer to Section 10 of the *TracVision A5 User's Guide* and the flowcharts on the following pages.



# System Status Lights



- A** VOLTAGE light
- B** RECEIVER light
- C** ANTENNA light

During normal operation, all three lights should be lit green.

## **A** VOLTAGE Light Indications

Light is...	Indicates	Description
Off	Off	Receiver is OFF (rear panel power switch is off) or no power input
Green	OK	Good power (between 10-18 VDC at receiver)
Orange	Low Power	Low power (between 8-10 VDC at receiver)
Red, flashing	Bad Power	Insufficient power (less than 8 VDC or more than 18 VDC input)

## **B** RECEIVER Light Indications

Light is...	Indicates	Description
Off	Off	Receiver is OFF (rear panel power switch is off)
Green	OK	Receiver is ON
Orange	Standby	Receiver is ON but antenna is turned OFF
Orange, flashing	Overload	Overload or short circuit detected on the antenna cable
Red	Fault 1	Internal power fault
Red, flashing	Fault 2	Antenna power or power supply problem

## **C** ANTENNA Light Indications

Light is...	Indicates	Description
Off	Off	Antenna is OFF, insufficient power, or no receiver video detected
Green	Tracking	Antenna is tracking the DIRECTV satellite
Green, flashing slowly	Searching	Antenna is searching for a satellite
Green, flashing quickly	Identifying	Antenna found a satellite and is checking its identification code
Orange, flashing	Overload	Overload or short circuit detected on the antenna cable
Red	No Comm	Receiver cannot communicate with the antenna
Red, flashing	Fault	Error detected in antenna

Effective April 2005  
Subject to change without notice



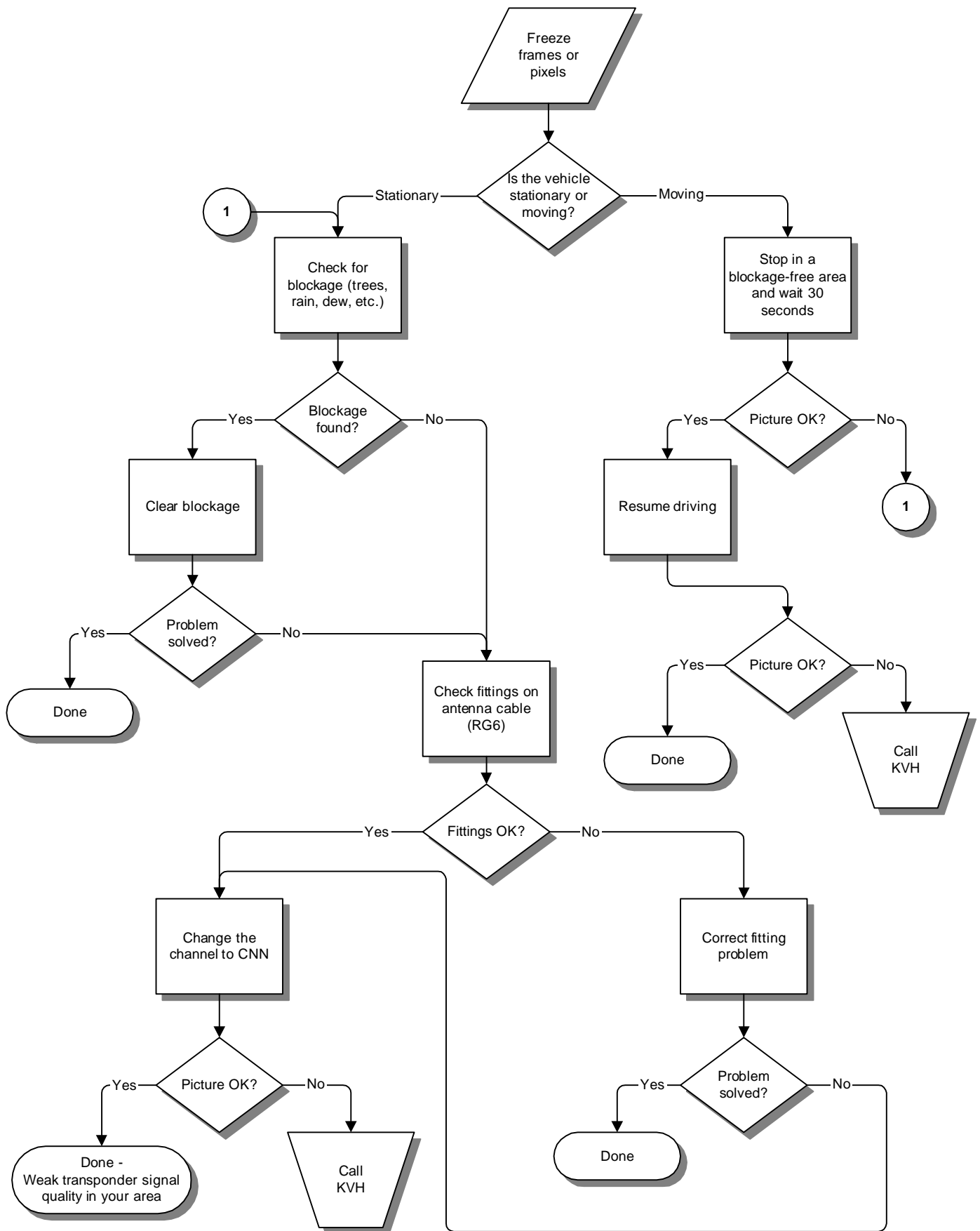
# Troubleshooting Flowcharts

The following pages provide step-by-step flowcharts for troubleshooting the problems noted below:

- Picture freeze frames or pixels
- Receiver locks up after guide download completes
- Receiver turning on/off without user action
- Program Guide doesn't load and/or only odd transponders are OK
- Remote control works intermittently or not at all
- No picture and no DIRECTV banner
- No picture but DIRECTV banner displayed
- Antenna is noisy

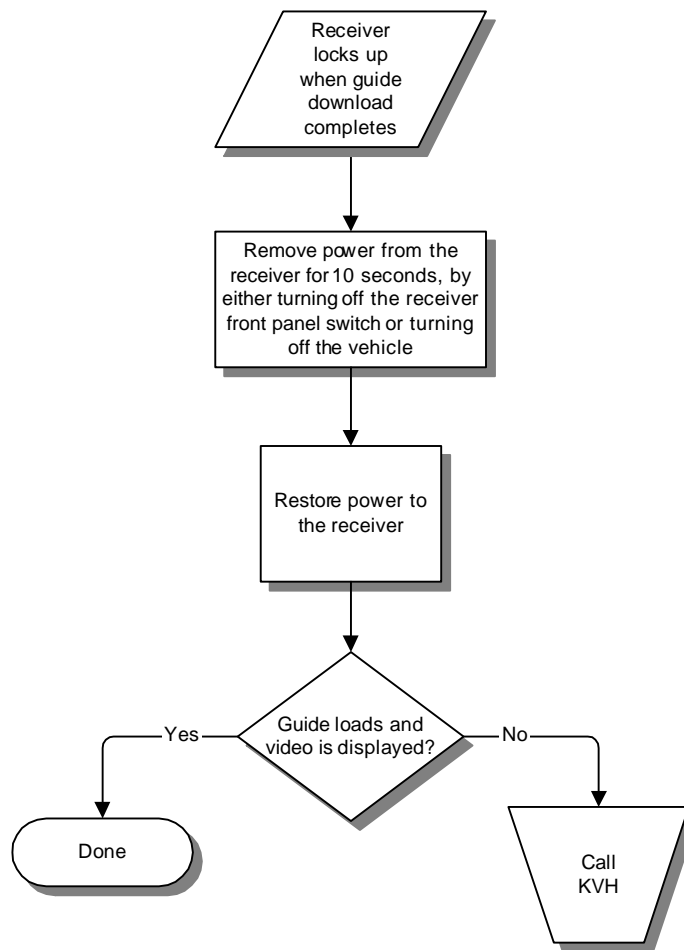
# TracVision A5 Troubleshooting Flowchart

Symptom: Picture freeze frames or pixels



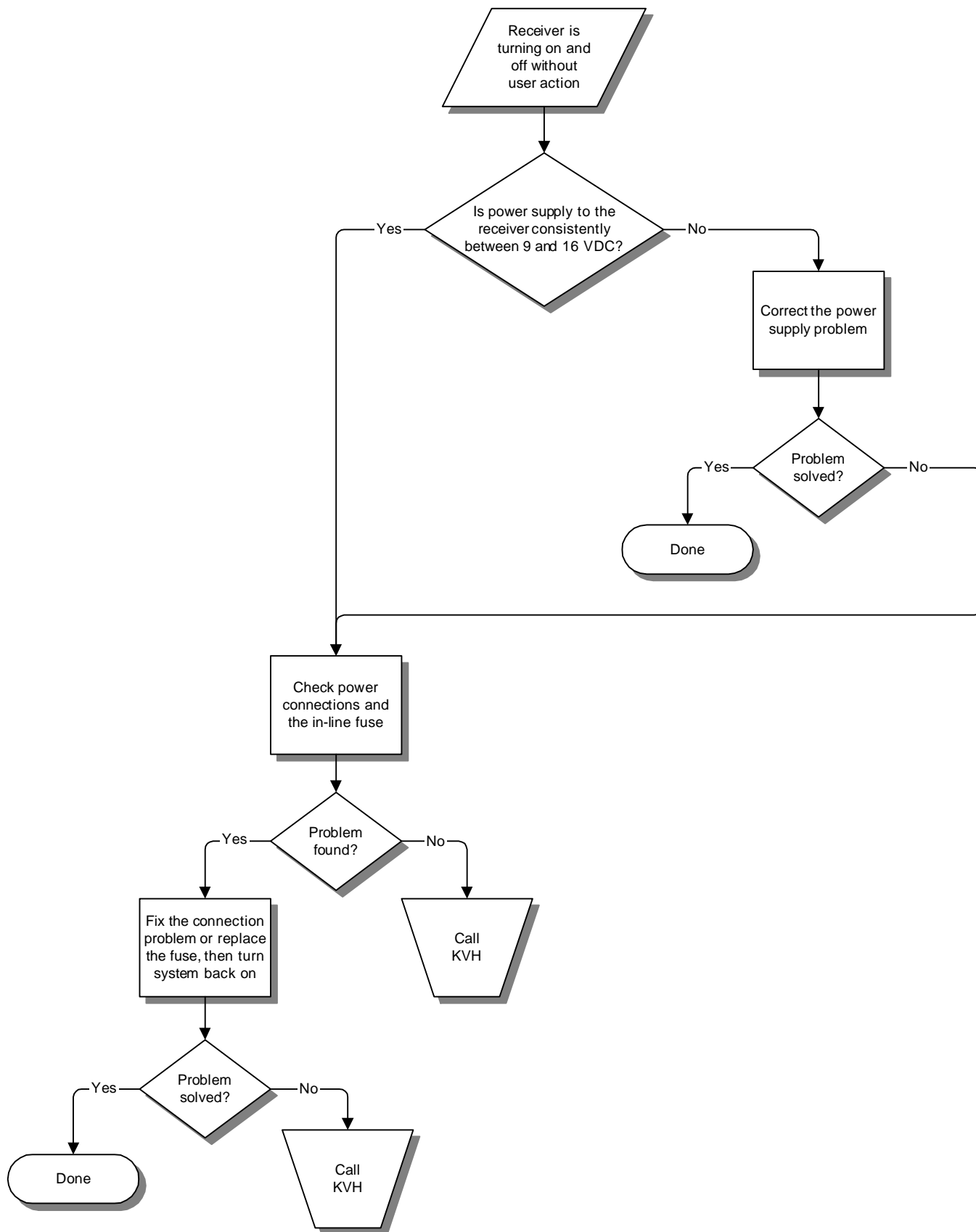
# TracVision A5 Troubleshooting Flowchart

Symptom: Receiver locks up after guide download completes



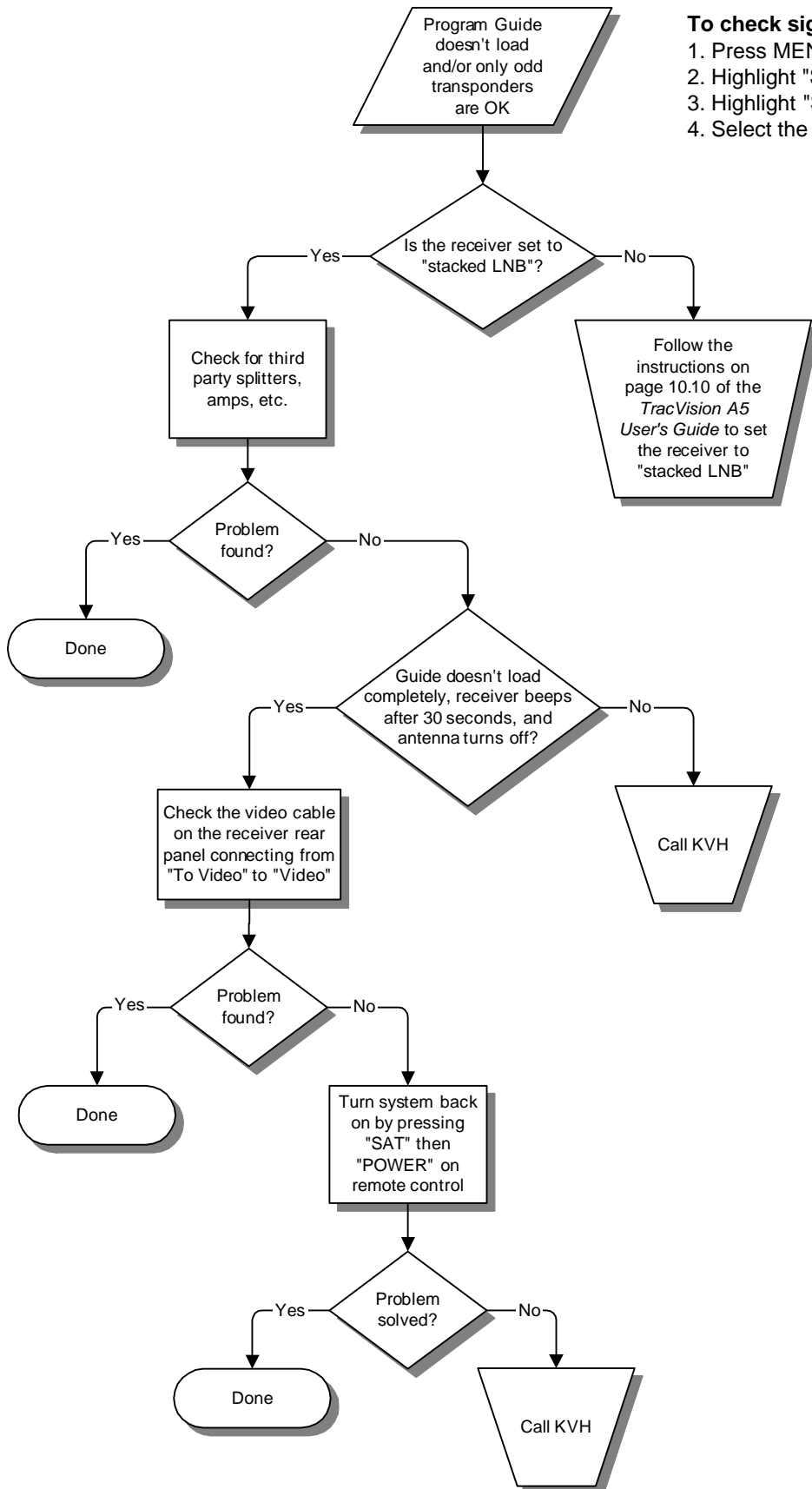
# TracVision A5 Troubleshooting Flowchart

## Symptom: Receiver turning on/off without user action



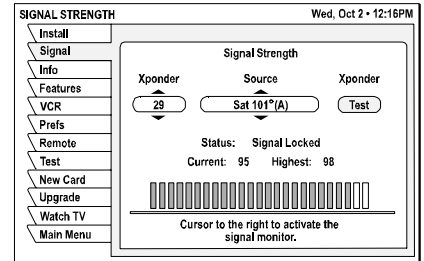
# TracVision A5 Troubleshooting Flowchart

**Symptom: Program Guide doesn't load and/or only odd transponders are OK**



**To check signal quality on odd/even transponders:**

1. Press MENU
2. Highlight "System Setup" then press SELECT
3. Highlight "Signal"
4. Select the transponder ("xponder") to check

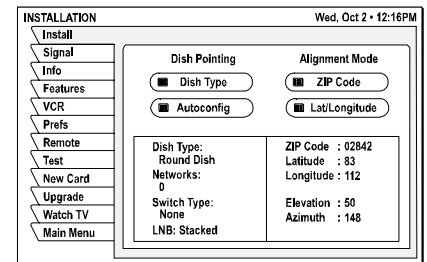


**To check for "stacked LNB":**

1. Press MENU
2. Highlight "System Setup" then press SELECT
3. Highlight "Install"

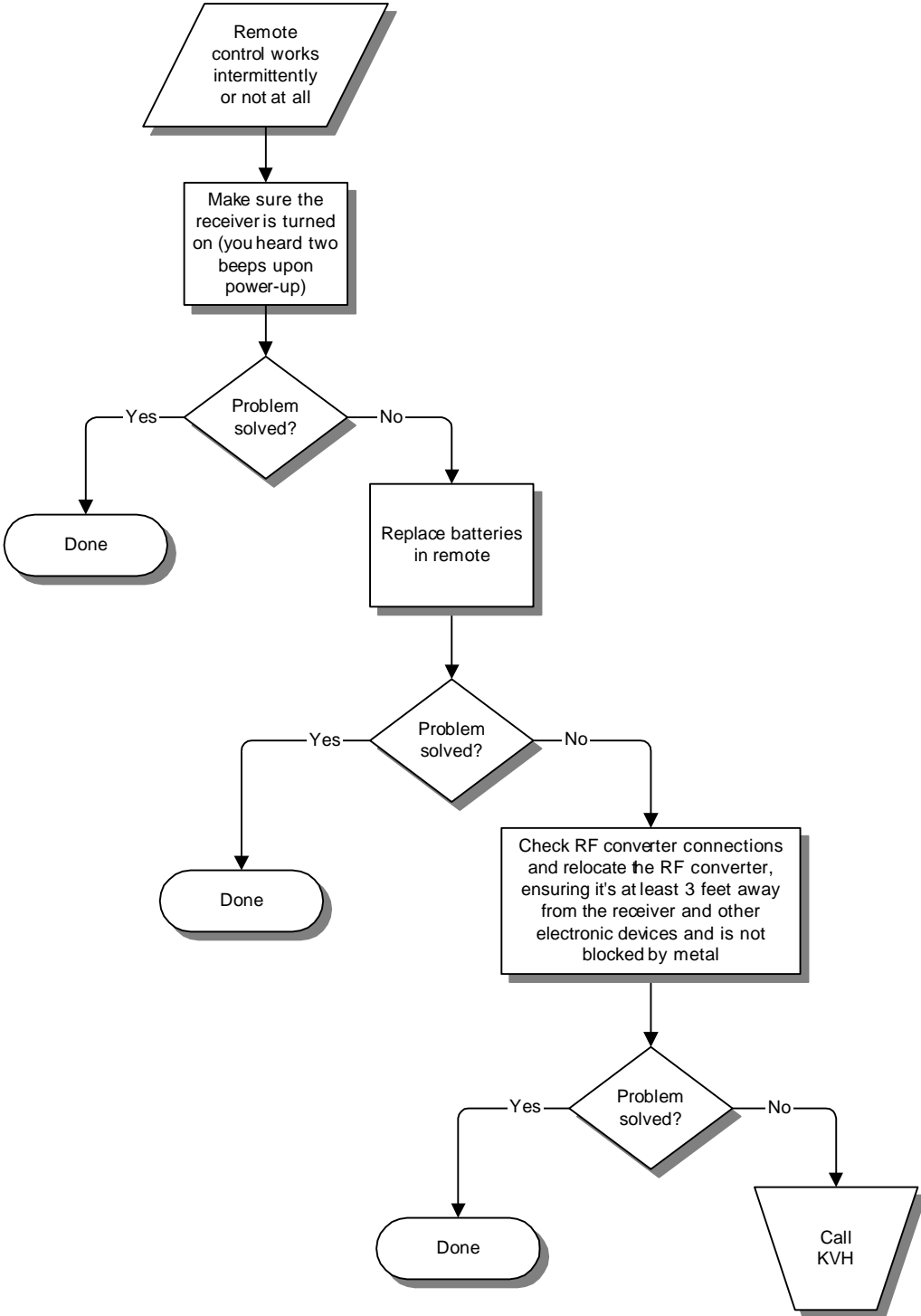
**OR**

While Program Guide is loading, press SELECT to bring up the "Install" screen



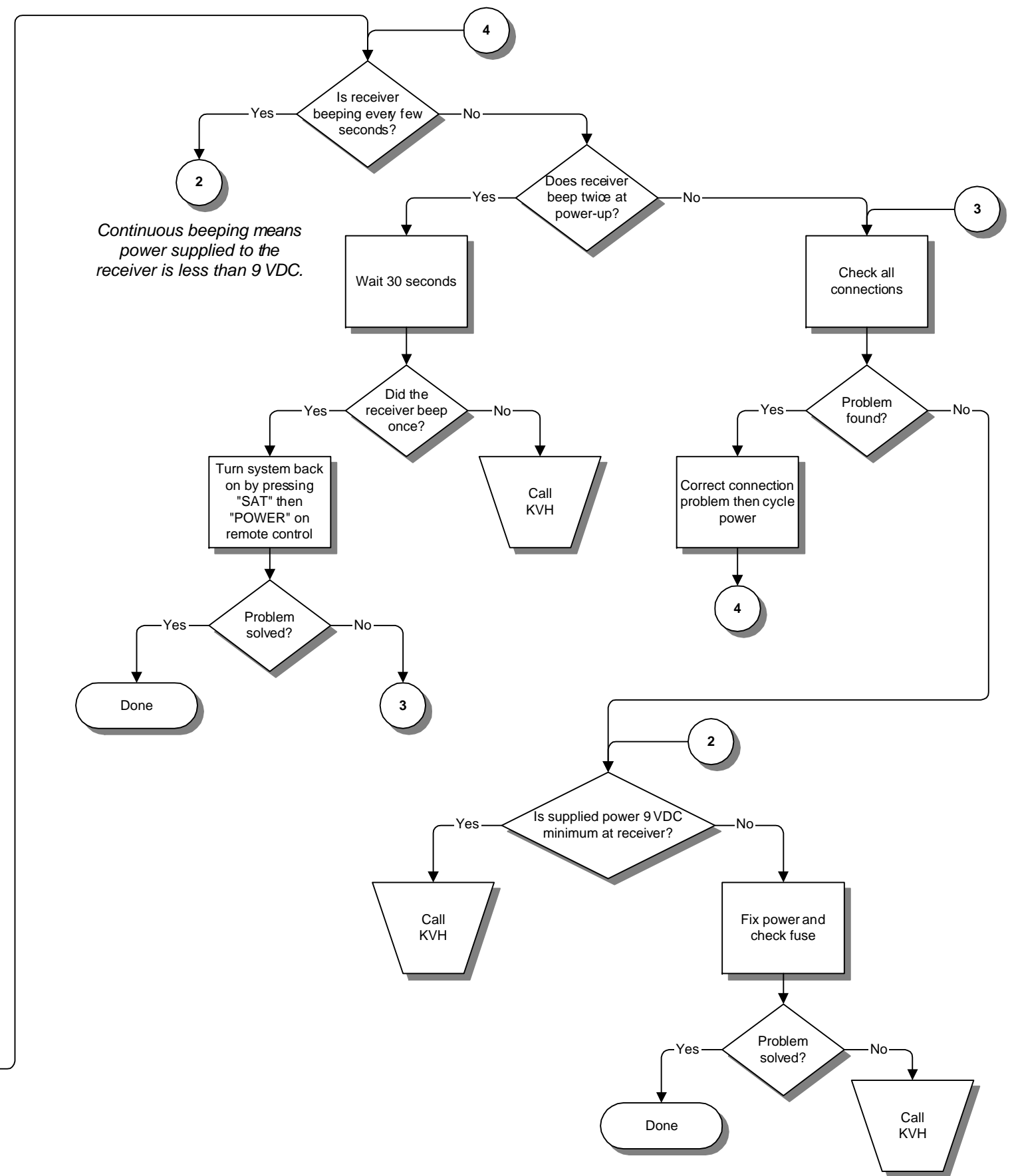
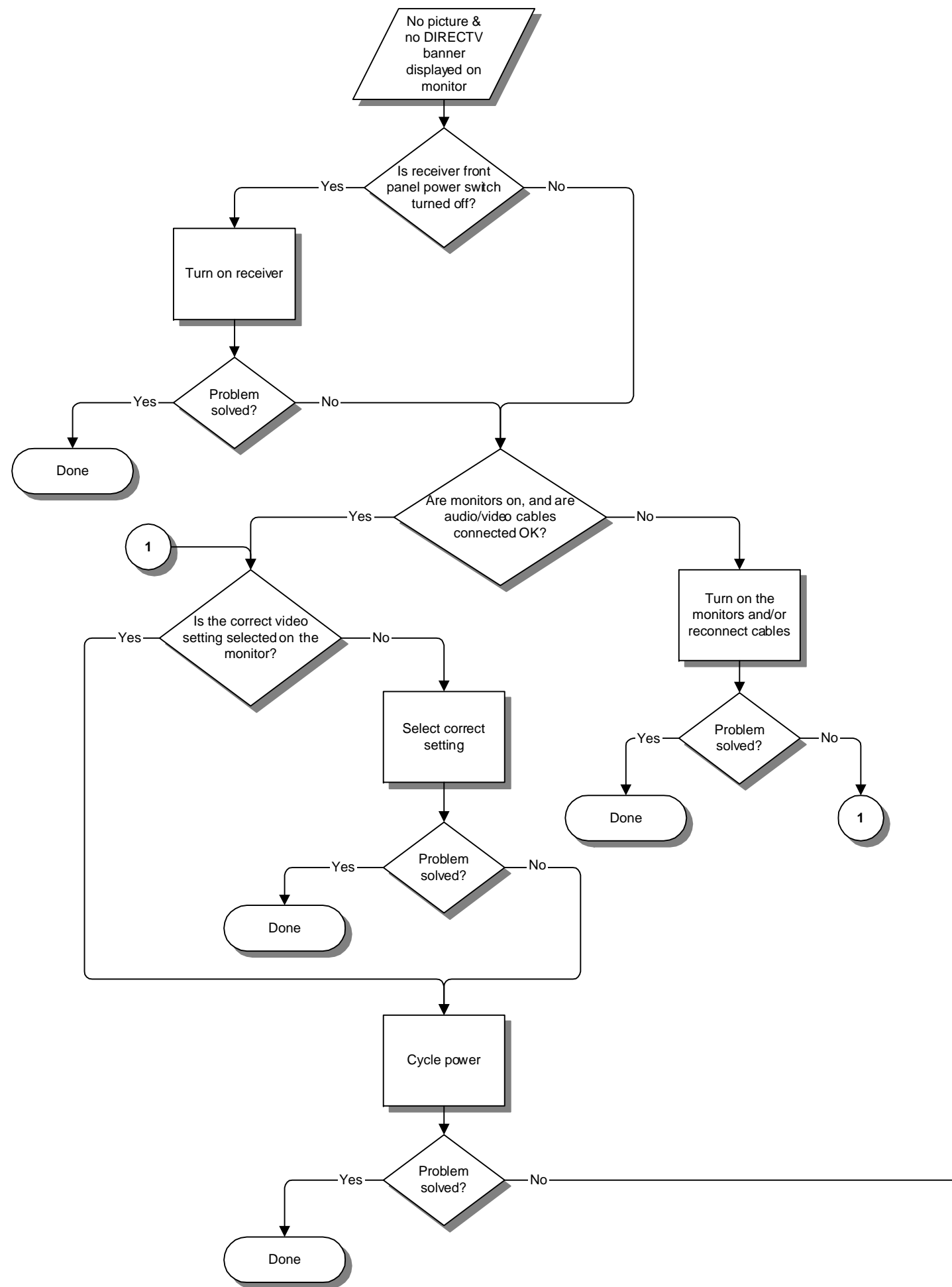
# TracVision A5 Troubleshooting Flowchart

Symptom: Remote control works intermittently or not at all



# TracVision A5 Troubleshooting Flowchart

Symptom: No picture and no DIRECTV banner

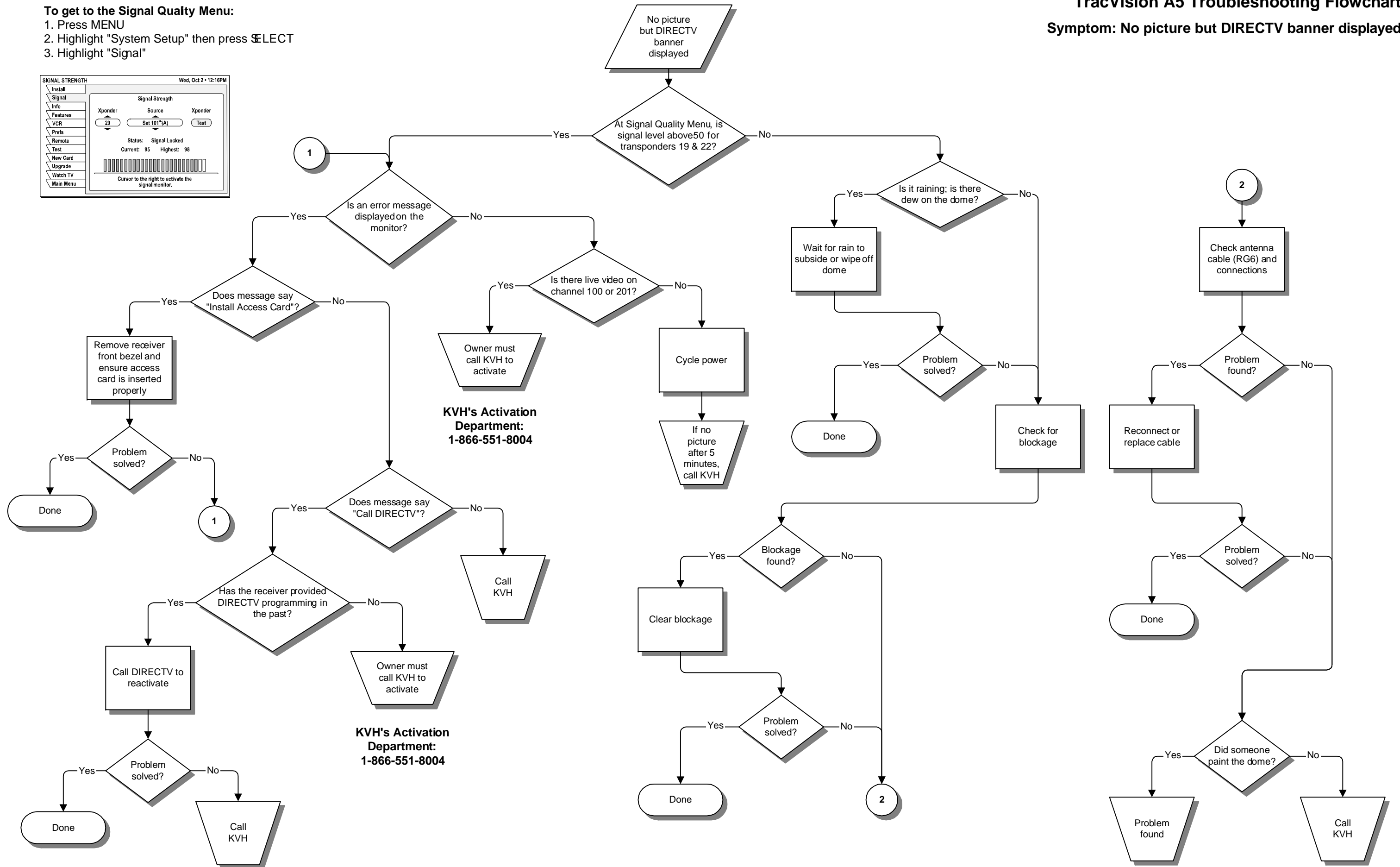
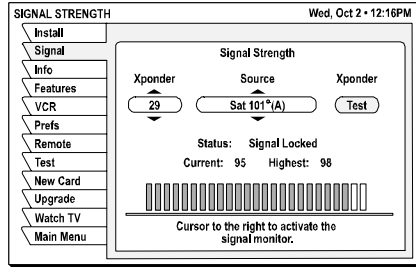


# TracVision A5 Troubleshooting Flowchart

Symptom: No picture but DIRECTV banner displayed

## To get to the Signal Quality Menu:

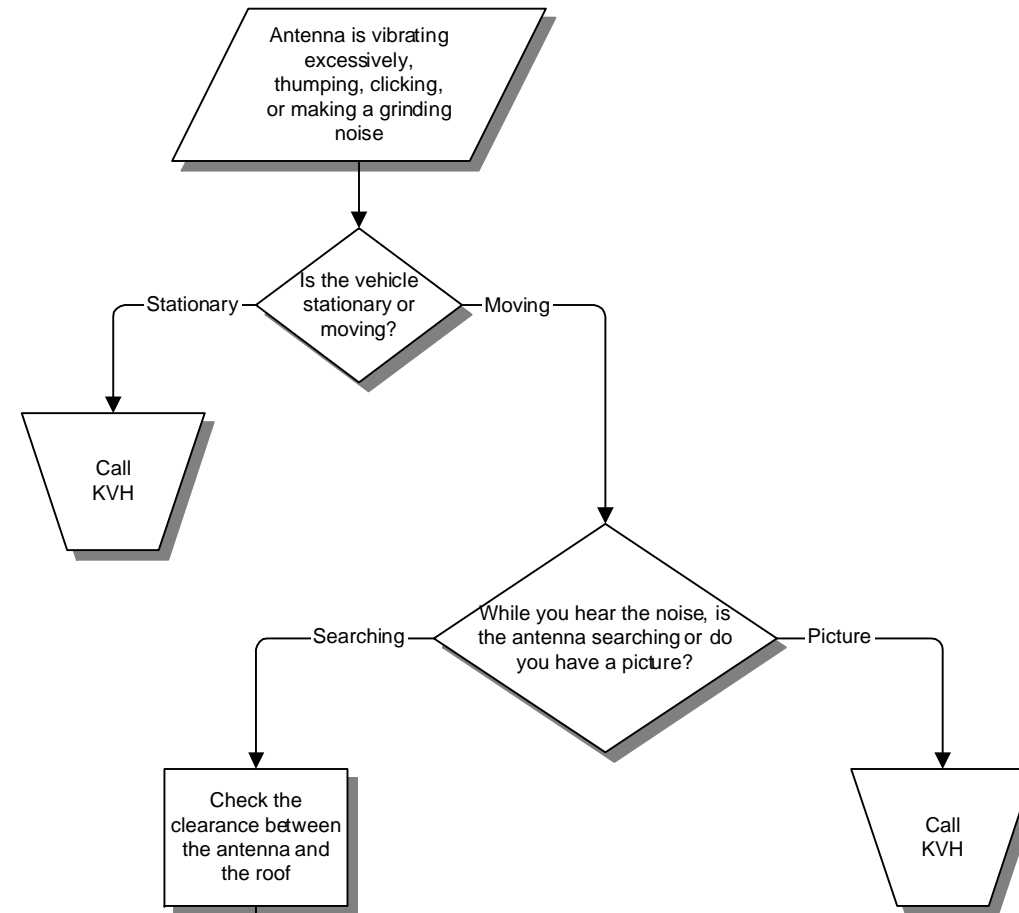
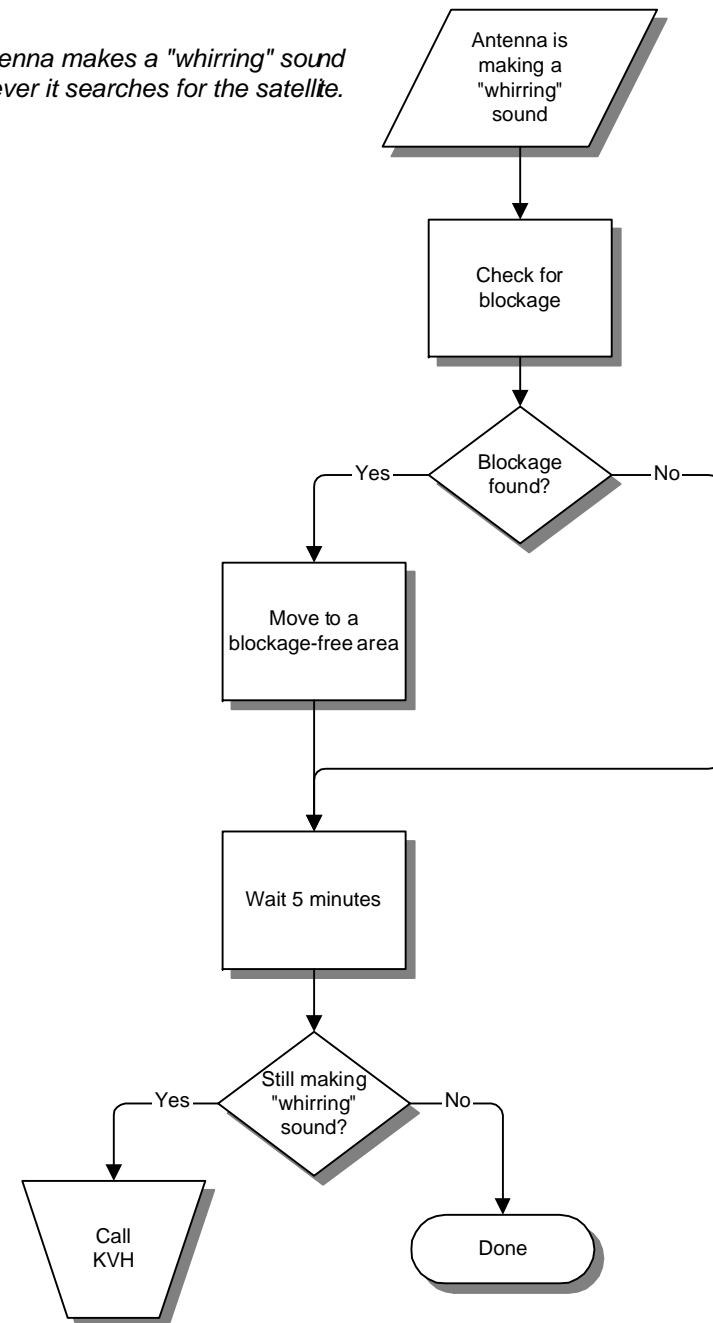
1. Press MENU
2. Highlight "System Setup" then press SELECT
3. Highlight "Signal"



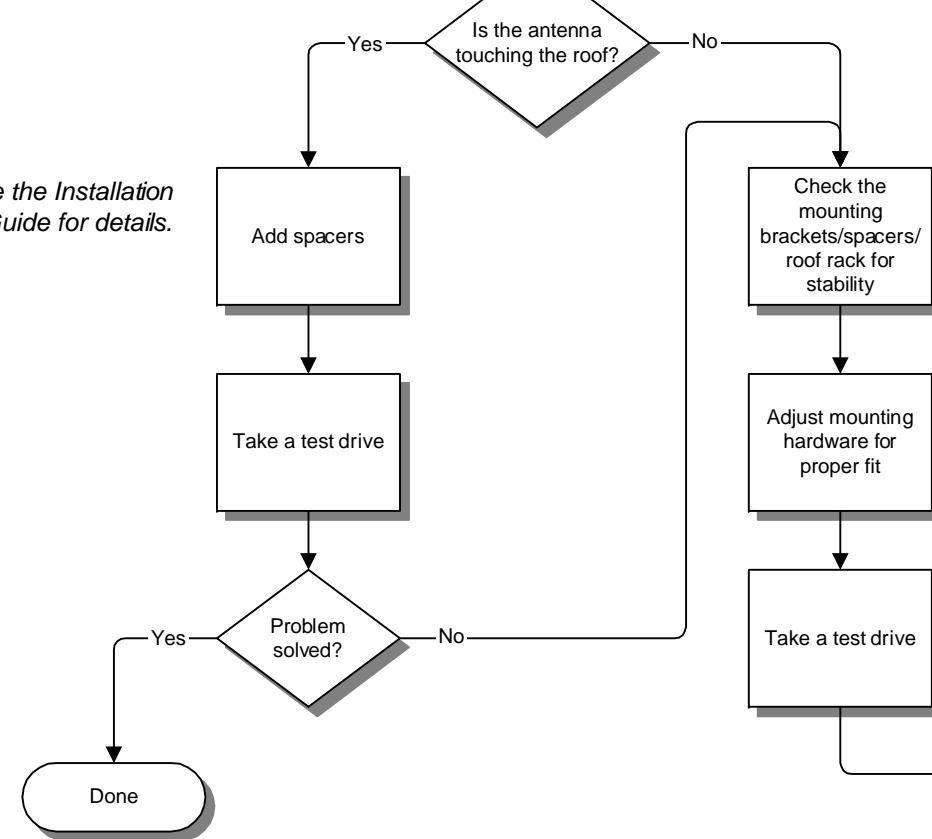
# TracVision A5 Troubleshooting Flowchart

Symptom: Antenna is noisy

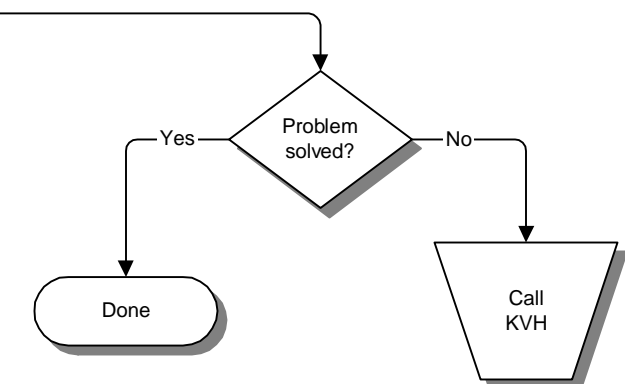
The antenna makes a "whirring" sound whenever it searches for the satellite.



See the Installation Guide for details.



See the Installation Guide for details.



# Technical Bulletin

**Date:** 12/9/03  
**To:** TracVision A5 Dealers  
**From:** KVH Technical Service Group  
**Bulletin Ref #:** 03\_T\_12V\_2

## Subject: TracVision® A5 Receivers Not Loading Program Guide Due to Unstacked LNB Configuration

### Products Affected

Products	Serial Numbers
TracVision A5 receivers	All

### Problem Description

KVH has received a limited number of reports from customers that the satellite TV program guide will stop loading after the TracVision A5 system is turned on. This new fault mode is caused when the TracVision A5 receiver does not retain the “stacked LNB” configuration setting necessary for full reception of all satellite transponder signals.

If the receiver settings have been changed to “unstacked LNB”, the initial program guide search screen will launch when the receiver and antenna are powered on. However, the program guide installation will stop in the middle of the process.

To confirm that the settings have changed:

1. Interrupt the guide load by pressing the SELECT button on the remote.
2. The “Install” screen will appear by default and read “LNB: Unstacked” at the bottom of the screen.

If your satellite dish is ready for DIRECTV® service, please wait until your Advanced Program Guide™ is prepared.

Installation



Searching for satellite signal...

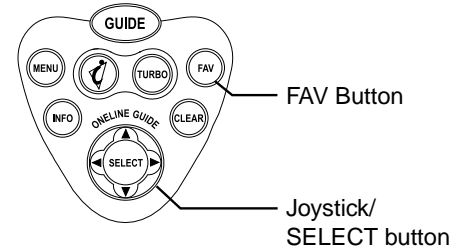
## Problem Solution

In the unlikely event that this occurs, it will be necessary to reset the receiver's settings to restore it to "stacked LNB" mode. To do so, the remote control needs to be available, and the vehicle should be parked with a clear view of the southern sky.

Carry out the following steps to reset the receiver to "stacked LNB" mode:

1. Turn on the TracVision A5 receiver as directed in the Quick Start Guide or User's Guide.
2. Interrupt the guide load by pressing the SELECT button on the remote.
3. Use the joystick to scroll down to the "Test" tab.
4. From the "Test" tab, scroll to the right to "Begin Test" then press the FAV button. A "System Diagnostics" screen appears.
5. In the System Diagnostics screen, scroll over and down to "LNB Type" then press SELECT.
6. Scroll down to "Stacked" then press SELECT.
7. With "LNB Type" still highlighted, press SELECT and verify that "Stacked" is checked. Press SELECT again to exit.
8. Scroll to the left to the "Test" menu tab.
9. Scroll up to the "Install" tab.
10. Scroll to the right to "Autoconfig" then press SELECT.
11. Within 45 seconds, "Auto Configure Failed" appears. Press SELECT to select "OK".
12. Scroll to the "Install" tab. The guide should now load if the TracVision A5 is currently tracking the satellite.
13. Power down the TracVision A5 receiver using the power button on the receiver's front panel. Wait 10 seconds.
14. Power on the TracVision A5 receiver.
15. Confirm standard startup of the A5 system, in which the TV satellite is acquired, the guide loads successfully, and TV service is available.

### Remote Control – Receiver Controls



If you have any questions, please contact KVH's Technical Service Group via e-mail at [techs@kvh.com](mailto:techs@kvh.com) or by phone at (401) 847-3327.

# Technical Bulletin

**Date:** 12/9/03  
**To:** KVH TracVision A5 Dealers  
**From:** Technical Service Group  
**Bulletin Ref #:** 03\_T\_12V\_3

## Subject: Wiring the TracVision® A5 Receiver to Vehicle Power

For the TracVision A5 system to function properly, it is critical that the receiver get the necessary power from the vehicle. Please read this important bulletin carefully to ensure a good connection to vehicle power.

### Power Wiring Requirements

When connecting the receiver to vehicle power, be sure to follow the guidelines below.

- Connect the receiver's power cable to the vehicle's switched (accessory) power via the fuse box. Do not connect the receiver directly to the vehicle's battery.
- With the vehicle running and the receiver turned on, power at the TracVision A5 receiver must measure at least 11 VDC (10 VDC if the vehicle is not running). To ensure the receiver gets the necessary supply, do not wire any other device to the same power circuit that is supplying the TracVision A5. With the receiver wired to a dedicated fuse, you eliminate the drain caused by additional loads.

### Bus and Limo Installations

Due to the unstable power found on limos and buses, KVH recommends that an AC/DC converter be used to connect the TracVision A5 receiver to the vehicle's AC power supply. An AC/DC converter is available from KVH (order KVH part number 72-0150, price: \$295 MSRP, 25% dealer discount applies). This device ensures that a stable DC supply is always present at the receiver.

### Symptoms of a Power Problem

A TracVision A5 power problem can manifest itself in several ways. The following are the most common symptoms of a power problem.

- When turned on, the receiver beeps three times quickly
- Program guide does not load
- Antenna tracks intermittently or not at all

# Technical Bulletin

**Date:** 3/22/2004  
**To:** TracVision A5 Dealers  
**From:** KVH Technical Service Group  
**Bulletin Ref #:** 04\_ST\_12V\_1

## Subject: Terminating the TracVision® A5 Antenna Cable

To make installation as simple as possible, the TracVision A5 antenna uses just a single RG-6 cable. Since this cable carries data, power, and communications, the integrity of this cable and its connections is very important.

To ensure the best possible connection, please use the Snap-N-Seal® F-connector, which is supplied in the kitpack, whenever you need to cut the antenna cable to a certain length. Do not use a screw-on, push-on, twist-on, or any other over-the-counter connector; such low-quality connectors **will** degrade system performance and KVH does not warrant their use.

To attach an F-connector to the end of the antenna cable, you will need to use an Augat T1000 crimp/strip tool. This tool is very easy to use and produces reliable results every time. If you do not have an Augat tool, you can buy one directly from KVH. Just fax an order to (401) 845-8190 and order the following part number:

### Augat T1000 Tool

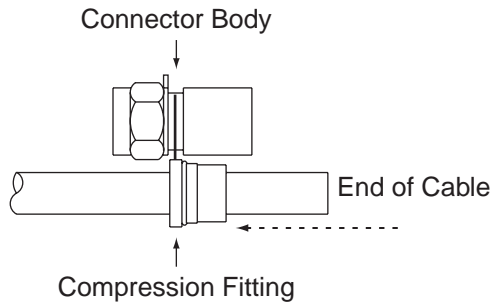


Augat Tool Part Number	Special Dealer Price
19-0242	\$79

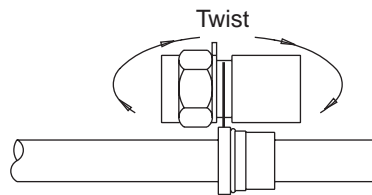
The simple instructions on the following pages explain how to use the Augat T1000 tool to attach an F-connector. Once you've gone through the steps once or twice, you'll find the process really is a snap!

## Using the Augat Tool

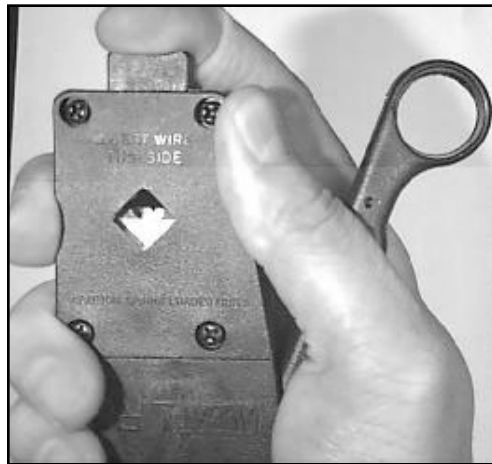
1. Slide the F-connector assembly's compression fitting onto the raw cable before beginning connector termination.



2. Twist and break off the connector body.



3. Push down the wire-stripping blade on the Augat tool so that you can insert the antenna cable.



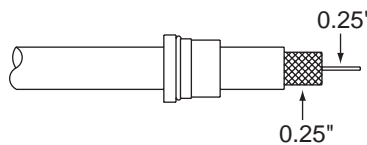
4. Insert the antenna cable into the tool. Be sure to insert the cable in the correct side, as noted on the tool. Let the blade clamp down on the cable.



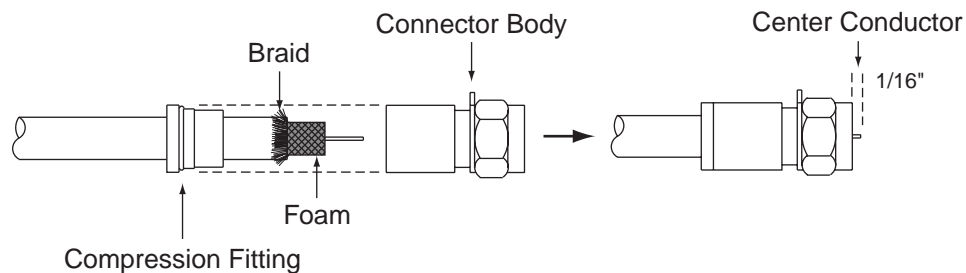
5. The cable should extend just slightly beyond the tool body. Twist the tool around the cable for 3 or 4 complete turns.



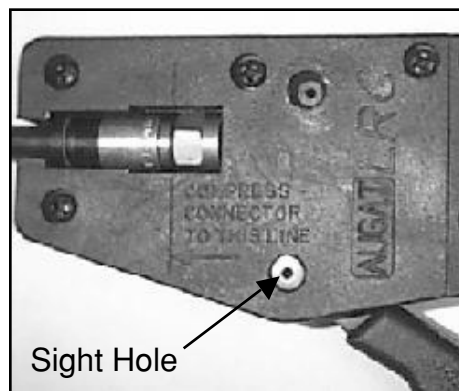
6. Hold the cable while pulling the tool so that it strips off the cable jacket. The end of the cable should now look like the figure below.



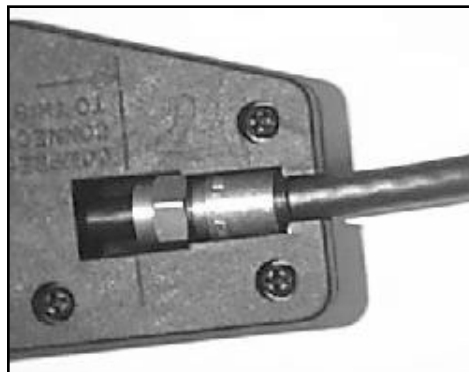
- Fold the braid over the cable jacket. Then slide the connector body, wide end first, onto the prepared cable until the edge of the cable's foam is flush with the bottom of the connector body (inside its threaded end). The cable's center conductor should extend 1/16" beyond the end of the connector body.



- Slide the compression fitting up into the connector body. Then place the cable with the connector into the tool cavity. Be sure the cable's center conductor is straight and fits into the tool's center hole.



- Squeeze the lever toward the tool until you feel it "snap" as the fitting is forced into the connector, making a weather-tight seal. A white indicator will appear in the sight hole (shown in the previous figure) when the seal is achieved.  
***The F-connector is now ready for use!***



# Technical Bulletin

**Date:** 10/1/2004  
**To:** KVH Dealers  
**From:** KVH Technical Support Group  
**Bulletin Ref #:** 04\_ST\_MAR\_LND\_12V\_1

## Subject: Technical Support Reorganizes for World-class Service

As KVH continues to broaden its product catalog, develop cutting-edge technologies, and accommodate more demanding applications, we recognize that the expertise and effectiveness of our Technical Support department is more important than ever. It is equally important that we provide the best possible support to our dealer community. We value our dealers' time and effort, and we are committed to ensuring **each and every call** is handled promptly and appropriately.

In order to realize our goal of consistent world-class service, we are reorganizing our Technical Support department in several ways. First, we have launched a new advanced training initiative to develop our technicians' skills. Second, we are consolidating our resources to better support dealers during peak hours. And within the next few weeks, we will be streamlining our phone system to give further priority to dealer calls.

To set aside time for training and to fully staff the department during the busiest periods, we will be changing our Technical Support hours beginning Monday, October 4, 2004. The new hours are as follows:

### Monday – Friday

9:00 a.m. – 6:00 p.m. ET

### Saturday

9:00 a.m. – 2:00 p.m. ET

With these changes in place, we believe our Technical Support department will be better positioned to provide the highest quality service to our dealers. As always, we welcome and value your feedback. Please let us know how we're doing by sending a quick e-mail to [techs@kvh.com](mailto:techs@kvh.com).

# TracVision® A5 Service Worksheet



**In order to expedite your service request, please complete this form prior to calling Technical Support.**

**Troubleshooting** - Please refer to the TracVision A5 Shop Manual, section 4, for a guide to troubleshooting the A5 system.

**Return Receiver Process** - If a defective receiver is to be replaced, the unit **MUST** be deactivated *prior* to returning it to KVH. Activation and deactivation activity is governed by a contractual agreement between the customer and DIRECTV, which only the customer can change.

**The consequences of NOT deactivating prior to return are:**

1. The customer will continue to be billed monthly for the service.
2. KVH will invoice the dealer for the full cost of the receiver.

Today's Date \_\_\_\_\_

**Customer information:**

Name \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ State/Zip \_\_\_\_\_

Phone # \_\_\_\_\_ E-mail \_\_\_\_\_

**Product information:**

Receiver Serial # \_\_\_\_\_ Antenna Serial # \_\_\_\_\_

Installation Date \_\_\_\_\_

**If it is determined that product needs service, a KVH service order # will be issued:**

KVH Service Order # \_\_\_\_\_

Subject to change without notice

# Labor Reimbursement Form

**Dealer Information:**

Dealer \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
 Country \_\_\_\_\_  
 Phone # \_\_\_\_\_ Fax # \_\_\_\_\_  
 E-mail \_\_\_\_\_

**On-site Information:**

Customer Name \_\_\_\_\_  
 On-Site Location \_\_\_\_\_  
 Vehicle Make/Vessel Name \_\_\_\_\_  
**Description of Fault or Complaint** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**To be Completed By Servicing Dealer:**

Date of Service \_\_\_\_\_ Service Authorization # (U.S. Only) S 0 \_\_\_\_\_  
 Invoice # \_\_\_\_\_ ISN # \_\_\_\_\_  
 Product Model \_\_\_\_\_ Product Serial # \_\_\_\_\_  
 Install Date \_\_\_\_\_ Customer/Job Ref # \_\_\_\_\_  
 Conditions Found \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Action Taken \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Used	Shipped	Part Description	Part #	Serial # Defective	Serial # New Part

Labor \_\_\_\_\_ Hrs @ \_\_\_\_\_ /per hour Total Labor \_\_\_\_\_  
 Travel \_\_\_\_\_ Hrs @ \_\_\_\_\_ /per hour Total Travel \_\_\_\_\_  
Total Labor Claim Requested: \$

**Terms and Conditions**

KVH Technical Dealers are reimbursed for warranty work performed on KVH products in the field. The following guidelines have been established for the authorization and compensation for work performed.

1. Authorization must be obtained from a KVH Technical Representative.
2. Dealers must have all necessary manuals and latest bulletins, the applicable parts, laptop, mobile phone, test equipment, and tools.
3. On-site time not to exceed two (2) hours without further approval.
4. Travel time not to exceed one (1) hour each way, and will be paid half (1/2) the labor rate.
5. Reimbursement is applied as a credit to the Dealer account.
6. Loaner or Units in Advance (UIA) must be returned within 15 days.
7. Claims older than 60 days will not be accepted.
8. KVH's expectation is that all warranty service is complete and has solved the equipment problem.
9. Attach/fax any applicable service call reports with this form.

By signing below, I declare the information on this form to be true to the best of my knowledge. I understand that any discrepancy found may effect the amount of this claim.

Technician/Dealer Signature \_\_\_\_\_

KVH Approval \_\_\_\_\_



---

---

---



**KVH Industries, Inc.**  
**50 Enterprise Center**  
**Middletown, RI 02842-5279 U.S.A.**  
**ATTN: RTG Coordinator**

**RMA #** \_\_\_\_\_

*REQUIRED - packages without a RMA# will be refused and returned freight collect*

---

---

---



**KVH Industries, Inc.**  
**50 Enterprise Center**  
**Middletown, RI 02842-5279 U.S.A.**  
**ATTN: RTG Coordinator**

**RMA #** \_\_\_\_\_

*REQUIRED - packages without a RMA# will be refused and returned freight collect*

KVH Part # 26-0383

**Service**

**KVH Industries, Inc.  
50 Enterprise Center  
Middletown, RI 02842-5279 U.S.A.  
ATTN: Service Dept.**

**RMA #** \_\_\_\_\_

*REQUIRED - packages without a RMA# will be refused and returned freight collect*

KVH Part # 26-0383

**Service**

**KVH Industries, Inc.  
50 Enterprise Center  
Middletown, RI 02842-5279 U.S.A.  
ATTN: Service Dept.**

**RMA #** \_\_\_\_\_

*REQUIRED - packages without a RMA# will be refused and returned freight collect*

# TracVision® A5 Antenna Reshipping Instructions

The following pages explain how to prepare the TracVision A5 antenna for reshipping.



**IMPORTANT!** Be sure to install the tie-wrap shipping restraints and pack the antenna in its original packaging, as explained in these instructions, to ensure a safe shipment. Without the restraints, the antenna **WILL** become damaged.

**Shipping damage will NOT be covered under KVH's warranty policy.**

## Materials and Equipment Required

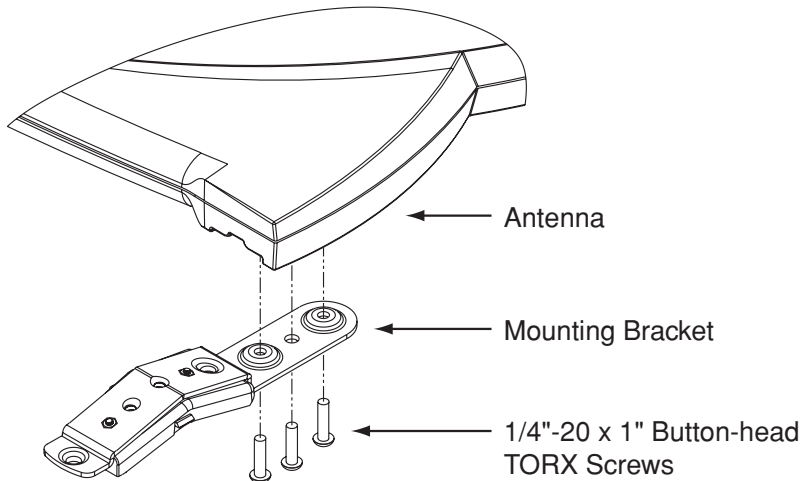
To prepare the antenna for shipping, you will need the following tools and materials:

- #2 Phillips-head screwdriver
- ¼" driver
- ½" hex bit
- TORX® bit (*supplied in the original system kitpack*)
- Six tie-wraps (*supplied in the kitpack*)

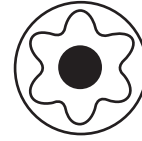
## Step 1 - Remove the Mounting Brackets

Remove the four mounting brackets from the antenna's base. At each bracket, use a  $\frac{1}{4}$ " driver and the supplied T27 TORX bit to remove the three  $\frac{1}{4}$ "-20 x 1" TORX screws.

### Removing the Brackets from the Antenna's Base



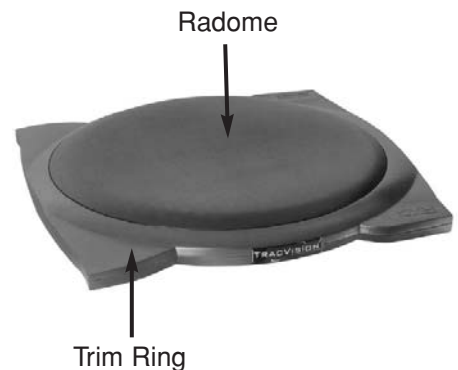
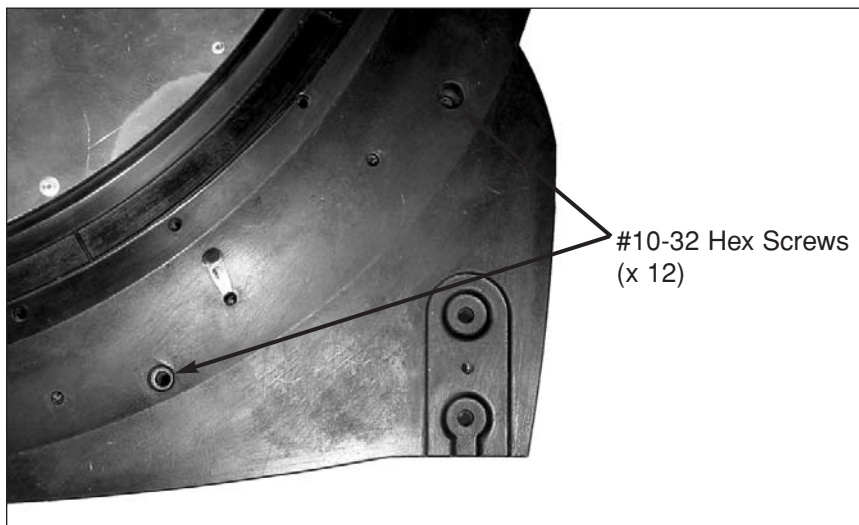
### TORX Screw Head



## Step 2 - Remove the Trim Ring

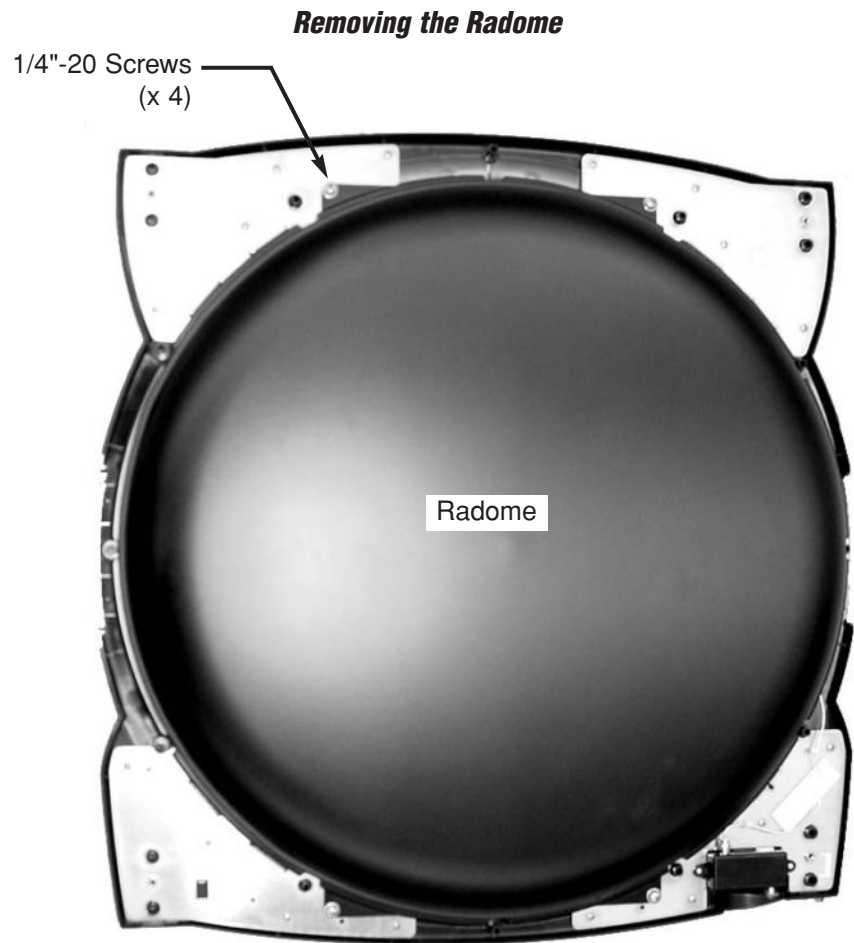
At the antenna's base, use a  $\frac{5}{32}$ " hex bit to remove the twelve #10-32 x  $1\frac{1}{8}$ " hex screws that secure the trim ring (the plastic top cover) to the antenna. Carefully lift off the trim ring and set it aside in a safe place.

### Removing the Trim Ring



### Step 3 - Remove the Radome

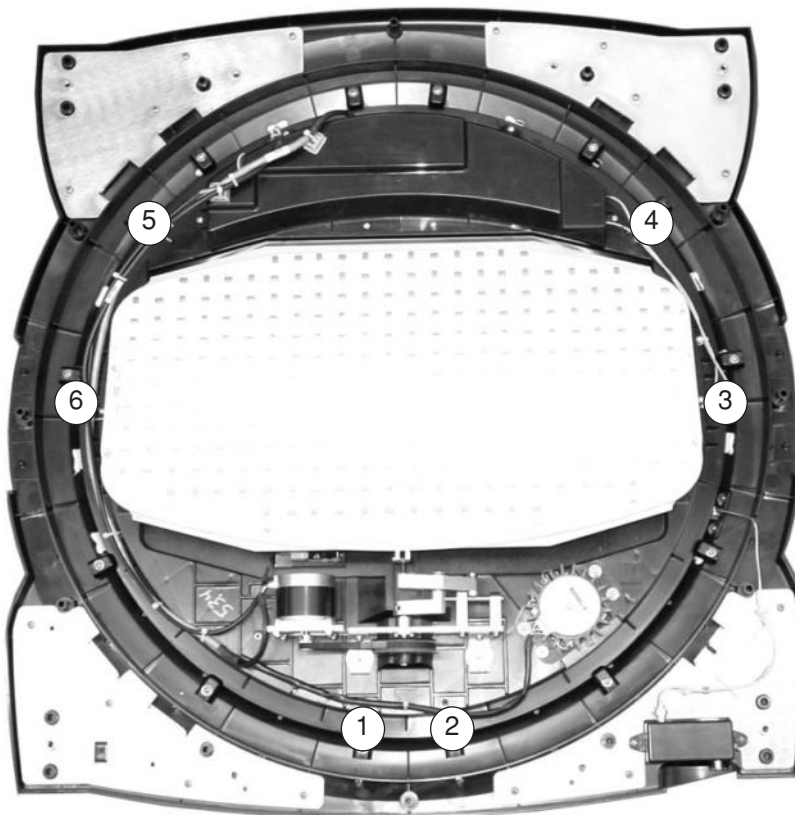
Using a #2 Phillips-head screwdriver, remove the four 1/4"-20 x 3/4" screws that secure the radome to the antenna. Set the radome aside in a safe place.



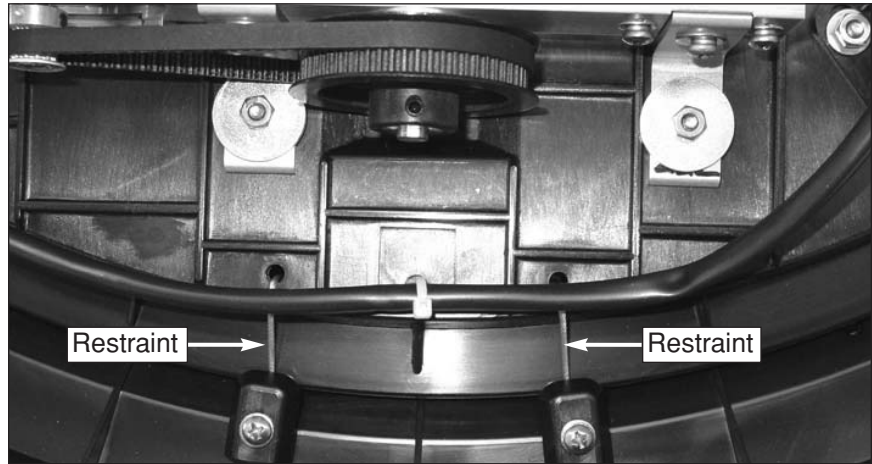
## Step 4 - Attach the Shipping Restraints

Attach the six supplied tie-wraps in key locations as shown in the photos on the following pages (*the photos show the original factory-installed wire restraints*). The six tie-wraps will help keep the antenna from moving during shipment. Be sure to insert the tie-wraps from below, through the appropriate holes in the antenna's base, so that the tie-wraps' buckles will rest on the bottom of the antenna. *You will need to rotate the antenna assembly by hand to line up the holes in the assembly with the holes in the base (orientation shown below)*. Also be sure to pass the tie-wraps underneath any cables, to prevent them from being pinched.

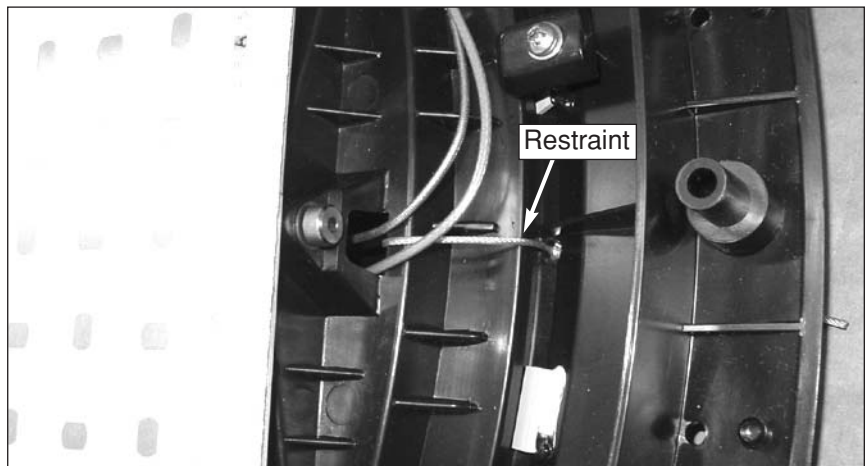
**Shipping Restraint Locations**



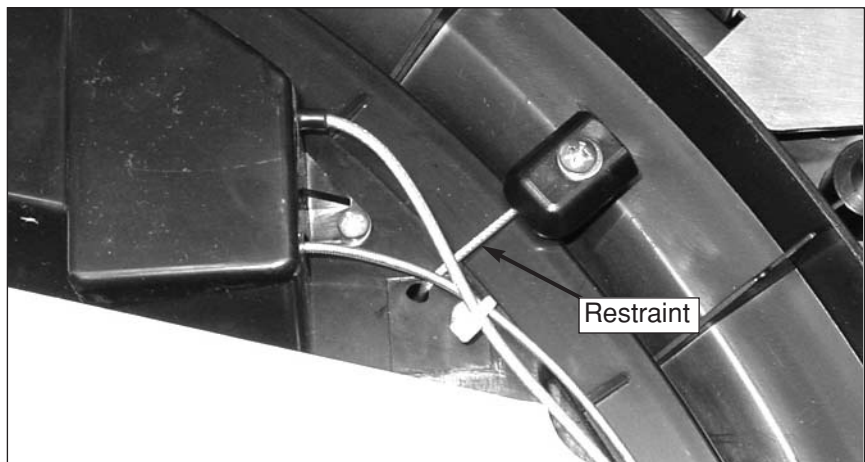
**Shipping Restraints #1 and #2**



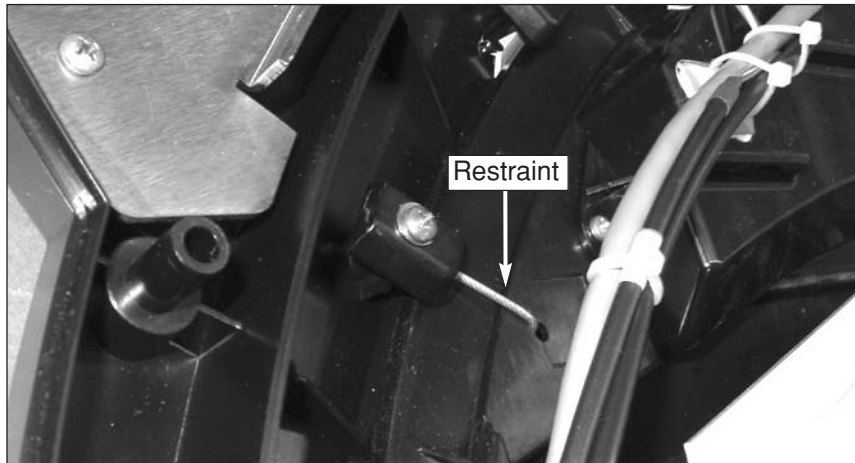
**Shipping Restraint #3**



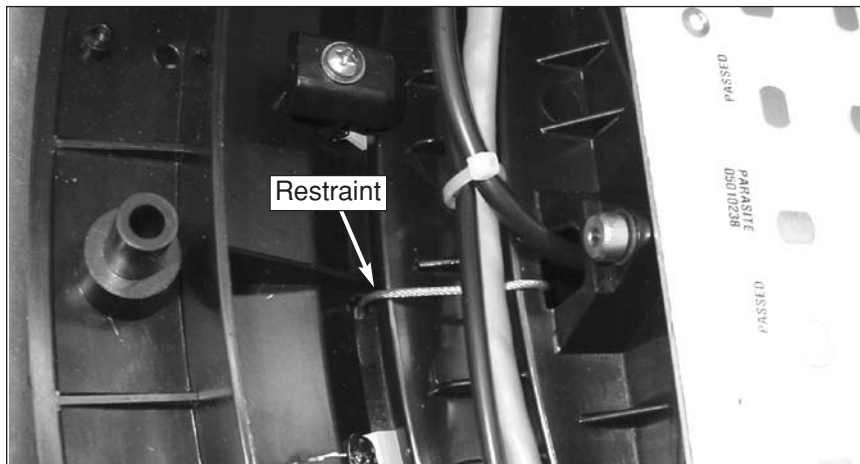
**Shipping Restraint #4**



**Shipping Restraint #5**



**Shipping Restraint #6**



## Step 5 - Reattach the Radome

Reattach the radome that you removed in Step 3 (on page 2). Secure in place using the four ¼"-20 x ¾" screws.



*Ensure that you do not pinch any cables when you reattach the radome.*

---

## Step 6 - Reattach the Trim Ring

Reattach the trim ring that you removed in Step 2 (on page 1). Secure in place using the twelve #10-32 x 1½" hex screws.

## Step 7 - Pack the Antenna

Pack the antenna in its original shipping box using the original packaging materials (*if you don't have the original box, please request one from KVH Technical Support at 401-847-3327*). The "FWD" indicator on all four corner inserts should point in the same direction, toward the forward end of the antenna (*the end opposite the cable connector*).

The antenna is now ready for shipping. *Thank you for following these instructions to ensure a safe shipment!*