

KVH Tri-Sat AutoSwitch™ Kit Installation and Operation Instructions for TracVision® R5SL/R5/R4SL/R4

The following instructions explain how to install and operate the Tri-Sat AutoSwitch Kit on a TracVision R5SL/R5/R4SL/R4 system.

The Tri-Sat AutoSwitch Kit allows DIRECTV HDTV subscribers to enjoy the Ku-band portion of the overall high-definition (HD) programming package and switch automatically among the DIRECTV 101, 110, and 119 satellites when using a DIRECTV H21-200 or H20-600 receiver.

For information on:	Refer to:
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Advanced Wiring Diagrams	Page 9

NOTE: This procedure requires a PC with the latest version of the KVH Flash Update Wizard installed. The Flash Update Wizard is available to KVH-authorized dealers through the KVH Partner Portal.

Who Should Install the System?

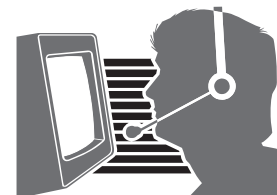
To ensure a safe and effective installation, KVH recommends that a KVH-authorized technician install the Tri-Sat AutoSwitch Kit. To find a technician near you, please visit www.kvh.com/wheretogetservice.

Technical Support

If you need technical assistance, please contact KVH Technical Support:

Phone: +1 401 847-3327

E-mail: techs@kvh.com




Installing the Tri-Sat AutoSwitch Kit

This section explains how to install the Tri-Sat AutoSwitch Kit. These instructions require additional/alternate installation steps than those specified in the TracVision Installation Guide. These instructions supersede the TracVision installation and operation instructions where applicable.

Step 1 - Set Up the System

The following instructions explain how to modify the TracVision system for Tri-Sat AutoSwitch use.

	CAUTION
For your own safety, be sure to disconnect power from all wired components before performing this procedure.	

Upgrading Previously Installed TracVision Systems

If you are installing the Tri-Sat AutoSwitch Kit to upgrade a TracVision system that is already installed on a vehicle, follow the steps below:

- a. **Systems with a grounding block -**
Disconnect any components connected to the grounding block's RF1 connector (see Figure 1).
 - Systems without a grounding block -**
Disconnect any components connected to the antenna's RF1 cable (see Figure 2).
- b. Proceed to "Step 2 - Connect the Tri-Sat AutoSwitch Kit" on page 3

Figure 1 Disconnecting Components with Grounding Block

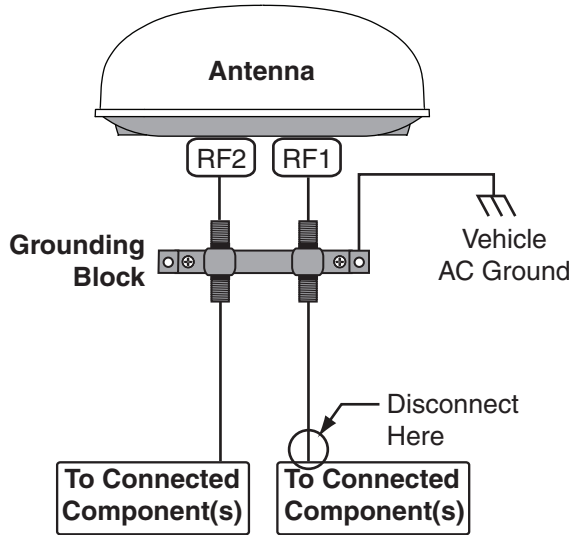
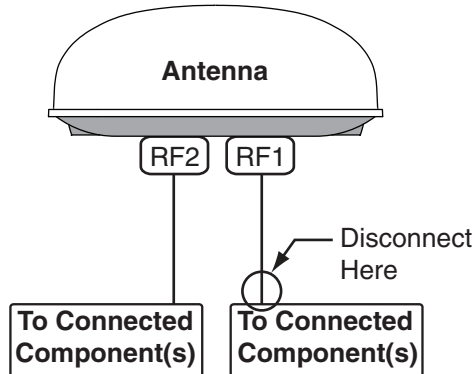


Figure 2 Disconnecting Components without Grounding Block



Upgrading New TracVision Systems

If you are installing the Tri-Sat AutoSwitch Kit as part of a new TracVision system installation, note the following variations to the TracVision Installation Guide.

- Only wire the receivers as specified in these instructions
- Do not mount the switchplate until you have finished installing the Tri-Sat AutoSwitch Kit.
- Be sure to also wire the switchplate as specified in the TracVision Installation Guide.

Step 2 - Connect the Tri-Sat AutoSwitch Kit

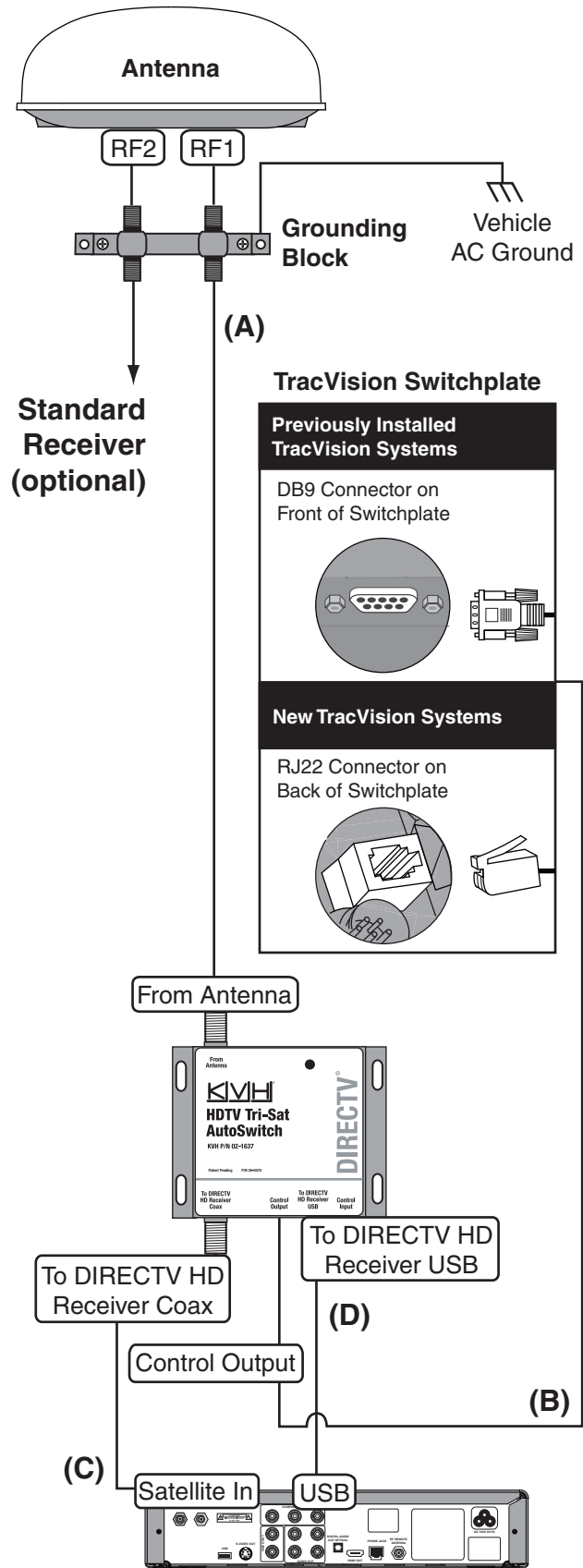
This section explains how to connect the Tri-Sat AutoSwitch Kit and a DIRECTV H21-200 or H20-600 receiver.

NOTE: For information on wiring additional components, refer to the Appendix on page 9.

- Systems with a grounding block** - Connect the RF1 cable (A) from the grounding block's RF1 connection to the "From Antenna" connector on the Tri-Sat AutoSwitch (see Figure 3).

Systems without a grounding block - Connect the antenna's RF1 cable (A) to the "From Antenna" connector on the Tri-Sat AutoSwitch (see Figure 3).

Figure 3 Tri-Sat AutoSwitch Wiring Diagram



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- b. Connect the appropriate data cable (B) for your installation type (see Figure 3 on page 3) from the switchplate to the “Control Output” connector on the Tri-Sat AutoSwitch.

NOTE: Switchplate wiring varies according to installation type. The kit contains multiple data cables to accommodate several TracVision products and configurations. Refer to the Contents List for data cable photos and part numbers.

If you are installing an Tri-Sat AutoSwitch Kit to upgrade a TracVision system that is already installed on a vehicle, be sure to use the RJ22-to-DB9 data cable (KVH Part #32-0916-25) supplied in the kit. You will connect the DB9 end of the cable to the front of the TracVision switchplate (see Figure 3 on page 3).

If you are installing an Tri-Sat AutoSwitch Kit as part of a new TracVision system installation, be sure to use the RJ22-to-RJ22 data cable (KVH Part #32-0724-25) supplied in the kit. You will connect to the RJ22 connector on the back of the TracVision switchplate (see Figure 3 on page 3).

- c. Connect one end of a coaxial cable (C) to the “To DIRECTV HD Receiver Coax” connector on the Tri-Sat AutoSwitch. Connect the other end to the “Satellite In” connector on the DIRECTV H21-200 or H20-600 receiver.
- d. Connect one end of the USB cable (D) to the “To DIRECTV HD Receiver USB” connector on the Tri-Sat AutoSwitch. Connect the other end of the cable to the “USB” connector on the DIRECTV H21-200 or H20-600 receiver.

Receiver Installation

Be sure to follow these guidelines when installing the receiver.

- The Tri-Sat AutoSwitch Kit is compatible only with DIRECTV model H21 receivers that have manufacturer ID 200 and DIRECTV model H20 receivers that have manufacturer ID 600.
- The DIRECTV H21-200 or H20-600 receiver must be configured as an “Oval, 3, LNB” dish type. Refer to the receiver manual for configuration instructions.
- Upon startup, the receiver might take up to 30 minutes or more to fully load the program guide for all three DIRECTV satellites. Be sure to only select channels carried on the 101 satellite until the program guide is fully loaded.

Step 3 - Check for Flash Wizard Updates

You need to check for flash file updates to ensure you have the most current software available (see Figure 4). Follow the Flash Update Wizard’s onscreen instructions to check for updates. This procedure requires a PC with the latest version of the KVH Flash Update Wizard installed and an Internet connection.

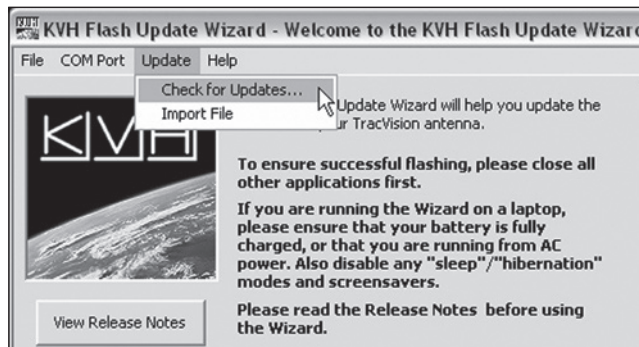
NOTE: Refer to the Flash Update Wizard’s Help file for details on checking for updates.

Step 4 - Flash the Main and RF Boards

Connect a PC to the RF port on your TracVision system, as described in the Flash Update Wizard’s Help file. Then follow the Flash Update Wizard’s onscreen instructions to flash the antenna’s main board and RF board.

NOTE: Refer to the Flash Update Wizard’s Help file for details on flashing the antenna.

Figure 4 Check for Updates Option



Using the Tri-Sat AutoSwitch

This section explains how to operate the TracVision system with the Tri-Sat AutoSwitch installed.

Switching Satellites

When the Tri-Sat AutoSwitch is coupled with a DIRECTV H21-200 or DIRECTV H20-600 receiver, the antenna automatically switches among the Ku-band portion of the DIRECTV 101, 110, and 119 satellites as the user changes channels using the receiver's remote control.

***NOTE:** The receiver might take up to 30 seconds to display video when changing channels, switching between satellites, and/or switching between standard-definition and high-definition channels.*

***TIP:** For your convenience, KVH lists the DIRECTV Ku-band HDTV channels, and the DIRECTV satellites that carry them, on the web at www.kvh.com/HDTV. Since DIRECTV changes its channel lineups frequently, KVH can e-mail updates to you whenever the HDTV lineup changes. Register for this free service when you visit the website for the first time.*

Using the Tri-Sat AutoSwitch Kit with Multiple Receivers

Since the antenna can only track one satellite at a time, all receivers can only view channels carried by the currently tracked satellite. Therefore, switching channels on one Tri-Sat AutoSwitch-equipped receiver might cause televisions connected to other receivers to display different programming, no programming, or an error message. TV viewers can simply change the channel until they select a channel carried by the new satellite, or they can use any Tri-Sat AutoSwitch-equipped receiver to switch back to the original satellite.

NOTE: Only Tri-Sat AutoSwitch-equipped DIRECTV H21-200 and H20-600 receivers control satellite selection. Other receiver models and additional DIRECTV H21-200 and H20-600 receivers without a mated Tri-Sat AutoSwitch cannot control satellite selection, but they can change channels on the currently selected satellite.

Using the Tri-Sat AutoSwitch Kit with Additional Tri-Sat AutoSwitch-equipped DIRECTV H21-200 or H20-600 Receivers

The Tri-Sat AutoSwitch enables automatic satellite switching for one DIRECTV H21-200 or H20-600 receiver. However, when two or more Tri-Sat AutoSwitches are installed, any Tri-Sat AutoSwitch-equipped receiver can control satellite selection. The last Tri-Sat AutoSwitch-equipped receiver to change satellites controls satellite selection until another Tri-Sat AutoSwitch-equipped receiver changes satellites.

Appendix

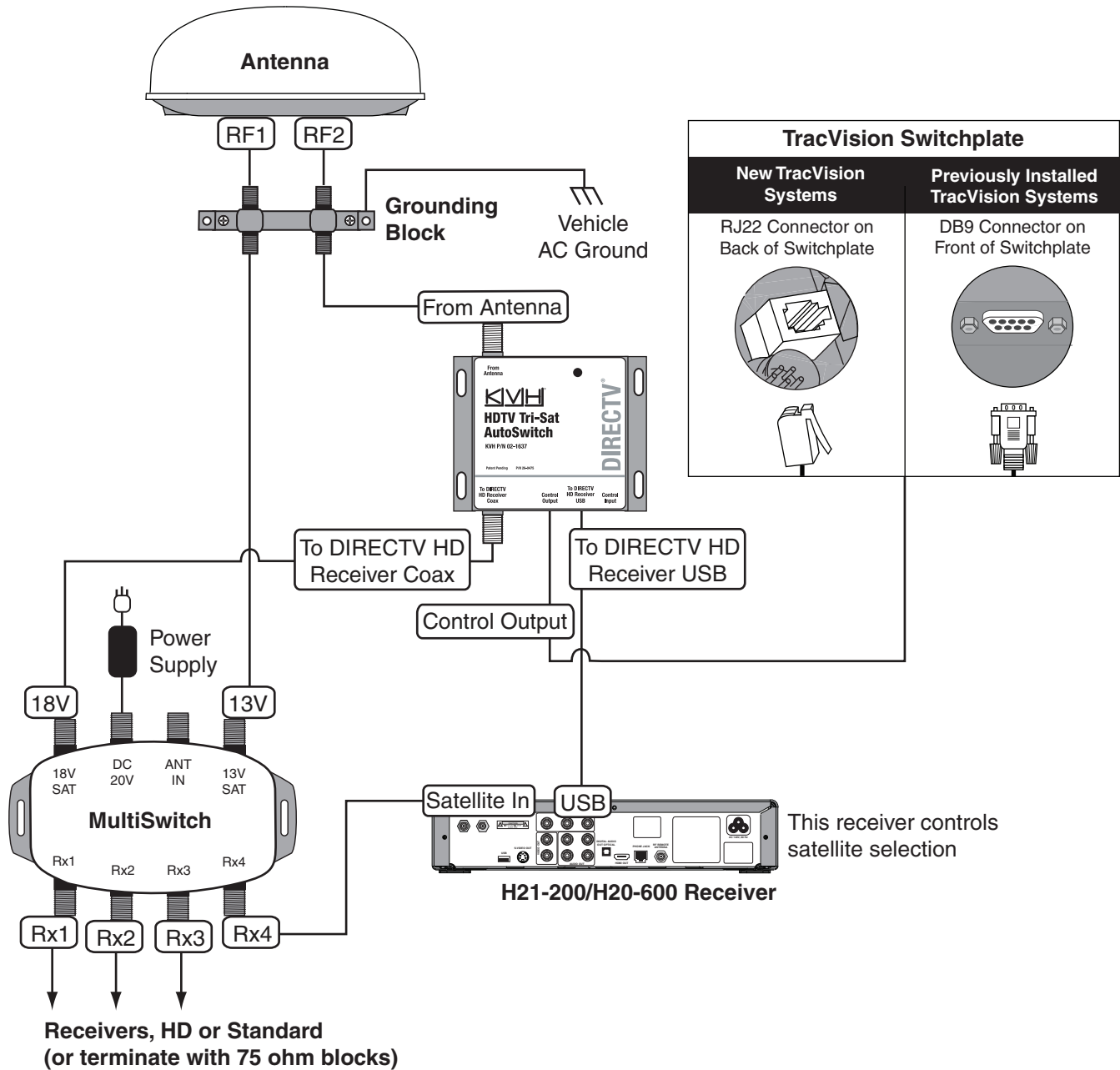
A standard wiring diagram is provided in Figure 3 on page 3. However, if you need to wire additional components, refer to the table below to determine the appropriate wiring diagram for your configuration.

NOTE: *If you need to wire additional components not supported in the following diagrams, please contact KVH Technical Support.*

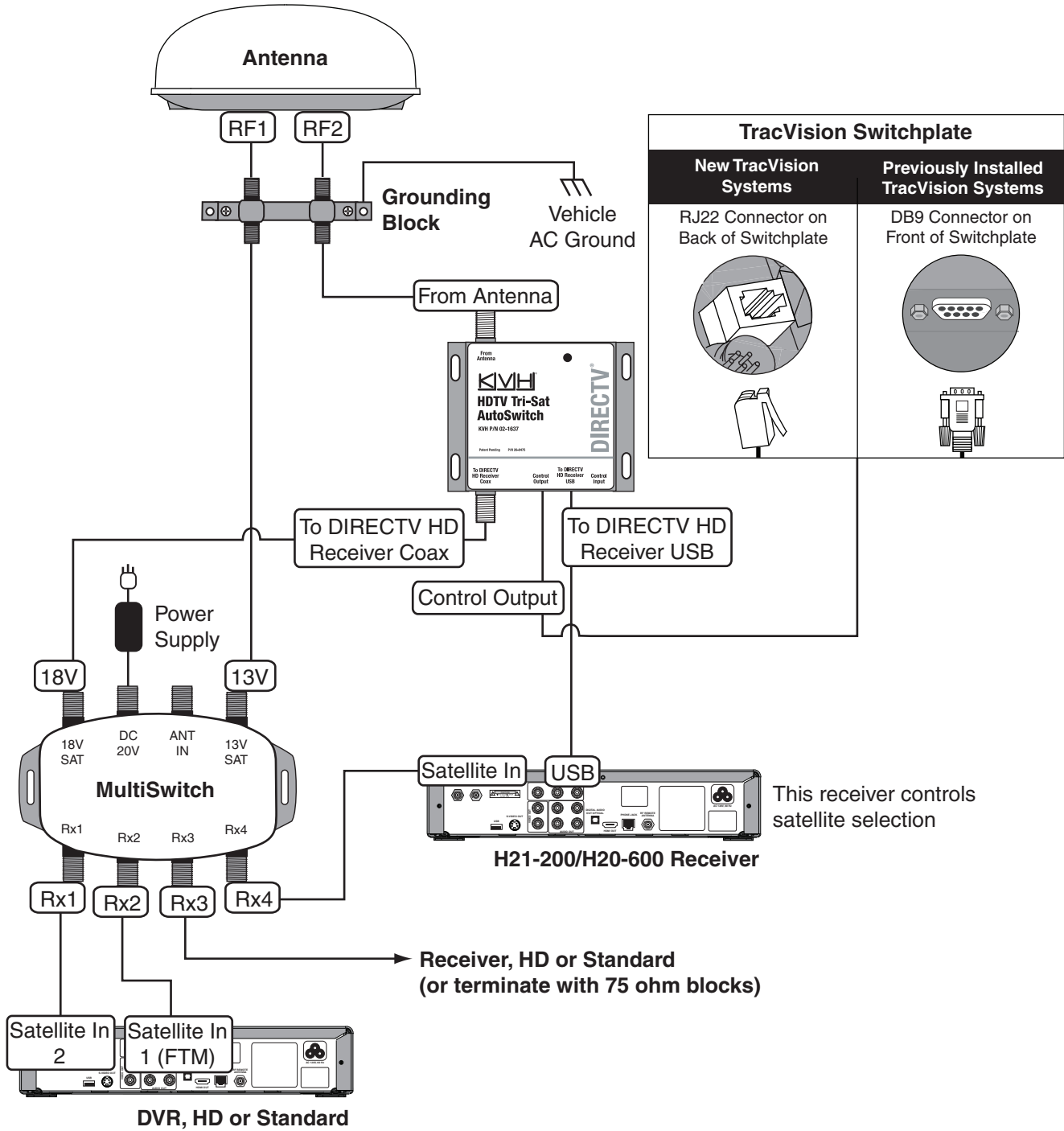
To Install:	Refer to:
Tri-Sat AutoSwitch Kit, 1 DIRECTV H21-200 or H20-600 Receiver, 1 DVR, and 0 or 1 Additional Receivers	Page 10
Tri-Sat AutoSwitch Kit, 1 DIRECTV H21-200 or H20-600 Receiver, and 2 or 3 Additional Receivers	Page 11
Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200 or H20-600 Receivers, and 1 Additional Tri-Sat AutoSwitch	Page 12
Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200 or H20-600 Receivers, 1 Additional Tri-Sat AutoSwitch, and 1 or 2 Additional Receivers	Page 13
Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200 or H20-600 Receivers, 1 Additional Tri-Sat AutoSwitch, and 1 DVR	Page 14

NOTE: *If the TracVision system is not equipped with a grounding block (see Figure 1 and Figure 2 on page 2), simply bypass the grounding block connections shown in the following diagrams when connecting components.*

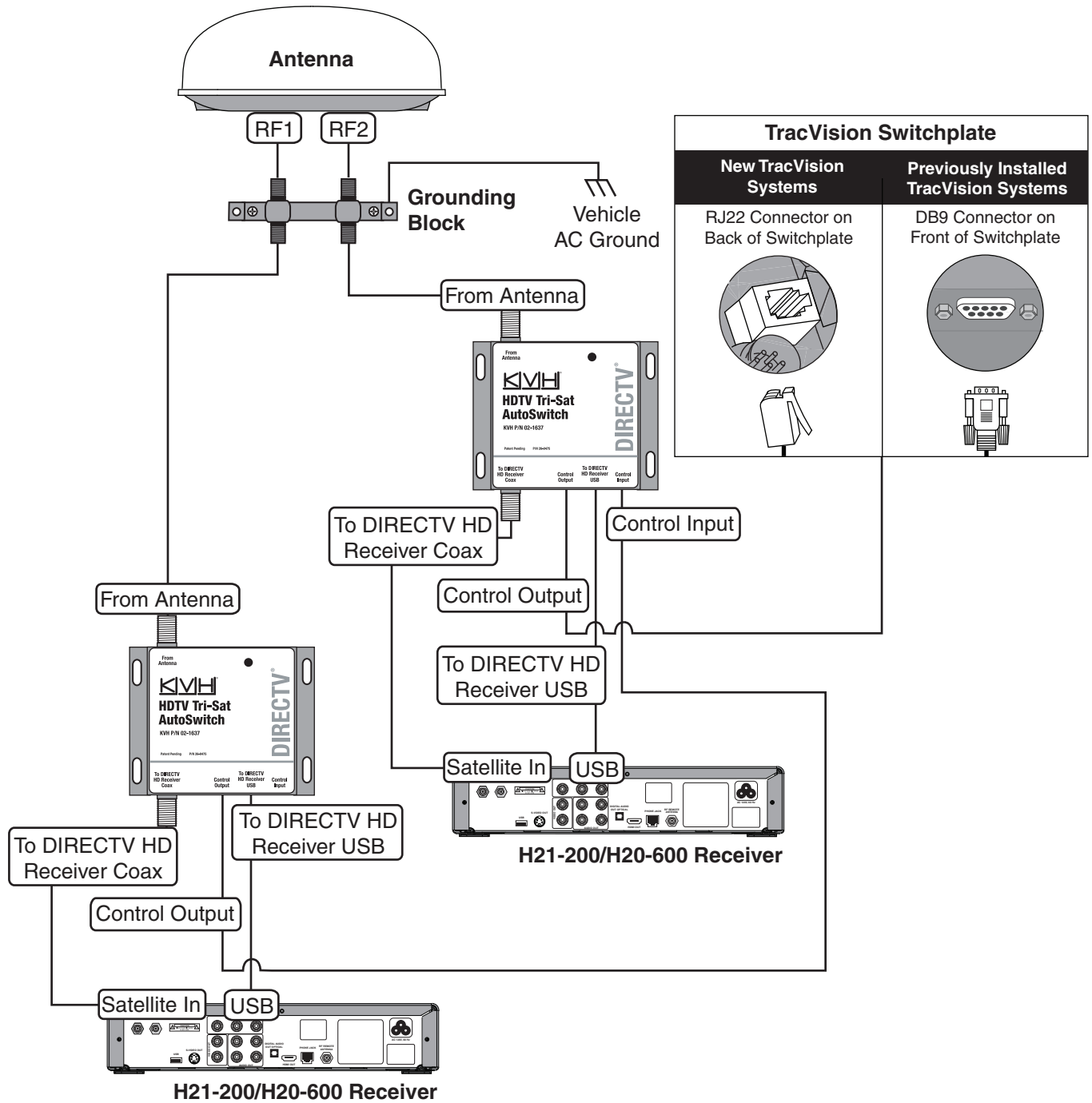
**Tri-Sat AutoSwitch Kit, 1 DIRECTV H21-200/
H20-600 Receiver, and 2 or 3 Additional
Receivers**



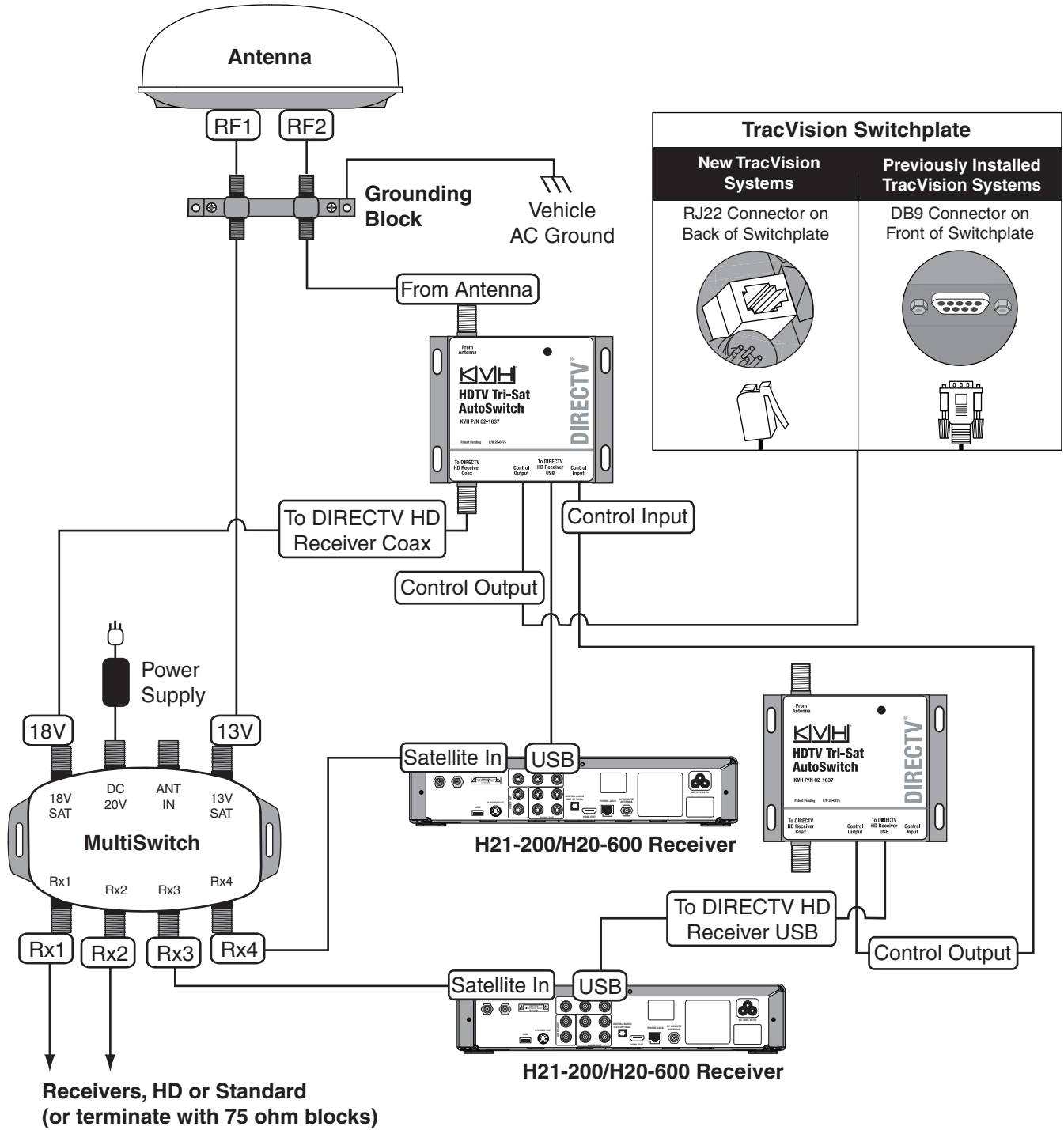
**Tri-Sat AutoSwitch Kit, 1 DIRECTV H21-200/
H20-600 Receiver, 1 DVR, and 0
or 1 Additional Receivers**



Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200/ H20-600 Receivers, and 1 Additional Tri-Sat AutoSwitch



**Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200/
H20-600 Receivers, 1 Additional Tri-Sat
AutoSwitch, and 1 or 2 Additional Receivers**



**Tri-Sat AutoSwitch Kit, 2 DIRECTV H21-200/
H20-600 Receivers, 1 Additional Tri-Sat
AutoSwitch, and 1 DVR**

