

# WINEGARD®

## In-Motion

### Digital Satellite Mobile Antenna for Two Receivers

**Models MV3500T (White Dome)**

**MV3535T (Black Dome)**

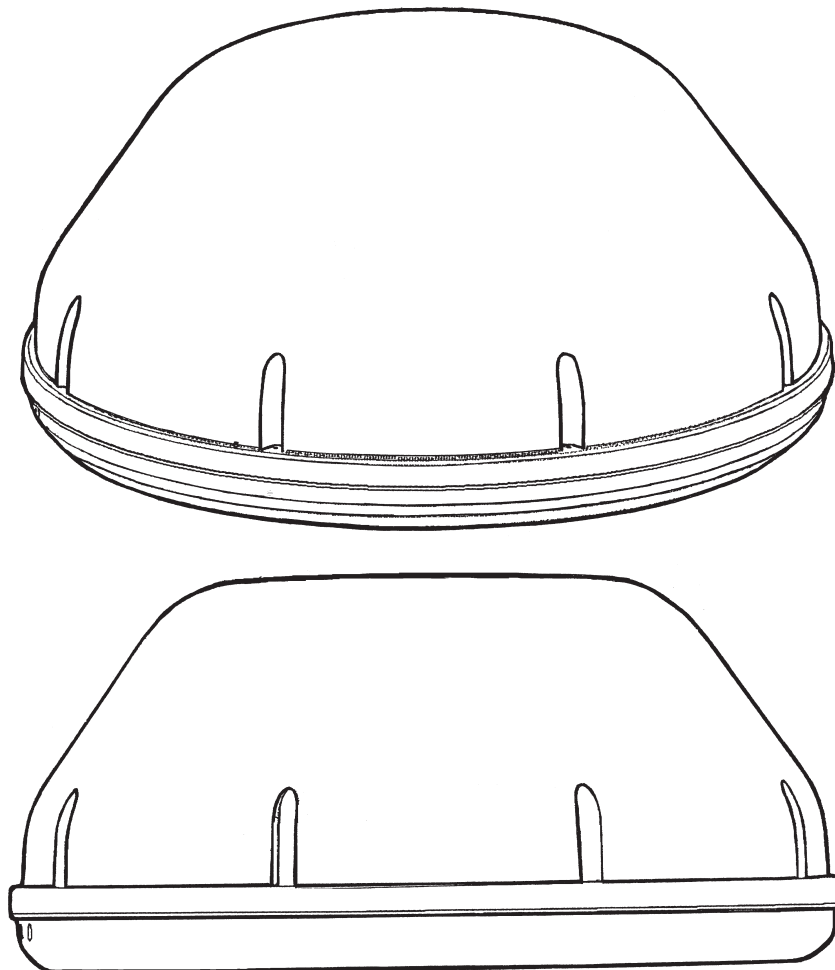
**WI3535T (Black Dome)**

**MVT-35W (White Dome, OEM)**

**MVT-35B (Black Dome, OEM)**

## INSTALLATION MANUAL

Made in the U.S.A. U.S. Patent Nos. 6,023,247; 6,188,300



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Winegard Company • 3000 Kirkwood St. • Burlington, IA 52601-2000  
319/754-0600 • FAX 319/754-0787 • [www.winegard.com](http://www.winegard.com)

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## Parts Included • Tools Needed • How to Unpack

*The Winegard MV3500T is designed specifically for use with motorized recreational vehicles. Winegard recommends using a qualified installer familiar with RV structure and wiring to ensure proper installation and to prevent damage to RV or dish.*

### **PARTS INCLUDED:**

1 Radome  
1 Power switch  
1 Wall plate (white)  
1 Surface mount box  
1 Cable entry plate  
3 Base feet  
large yellow flag connector  
2 small red flag connectors

All required screws, washers, bolts, and nylocks  
1 base with electronics, dish, dual LNBF  
Silicone sealant  
Surface Wipes  
30' Coax Cable  
30' Power Cable

### **TOOLS NEEDED FOR UNPACKING & INSTALLATION:**

Level  
Drill w/3/4" bit  
1-1/4" hole saw (if mounting switch in wall)  
Phillips screw driver #2

3/8" Open end wrench  
7/16" Open end wrench  
Sealant (consult RV manufacturer for proper type for your roof material)

### **UNPACKING THE UNIT**

1. Open box and remove packing material.



If using knife to open carton, **BE CAREFUL**. Do not cut the dome on the unit.



**BE CAREFUL** when removing unit. Dome is attached to base by only 3 pieces of tape, **NOT BY SCREWS**.

2. Lift dome out of box vertically. Then lift unit out of box vertically. **Do not turn box and "roll" out, or turn upside down to remove.**

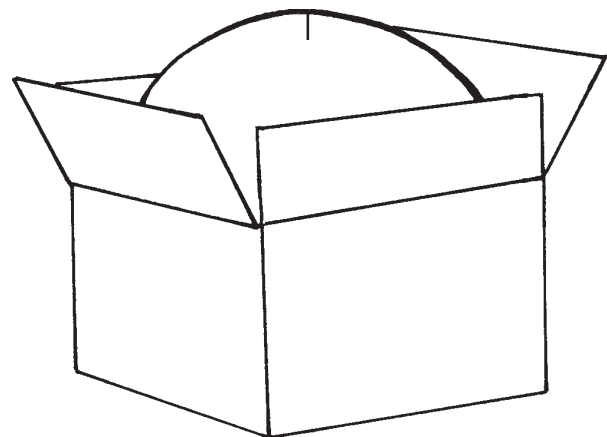


**USE 2 PEOPLE** when removing the unit from the carton.

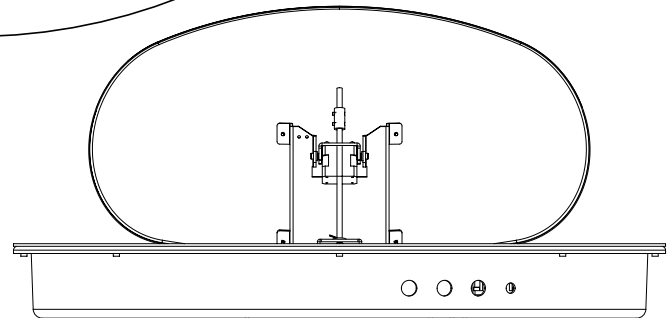
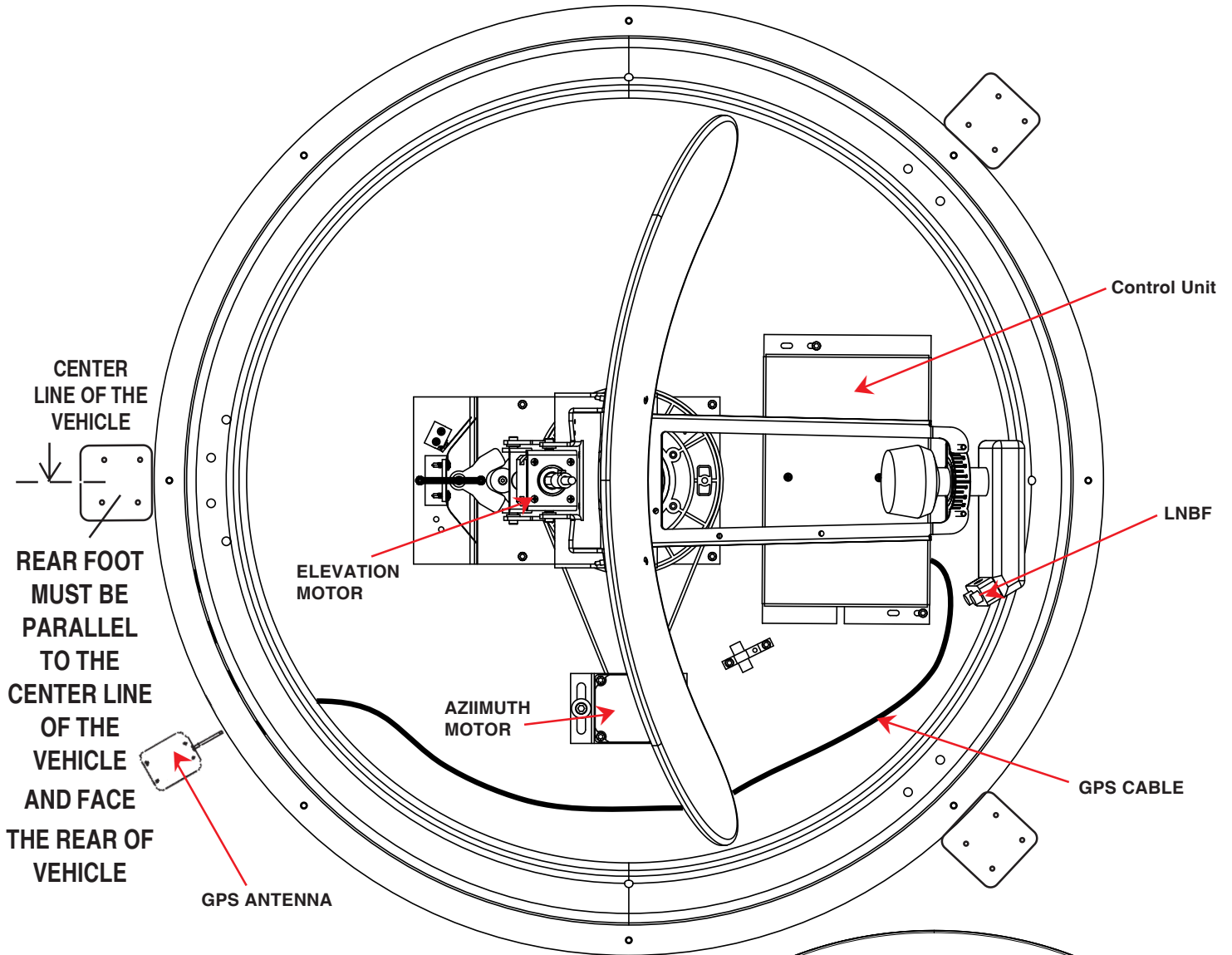


**DO NOT PAINT DOME!** Painting dome will cause signal degradation.

**LIFT UNIT STRAIGHT UP  
OUT OF CARTON!**



# Installation Diagram



Control Box detail

**Model MV3500T**

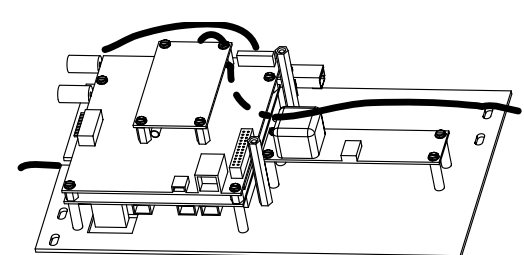
(#1 represents Switch DOWN; #0 represents Switch up)

Sat. Rcvr.	Switch Set Position												
	1	2	3	4	5	6	7	8					
DISH NETWORK .....	0	..	0	..	0	..	1	..	0	..	1	..	1
DIRECTV .....	0	..	0	..	0	..	0	..	0	..	0	..	1
(FACTORY PRESET)													
ExpressVu .....	0	..	1	..	0	..	1	..	1	..	0	..	1

P4 ELEVATION      P3 AZIMUTH

RECEIVER

LNBF



ELECTRONICS INTERIOR VIEW

# Quick Reference Guide

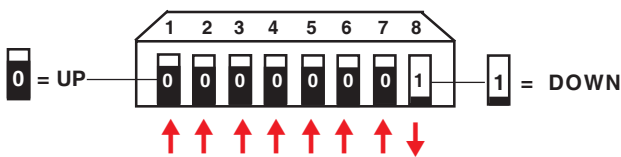
## NOTICE!

This model is PRESET for DIRECTV® receivers.

If you have a DISH Network® or ExpressVu® (Canada) receiver, you must change the numbered switches inside the dome.

### TO CHANGE SWITCHES INSIDE DOME —

1. Remove screws holding dome to base and remove dome. Place dome in safe spot to avoid damage. Switches will be set at 101° for DIRECTV®. You may be changing these switches.



Sat. Rcvr.	Mt. Option	Switch Set Position							
DIRECTV (FACTORY PRESET)	1	2	3	4	5	6	7	8	
	0	0	0	0	0	0	0	1	
DISH NETWORK	0	0	0	1	0	0	1	1	
ExpressVu	0	1	0	1	1	0	1	1	

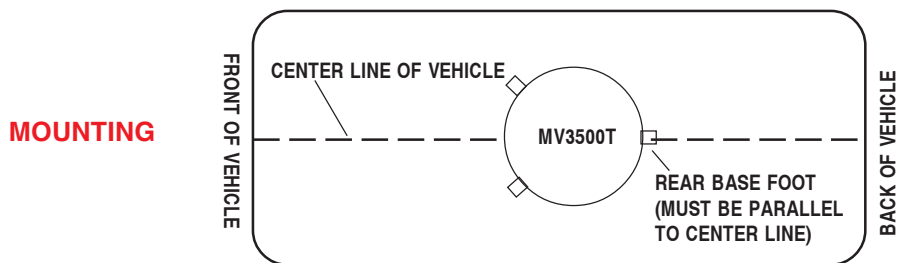
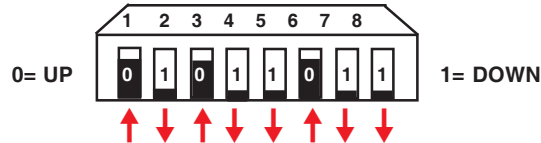
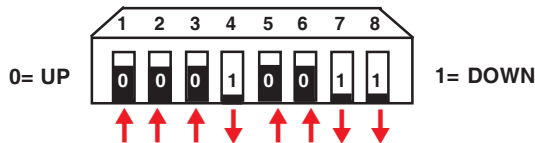
**SWITCH SETTINGS SHOWN BELOW**

0= UP 1= DOWN

2. Determine which programming you will be using. This will determine how you set your switches.

For **DISH Network** set switches to 119°.

For **ExpressVu** set switches to 091°.



**Rear foot MUST be mounted towards BACK of vehicle and PARALLEL to center line. Failure to do so may cause unexpected operation!**

**DirecTV**® receivers must be set to the two satellite, oval dish setting. Refer to your receiver manual.

**DISH Network** receivers must either have the check switch set for SW42 or unknown, no satellite found. See page 5 in *Operation Manual*.

The satellite system has two modes of operation; **Tracking Mode** and **Sleep Mode**. When you first turn the unit on, it enters **Tracking Mode**. In this mode the unit will search and actively follow the satellite as the vehicle travels. Tracking mode ends when the unit has successfully finished its search and the vehicle has not moved for six minutes.

**Sleep Mode**, this is the unit at rest mode. During Sleep mode the dish will toggle between primary and secondary satellites as you change channels with the remote. The unit enters Sleep mode about six minutes after a successful search if stationary, or six minutes after the vehicle stops moving.

## Installing unit on roof of vehicle —

Install in DRY conditions only!



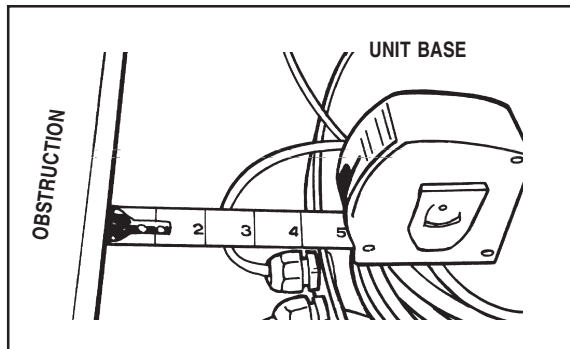
**IMPORTANT! Do not install this system in the rain, or under any wet conditions.** Moisture may affect electronics and void your warranty!

1. For best performance and to reduce signal acquisition time, park vehicle on a level surface; level the RV.
2. Select a level spot on your roof for installation.

Using the chart, determine the **minimum** distances to other equipment.

Obstruction Ht.	Unit Clearance
8"	4"
10"	11.5"
12"	19"
15"	32"

FIGURE 3



**WARNING:** Level the base front to back and side to side. If base is not level the MV3500T may require more time to locate the correct satellite or may not locate the correct satellite.

- Be sure no roof-mounted equipment is blocking the satellite "line of sight", Fig. 3
- You will need to decide where the wires will enter the vehicle. A coax and a power wire (minimum 16 gauge) will need to be run into the vehicle.

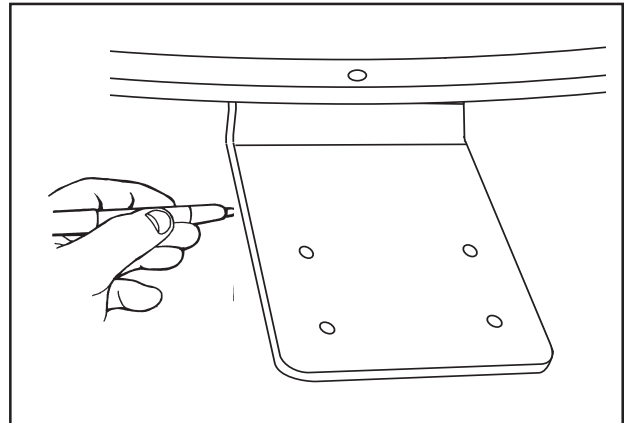
**WARNING:** Many +12VDC sources can cause the unit to fail. Select a filtered source, preferably a dedicated line to the battery.

3. Remove dome. Place dome in safe spot to avoid damage. Place base on vehicle roof in the location selected.
4. Attach each mounting foot to base by securing with two 7/16" nylocks.
5. After selecting location for unit (see number 2), put the unit on the centerline of the vehicle.

**REAR MOUNTING FOOT MUST BE PARALLEL WITH THE CENTER LINE OF VEHICLE.** See pg. 4.

7. Place the unit on the roof in its permanent location and mark around each base foot, Figure 4. (Make sure the **rear base foot is PARALLEL to the center line of the coach and FACING towards BACK of vehicle!**) See pg. 2.

FIGURE 4

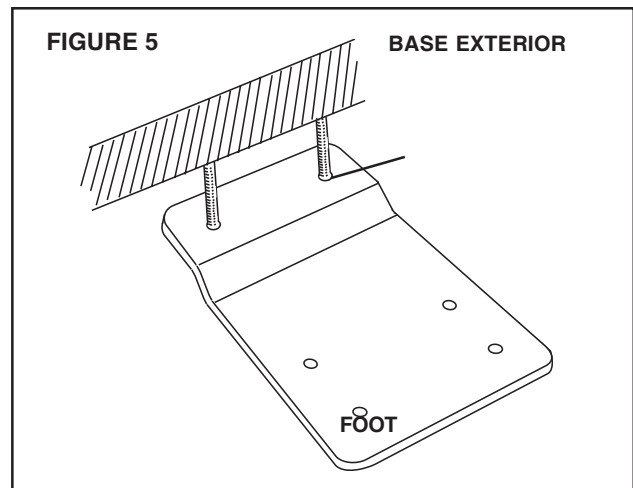


8. Clean roof area where the base feet will be attached to the roof. Do not erase your marks!

9. Put approved sealant in the areas marked for the base feet. Place base feet on top of the sealant and screw down with the (4) #10 screws (provided) for each foot.

10. After all base feet are secured to roof, put sealant around edge of feet and over screws. Replace base on screws and reinstall nut.

FIGURE 5 BASE EXTERIOR



# Installation

## GPS installation —

10. The GPS antenna is pre-wired and has a 1 meter cable running through one of the connectors.

Determine location for GPS antenna. It is recommended you place the GPS antenna 3 feet from dome and away from any other obstruction.

The recommended location for the GPS antenna is based on having a level location and a clear view of the sky for the best satellite signal acquisition. Do not secure GPS antenna to roof at this time.

**IMPORTANT!** The GPS must be located minimum of 3 feet away from obstructions on roof of vehicle. **Antenna must have a clear view of the sky for proper operation.**



**NICKS OR CUTS IN WIRING JACKET MAY CAUSE WATER TO LEAK INTO VEHICLE.**

## Cable entry installation —

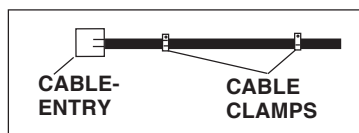
1. Decide the best **location for the cables** to enter the vehicle, *and* the **location of the power switch and receiver** (see “Installing the switch and receiver” on pages 9 and 10). Drill a 1/2” hole in the roof, push wires inside. Make proper connections.

**You must have filtered +12 VDC power source.**

2. Place cable-entry plate over hole and cables. Screw in place. Seal plate and screw holes with approved sealant (not included).

3. Depending on the length of the cable on the roof, you may need to use cable clamps or wire ties (not provided) between the unit and your cable-entry plate. Clamping the cable every 12”-16” should eliminate any unnecessary cable movement, Figure 6.

FIGURE 6

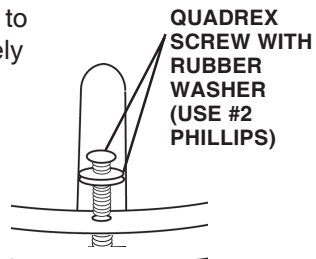


## INSTALLING THE DOME



**BEFORE INSTALLING THE DOME, verify that switches are set to your satellite provider. (See page 2.)**

Insert screw in holes on dome rim. Be sure bolt is vertical; not tilted to side. Tighten to 20 in.-lb., or approximately until washer is visible around screw head.



**CAUTION:**  
**DO NOT**  
**OVERTIGHTEN!!**

## INSTALLING THE POWER SWITCH

1. Choose a location to install the MV3500T power ON/OFF switch. Remember when selecting a location that you will need to run the +12VDC power cable from the MV3500T to the switch. **Be sure the switch is in the OFF position before continuing.** See Figure 7 page 9.

**Wall or panel mount:** Drill 1-1/4” hole, pull wires through wall or panel.

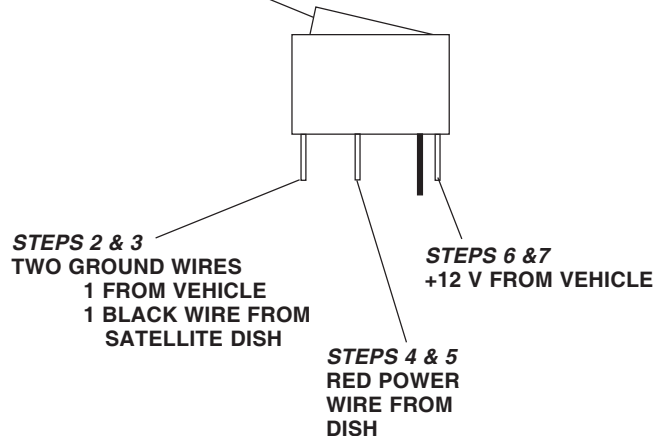
**Surface mount:** Determine location and direction of box. Mount box and feed wire into one of the box openings. Snap the rocker switch into the switch plate. **Be sure switch is off!**

2. Connect the ground wire from the vehicle and the BLACK ground wire from the MV3500T together, using large yellow flag connector.
3. Connect the YELLOW flag connector to the silver spade on the switch.
4. Connect the RED wire from the MV unit to the small RED flag connector.
5. Connect small RED flag connector to center spade on switch.
6. Connect the +12 V power wire from the vehicle to a small RED flag connector.
7. Connect small RED flag connect to isolated spade on switch.

## INSTALLING THE POWER SWITCH DIAGRAM

FIGURE 7

ON/OFF ROCKER SWITCH WITH LIGHT  
(Shown in OFF position.)



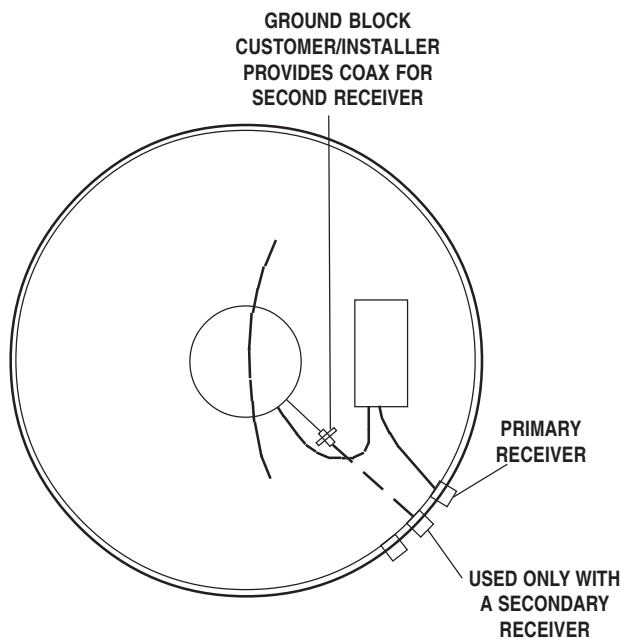
## Connecting the receiver —

### Connecting one receiver

1. Connect the coax cable from the MV3500T to the “SATELLITE IN” on the receiver.
2. See page 5 of *Operations Manual* for receiver set-up.

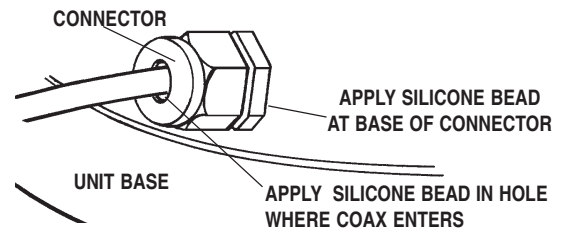
### Connecting two receivers

1. Connect the coax cable coming from the MV3500T to the “SATELLITE IN” input on the primary receiver. The primary receiver is the receiver used most often and will toggle between satellites.
2. Run a second cable through the empty Heyco opening and connect to the ground block-type feed through and connect the other end of this cable to “Satellite IN” input on the second receiver. **NOTE: Secondary receiver will not toggle.**
3. See page 5 of *Operations Manual* for receiver set-up.



## Initializing & replacing the dome after connecting the receiver(s) —

1. Be sure vehicle is in a location free of all obstructions and with a clear view of the southern sky.
2. **DO NOT MOVE VEHICLE** during the first initialization. Power up unit, turn on receiver. **FOR THE FIRST TIME ONLY**, the unit may take up to 10 minutes to initially find the satellite signal. The GPS is also initializing at this time. After the GPS initializes, the unit will begin searching for the correct satellite.
3. **If the GPS does not initialize at this time**, turn off the unit. You may need to move the GPS antenna to a different location on your roof. After you move the GPS, **DO NOT SECURE TO ROOF**.
4. **TEST YOUR SYSTEM BEFORE SECURING THE GPS ANTENNA.** Make sure the TV/receiver has found the correct satellite.
5. After the correct satellite has been found, **secure GPS antenna by removing adhesive backing and securing to roof.**



## To toggle between satellites when subscribing to multi-satellite programming—

The MV3500T will toggle between the primary and secondary satellites for either DISH Network or DIRECTV. Both have programming on more than one satellite. When a channel is selected on the remote control and is not on the satellite currently selected, the unit will automatically toggle to the correct satellite.

### DIRECTV programming

1. DIRECTV receivers must be set for oval dish 2 sat selection to enable toggling between primary 101°W satellite and alternate 119°W satellite only. (Consult receiver manual for procedure.) After receiver is set for the correct dish selection, when you request a channel located on a different satellite, the unit will automatically toggle to that satellite.

### DISH Network programming (DISH 500)

DISH Network receivers must have the “SW42” switch installed in order to toggle between the primary 119° satellite and the alternate 110° satellite. (Consult your receiver manual for the procedure to reach the “check switch” menu.)

#### To install the “SW42” switch:

1. Before turning on your MV3500T system, make sure that your satellite receiver and television are turned on and your receiver is on the “point dish” menu. (Consult your owner’s manual to reach this menu.)
2. While the vehicle is stationary, turn on the MV3500T system and wait for signal acquisition on satellite 119°.
3. After signal is acquired, the system will continuously track the signal for approximately six minutes. At the end of six minutes, the unit will enter sleep mode. You now have six minutes to complete Check Switch test. Consult your receiver manual for instructions on running the test. Be sure that Superdish and Alternate are unchecked if applicable. Onscreen options may vary by receiver.
4. During the Check Switch Test, the receiver will begin checking the switch by toggling between satellites. When this is completed, SW42 will appear on the screen. It will be at the top of the screen, satellite designations will be below, showing odd and even transponders. See illustration.

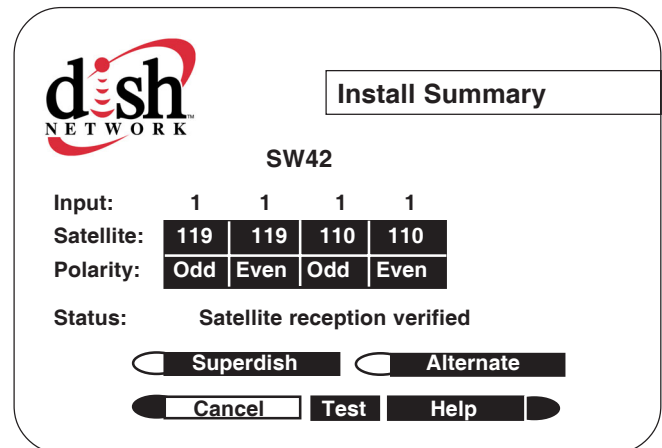
If a switch other than SW42 appears, or you have an X in one of the boxes below the satellites, repeat Check Switch Steps.

5. Your system is now set up to toggle between satellites. It will automatically move to the correct satellite when a channel is selected with your remote control.

**NOTE:** Once these steps are completed, you won’t have to perform this test again, unless Check Switch was performed on another satellite dish, such as a home dish.



**Toggle:** Your Winegard automatic satellite dish will move from the primary to the alternate satellite in order to receive multi-satellite programming.



Check Switch screen display

**NOTE:** Be sure the “Superdish” and “Alternate” boxes ARE NOT checked.



## PROBLEM

## SOLUTION

The MV3500T does not attempt to find a satellite or it never moves.

1. Check your Power switch to verify that it is in the **ON** position.
2. Check +12 V wires at unit to verify power. Check fuse on electronics.

The dish never stops on any of the signals that it sees.

1. Make sure that your receiver is set up correctly.  
For DISH Network, the check switch should read either "**Unknown**" or "**SW42**".  
For DirecTV the receiver should be set for a **Two Satellite Oval Dish**.

With DIRECTV, the dish will find the alternate satellite but it never finds the primary satellite.

Make sure that the Switches on the Electronics Control Box are set for DirecTV. See page 3. These switches are found under the dome, inside the Electronics Control Box.

I am not getting all the DISH Network channels I subscribed to.

1. Go to the check switch menu in receiver. Make sure that it's set for SW42 and lists both even and odd transponders on satellites 110° and 119°.

The MV3500T never sees any signals, it just keeps searching.

1. Rain, Snow or excessive Dew on the dome can interrupt the signal. Snow and Dew can be brushed off the dome. If Heavy rain or Snow fall is blocking the signal, it may be necessary to wait until the weather clears.
2. Check to see if the Southern sky is clear. Trees, Buildings, Large signs or an Overpass can block the signal. Find an area where you can be sure that this is not the problem and try again.
3. Make sure the receiver has power and the satellite dish is connected to the "Sat In".

I have switched satellite service providers. How do I set my dish for my new provider?

You will need to remove the dome, and set switches to correct provider. See page 4.

## **Features and specifications**

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- One button operation.
- Dual receiver capable.
- Depending on receiver type, you can access satellites 119°, 110°, 101° or 92°.
- No user input required.
- No data port required for DISH Network®, DIRECTV® or ExpressVu.
- Elevation range 20° to 74.5°; azimuth +360° (0-720°)
- 30' power cable and 30' coaxial cable included.
- Dome UV protected.
- Compact size —  
32" diameter, 15-3/4" height  
Weight of unit - 28 lbs.  
Shipping weight - 41 lbs.

- Operating temperature  
-13°F to +140°F
- Specifications for max amperage 3.0A
- Specifications for unit operating voltage. -10.5 - 13.8V
- Specifications for supply voltage. 12 - 13.8V

Winegard supplies 30' of 16 AWG wire for connecting the unit. When making connections or adding wire, Winegard recommends using 16 AWG stranded wire or larger for connection up to 60 feet. When making connections longer than 60 feet, insure that specifications for unit operating voltage are met by measuring voltage at the unit.



**WINEGARD MOBILE PRODUCTS LIMITED WARRANTY  
(2 YEARS PARTS; 1 YEAR LABOR)**

Winegard Company warrants this product against defects in materials or workmanship for a period of two (2) years from the date of original purchase. During year one (1) of such warranty, Winegard Company will also pay authorized labor costs to an authorized Winegard dealer to repair or replace defective products. No warranty claim will be honored unless at the time the claim is made, Customer presents proof of purchase to an authorized Winegard dealer (to locate the nearest authorized Winegard dealer, contact Winegard Company, 3000 Kirkwood Street, Burlington, Iowa 52601, Telephone 319-754-0600 or visit [www.winegard.com](http://www.winegard.com)). Customer must provide proof of purchase with a dated sales receipt for the Winegard product to verify the product is under warranty. If the date of purchase cannot be verified, the warranty period shall be considered to begin thirty (30) days after the date of manufacture.

If a defect in material or workmanship is discovered, Customer may take the product to an authorized Winegard dealer for service. Customer must provide proof of purchase to verify the product is under warranty. If the product is brought to an authorized Winegard dealer for service prior to expiration of year one (1) of the warranty period and a defect in material or workmanship is verified by Winegard Technical Services, Winegard Company will cover the Winegard dealer's labor charges for warranty service. The Winegard dealer must contact Winegard Technical Services in advance for pre-approval of the service. Approval of the service is at the sole discretion of Winegard Company.

Alternatively, Customer may ship the product prepaid to Winegard Technical Services (located at 3000 Kirkwood Street, Burlington, Iowa 52601, Telephone 319-754-0600). Customer must return the product along with a brief description of the problem and provide Winegard Technical Services with Customer's name, address, and phone number. Customer must also provide proof of purchase to verify the product is under warranty. If the product is returned before the expiration of the warranty period, Winegard Company will (at its option) either repair or replace the product.

This Limited Warranty does not apply if the product has been damaged, deteriorates, malfunctions or fails from: improper installation, misuse, abuse, neglect, accident, tampering, modification of the product as originally manufactured by Winegard in any manner whatsoever, removing or defacing any serial number, usage not in accordance with product instructions or acts of nature such as damage caused by wind, lightning, ice or corrosive environments such as salt spray and acid rain.

**RETURN AUTHORIZATION POLICY**

A Return Material Authorization (RMA) is required prior to returning any product to Winegard Company or Winegard Warranty Services under this warranty policy. Please call our Technical Services Department at (800) 788-4417 or send an e-mail to [warranty@winegard.com](mailto:warranty@winegard.com) to obtain the RMA number. Please furnish the date of purchase when requesting an RMA number. Enclose the product in a prepaid package and write the RMA number in large, clear letters on the outside of the package. To avoid confusion or misunderstanding, a shipment(s) without an RMA number(s) or an unauthorized return(s) will be refused and returned to Customer freight collect.

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In states that do not allow limitations on implied warranties, or the exclusion of limitation of incidental or consequential damages, the above limitations or exclusions do not apply.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion of limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives Customer specific legal rights. Customer may also have other rights that may vary from state to state.

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