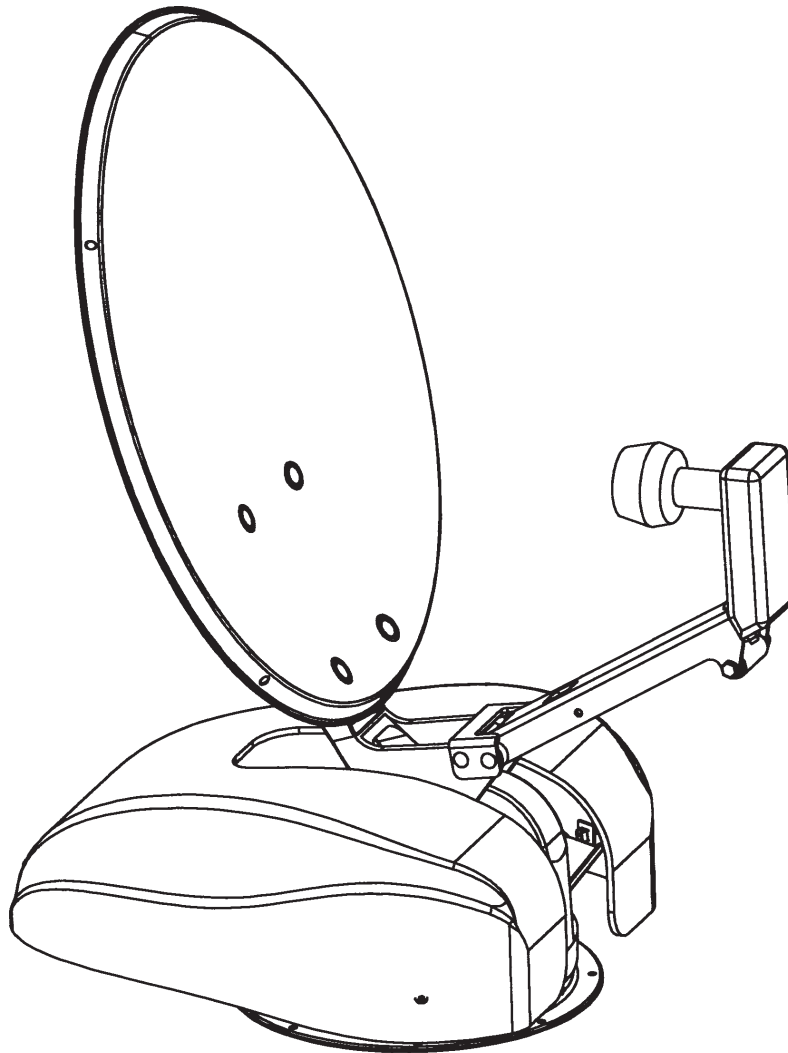


INSTALLATION/OPERATION MANUAL WINEGARD® AUTOMATIC RV DIGITAL SATELLITE SYSTEM

Model RM-9946 & RM-9947

U.S. PATENT NO. 5,532,710

Made in U.S.A.



FOR SLOPED ROOFS:


Use Winegard's RW-5000 roof wedge.

FOR MULTIPLE RECEIVER INSTALLATIONS:

Dual LNBF is required, see page 16.

IMPORTANT SAFEGUARDS

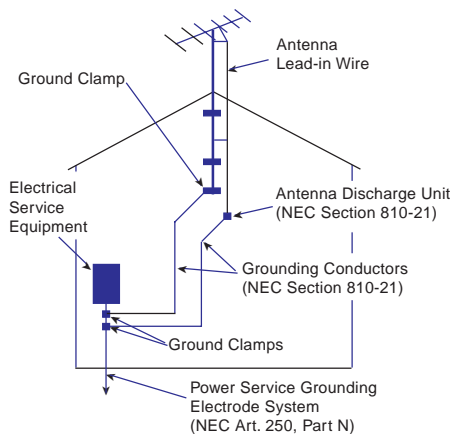
**WARNING: TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK,
DO NOT EXPOSE TO RAIN OR MOISTURE.
(Not applicable to mount and antenna)**

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN		Dangerous voltage inside enclosure Refer to operating, maintenance and safeguard literature accompanying unit.
CAUTION: TO REDUCE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER, NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL		

1. All the safety and operating instructions should be read before the appliance is operated.
2. The safety and operating instructions should be retained for future reference.
3. All warnings on the appliance and in the operating instructions should be adhered to.
4. All operating and use instructions should be followed.
5. Unplug this video or audio product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
7. Do not use this video product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. If slots, holes and openings are located in the housing, they are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating. These openings should never be covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. This video product should be operated only from the type of power source indicated in electrical rating printed on the appliance or power supply.
- 10A. If the appliance is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other) this plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 10B. If the appliance is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
11. Power-supply cord should be routed so that it is not likely to be walked on or pinched by items placed upon or against it, paying particular

- attention to cord at plug, convenience receptacle and the point where cord exits from the appliance.
12. If an outside antenna or cable system is connected to this video product, be sure system is grounded so as to provide some protection against voltage surges and built-up static charges. Proper method is shown below.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



NEC - NATIONAL ELECTRICAL CODE

13. An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
14. For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system.
15. Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
16. Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

17. Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
18. Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the video product.
 - c. If the video product, except for antenna mounted preamplifiers and downconverters, has been exposed to rain or water.
 - d. If the video product does not operate normally by following the operating instructions. Adjust only those controls, when provided, that are covered by the operating instructions. An improper adjustment of other controls may result in damage that will often require extensive work by a qualified technician to restore the video product to its normal operation.
 - e. If the video product has been dropped or the housing has been damaged.
 - f. When the video product exhibits a distinct change in performance - this indicates a need for service.
19. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Improper substitutions may result in fire, electric shock or other hazards.
20. Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.
21. Note to CATV system installer: This reminder is provided to call the CATV system installer's attention to Art. 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.
22. This product should be mounted to a wall or ceiling only as recommended by the manufacturer.
23. The product should be situated away from heat sources such as radiators, heat registers, stoves or other products (including amplifiers) that produce heat.

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Parts included:

18 "Reflector
Backup structure
Mount base/turret
Mount cover & bracket
Vent tube
Cable entry plate
Hardware
Cable
Interior wall plate controller
Surface mount box

Tools needed for installation:

Level
Tape measure
Phillips screwdriver
Electrical tape
Cutter
Electric or cordless drill
1/8" drill bit (for pilot holes)
7/16" wrench (for dish assembly)
5/16" socket/nut driver
1-1/2" hole saw (cable entry hole)
Sealant compatible with roof material (check with your vehicle manufacturer for compatibility)

FCC PART 15 STATEMENTS

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Any changes or modifications to this equipment not expressly approved by Winegard Company may void the user's authority to operate this equipment.

Introduction/How Does Digital Satellite TV Work?

Introduction

Congratulations! You have an RV automated digital satellite reception product — RM-9946. This system, used with your digital satellite receiver, will deliver the best reception possible. Your new Winegard digital satellite system was designed for ease of installation, setup and operation.

How Does Digital Satellite System TV Work?

Satellite programming originates from an “uplink” facility on Earth — the facility receives many signals from different sources, combines the signals digitally and transmits to the satellites. The satellites (22,300 miles above Earth) receive the uplink signal, amplify it and then transmit it back to earth in the Ku frequency band. This signal is received by your satellite antenna whose shape reflects and concentrates the signal to the LNBF* attached to the antenna. The LNBF is located at the “focal point” of signal reflection, that is, the point at which the maximum amount of signal is effectively concentrated. The LNBF amplifies and converts the signal to the 950 to 1450 MHz range. The signal is then passed through a coaxial cable to the electronics box, then to the receiver where individual channel selection and processing take place.

* Low Noise Block Converter Feed

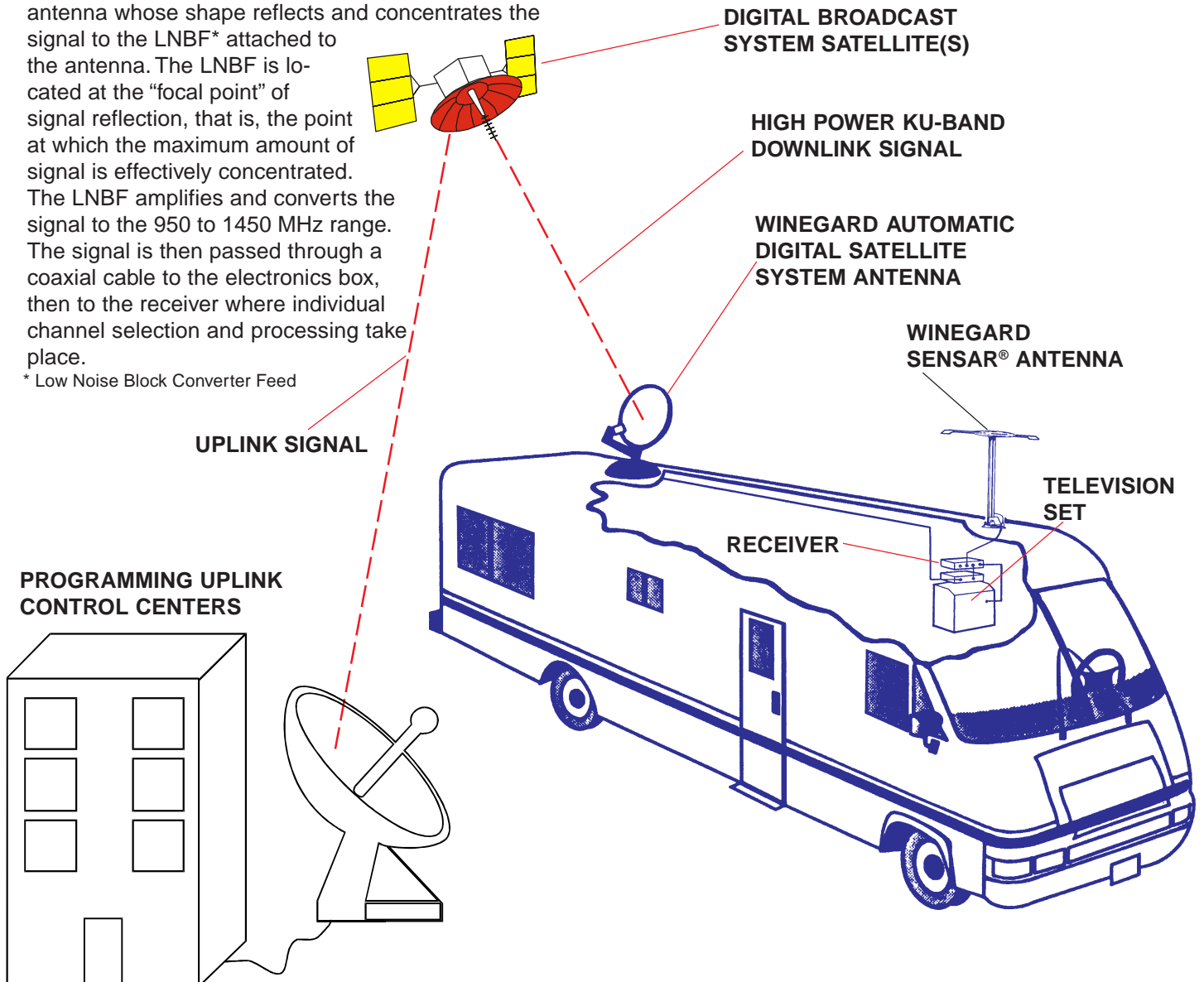
For Programming information call:

DISH NETWORK™ - 1-800-333-DISH (1-800-333-3474)

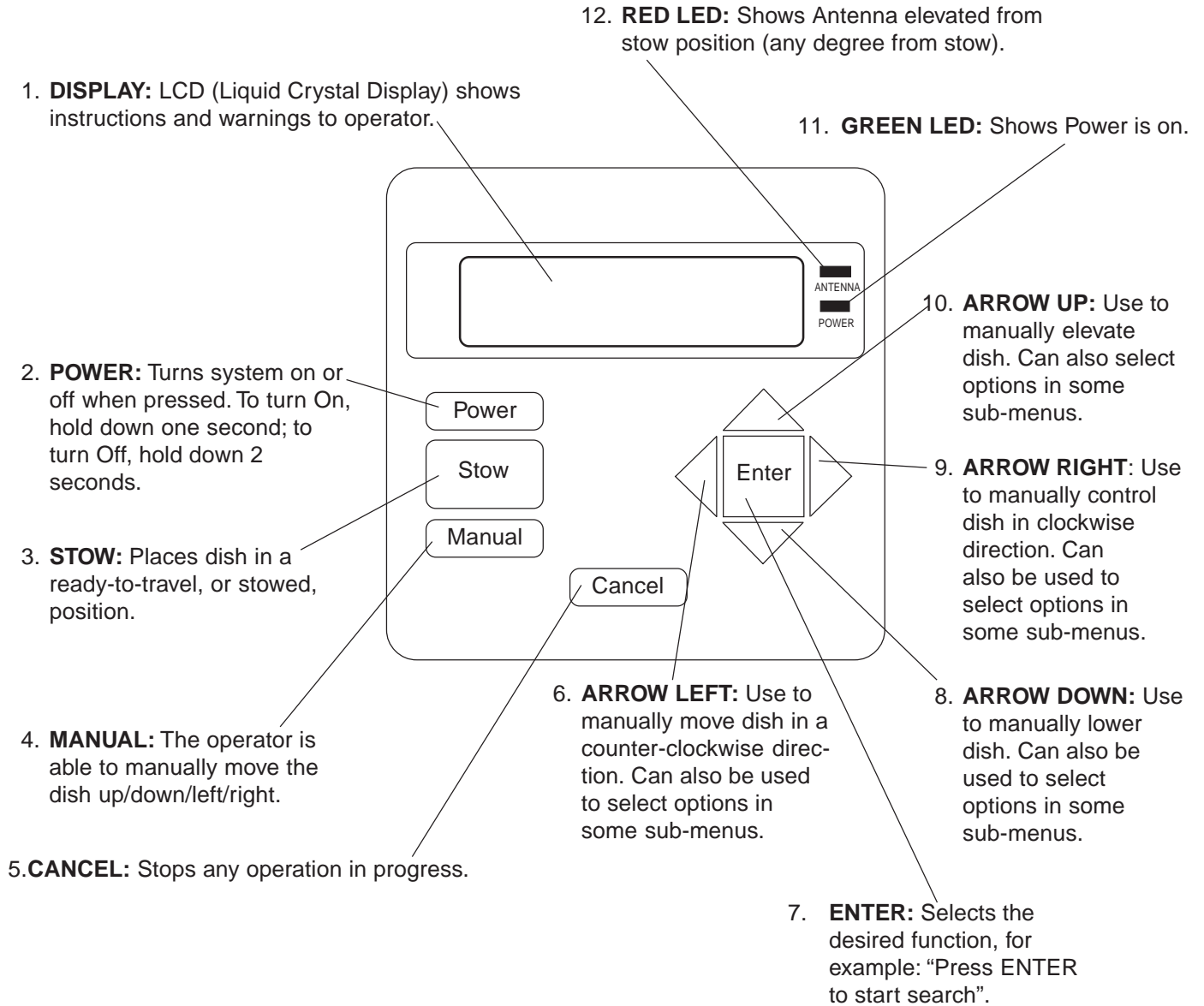
DIRECTV® - 1-800-DIRECTV (1-800-347-3288)

ExpressVu - 1-888-SKYDISH (1-888-759-3474)

Your new Winegard RV Digital Satellite System is an easy-to-install, easy-to-use satellite TV reception system. Because it mounts on the top of your recreational vehicle, it goes where you go and provides quality reception of digital satellite signal in the continental United States only. Check with your programming provider for exact coverage area.



Wall plate control panel description



Automatic System Operation

After parking and leveling vehicle, look for trees, buildings, hills or mountains that might block the satellite signal.

ABOUT YOUR RECEIVER:

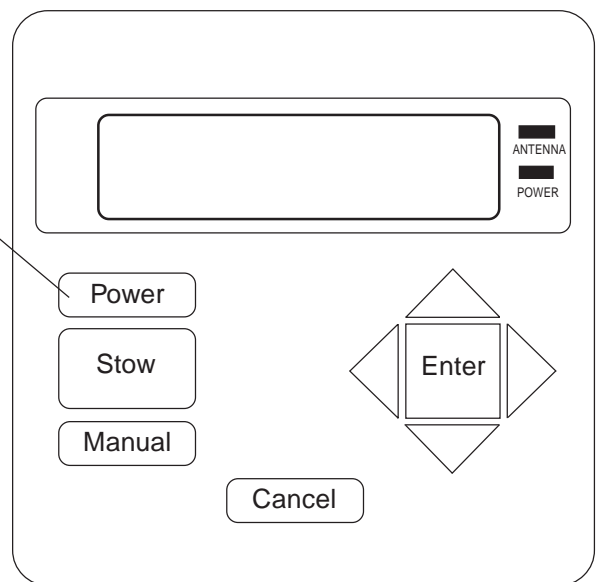
If you have a DISH Network™ receiver, be sure your system (RM-9946) is set to receive DISH Network satellites. If you have a DIRECTV® receiver, be sure your system (RM-9946) is set to receive DIRECTV satellites. (The majority of programming for DISH Network is on satellite 119°W; for DIRECTV it is on 101°W.

Contact DIRECTV at **1-800-DIRECTV (1-800-347-3288)**, DISH Network at **1-800-333-DISH (1-800-333-3474)**, Canadian customers contact ExpressVu at **1-888-SKYDISH (1-888-759-3474)** for more information.

FIRST TIME USE:

System is factory preset to find 119°W (DISH Network). For other providers' satellites, see page 7, Note 2. The first time your system is used, it could take up to 10 minutes for GPS acquisition. (This is also true if you have stored your system for six months or longer, or for vehicles without ignition systems [towables]). **This is typical of first time use;** do not think there is a malfunction.

Wall Plate Controller



1. Turn TV on and tune to channel 3 or 4 (the output of your receiver).
2. Turn on your satellite receiver. **The receiver MUST BE TURNED ON and LNBF COAX PROPERLY ATTACHED** (refer to your receiver owner manual).
3. Press the POWER button on the wall plate controller for one second. (Pressing CANCEL will stop the search at any time during any process.)
4. The Winegard logo, then Software Rev. 1.XX appear briefly on the display.
5. "Acquiring GPS" appears and remains until the system acquires the GPS (Global Positioning System) signal.
6. "Computing look angles" appears. The system is comparing GPS data and the satellite selected. Dish/Direct 119° W will be displayed; identify the satellite related to your receiver.
7. **For first time operation from your location (see Note 2, p. 7):**
 - "Searching for satellite" is displayed. The system is searching for the satellite and is setting the elevation for the chosen satellite based on GPS information. During this process, the message will be replaced by "Determining satellite location."
 - The system will begin finding the available satellites while the message "Determining satellite location." is displayed. During this process, you may see a picture or signal from the desired satellite, but the system will move on to other satellites, "remembering" their location. Your signal disappears during this process.
 - After your system has locked on the satellite of your choice, the display will read "Enjoy the show."
8. **If you want to change to a different satellite,** wait for message displayed as "Pick a sat < >". Use LEFT or RIGHT buttons to scroll through the list of available satellites for your receiver. After you find the desired satellite, press ENTER.

- "Moving to (select satellite)" will be displayed while the system moves to that satellite. "Current Sat" with the selected satellite will appear on the display when locked on that satellite.

9. **If you have NOT MOVED from your location, and want to watch the same satellite and dish is stowed:**

- Press POWER. "Press ENTER to select last satellite" will be displayed after GPS is acquired. Press ENTER to move the system back to the last satellite viewed. You do not have to perform the search function.

(See NOTES and other information on page 7.)

DON'T UNDERSTAND A MENU?

If you see a menu in the display you do not understand, press POWER for two seconds to exit that menu.

NOTE 1:

The system can move directly to any of the available satellites, if you have a clear view, after the initial search routine at a location. The display will show the message "Pick a sat < > ". It remains for several minutes after search is complete. To get back to menu, after power has shut off, press POWER. If you have pressed the Manual button, this will not return you to menu ("Pick a sat"). A new search must be completed to regain this feature.

NOTE 2:

First time users can also change search satellite selection at beginning — only while Winegard logo is on screen. Press RIGHT arrow button one (1) time and "Satellite selection mode" will be displayed. This is followed by the current selection. To change satellites, press UP or DOWN arrow buttons until desired satellite is displayed, then press ENTER.

Manual Operation

At any time during any operation, the system may be put in manual control operation mode by pressing the MANUAL button on the wall plate controller.

WHEN USING THE MANUAL MODE, THE SYSTEM WILL LOSE INFORMATION. You will **not** be able to move directly to a satellite without repeating a search process, or automatically go to the last satellite used.

To regain these automatic features, follow directions in number 3 below.

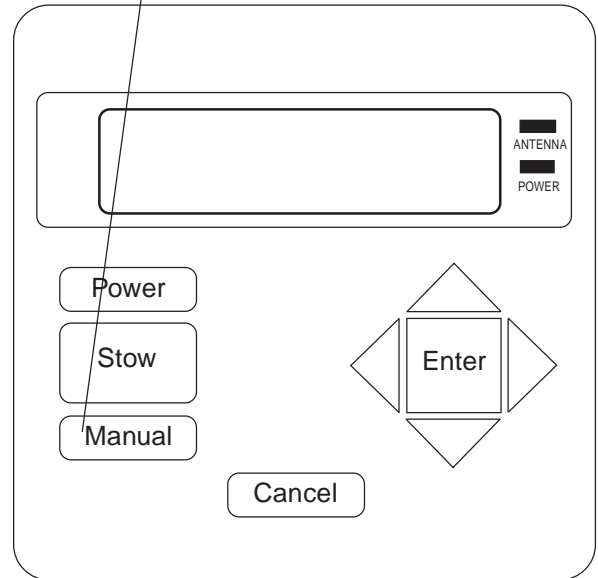
Wall Plate Controller

1. Press the MANUAL button on the wall plate controller. The display will read "Manual Control." If the dish is in stowed position or less than 24° on the display, the dish is in a less than vertical position. Press and hold the UP arrow key to elevate the dish to a 90° (vertical) position. The display should then read 24° or above in the lower right hand corner. Now you can move the dish left and right safely — no moving part of the dish will come into contact with the roof.
NOTE: A "fail-safe" is built into the unit to prevent the dish turning until 0 or a greater number is displayed for elevation when receiver is plugged in.
2. Press ARROW buttons for the desired dish movement. UP arrow elevates dish, DOWN lowers dish, LEFT moves dish in a counter-clockwise direction, RIGHT moves dish in clockwise direction. **You cannot go past the LIMIT message.**

3. To exit from the manual operation mode, you can
 - 1) Press CANCEL or
 - 2) Press POWER* or
 - 3) Press STOW

*If you use the POWER button, remember to hold POWER button in for at least two (2) seconds, then release. "Power off" should be displayed.

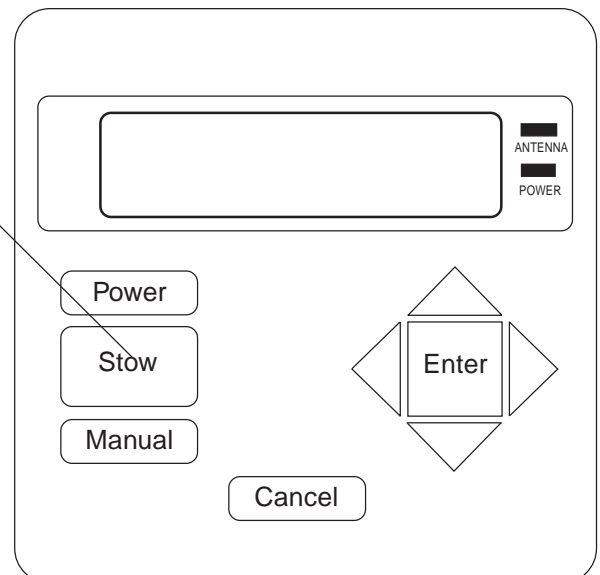
NOTE: When in the Manual Operation mode, any positive number will allow unit to rotate. Less than 0° will result in "Raise dish" message.



Preparing for travel — stowing the dish

1. Pressing the STOW button at any time will initiate the command to stow the dish. The display shows "Antenna Auto Stowing" while the dish is in the process of stowing. After the dish is in the stow position, you will see the message "Antenna Auto STOWED." The red LED will go out. The unit will shut off automatically after approximately 1.5 minutes, or you may turn power off by holding in Power button for two seconds.

IT IS ADVISABLE to step outside the vehicle to see that the dish is stowed and ready for travel.



Parts/Specifications/Warranty

Parts included

18 "Reflector
Backup structure
Mount base/turret
Mount cover & bracket
Vent tube
Cable entry plate
Hardware
Cable
Interior wall plate controller
Surface mount box

Tools needed for installation

Level
Tape measure
Phillips screwdriver
Electrical tape
Cutter
Electric or cordless drill
1/8" drill bit (for pilot holes)
7/16" wrench (for dish assembly)
5/16" socket/nut driver
1-1/2" hole saw (cable entry hole)
Sealant compatible with roof material (check with your vehicle manufacturer for compatibility)

Dish Specifications

Reflector Diameter 46 cm (18")
Antenna height 53 cm
Antenna width 49 cm
Gain at mid-range
 11.2 GHz 33.22 dBi
 12.1 GHz 33.89 dBi
 12.6 GHz 34.23 dBi
Effective aperture 46 cm
Aperture efficiency 73%
Cross polarization (on axis)... -21 dB
Beamwidth at -3 dB 3.5°
Beamwidth at -10 dB 7.0°
F/D Ratio 0.59
Frequency Range 10.95-12.75GHz
Offset angle 24°
Gauge 22 gauge galvanized steel
Finish: Textured thermoset powder coat

Electronics Specifications

Primary Power +12 VDC
Power Consumption 3 amps
Operating Temperature
 Interior 32° to 120°F
 Exterior -10° to +130°F
Humidity 90% noncondensing
Size 4-1/2"W x 4-1/4"H x 1-3/4"D
Weight 1 lb.

Mount Specifications

Height Lowered 8"
Height Raised 30" vertical max.
Roof space required 40"L x 20"W min.
Turning diameter clearance 33"
Antenna Movement 2 DC motors
Weight 16 lbs.
Shipping Weight 20 lbs.
Carton 27-3/4"L x 20-3/8"W x 10-3/4"D

Returned units damaged in shipping due to improper packing will be charged to the dealer/customer.

TWO YEAR LIMITED WARRANTY

Winegard Company warrants this Winegard product (excluding receiver) against any defects in materials or workmanship within two (2) years from date of purchase. No warranty claim will be honored unless at the time the claim is made, you present proof of purchase to an authorized Winegard dealer (if unknown, please contact Winegard Company, 3000 Kirkwood Street, Burlington, Iowa 52601-2000, telephone 319-754-0600).

Winegard Company (at its option) will either repair or replace the defective product at no charge to you. This warranty covers parts, but does not cover any costs incurred in removal, shipping or reinstallation of the product. This limited warranty does not apply if the product is damaged, deteriorates, malfunctions or fails from: misuse, improper installation, abuse, neglect, accident, tampering, modification of the product as originally manufactured by Winegard, 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.

The Two Year Warranty is provided on the condition that the equipment is properly delivered with all handling and freight charges prepaid to your Winegard dealer for repair or return to our factory at the above address. Winegard dealers will arrange for the replacement or repair and return to you, without charge, the product which failed due to defective material or workmanship.

WINEGARD COMPANY WILL NOT ASSUME ANY LIABILITIES FOR ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, MADE BY ANY OTHER PERSON.

ALL OTHER WARRANTIES WHETHER EXPRESS, IMPLIED OR STATUTORY INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY ARE LIMITED TO THE TWO YEAR PERIOD OF THIS WRITTEN WARRANTY.

The foregoing shall be the sole and exclusive remedy of any person whether in contract, tort or otherwise, and Winegard shall not be liable for incidental or consequential damage or commercial loss, or from any other loss or damage except as set forth above.

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 you specific legal rights and you may also have other rights which vary from state to state.

Installation requirements

To install the Winegard Automatic Digital Satellite Dish, check with your RV dealer or manufacturer. Your RV may already be pre-wired for this system, and/or may have a reinforced roof area available.

1. Choose a location on the roof that will allow the dish to raise and rotate without interference from other roof-mounted equipment.
2. **Roof space required for operation is 40"L x 20"W minimum.** Refer to Figures 1, 2, 3 and 5 for operating parameters.
3. The unit must be level, within 3°, for best operation. Use the hydraulic or manual leveling equipment on your vehicle to level the roof as much as possible. Before beginning installation: If the mounting area is not level, you can use a roof wedge, Figure 4. Winegard's RW-5000 roof wedge that will correct tilt up to 3.7°. For units with severely sloping roofs, more than one wedge may be needed.
4. When choosing a location for the interior wall plate controller, consider wiring, ease of viewing the information and distance from your television set.

FIGURE 1

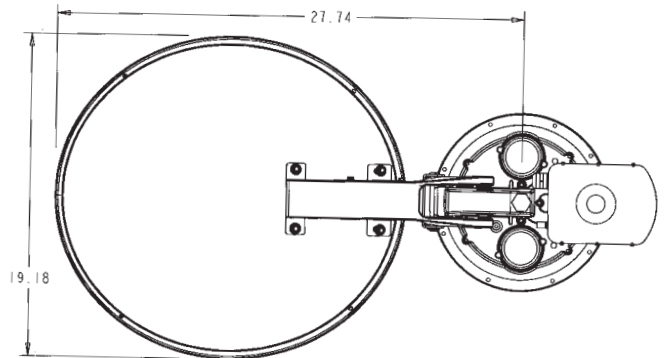


FIGURE 2

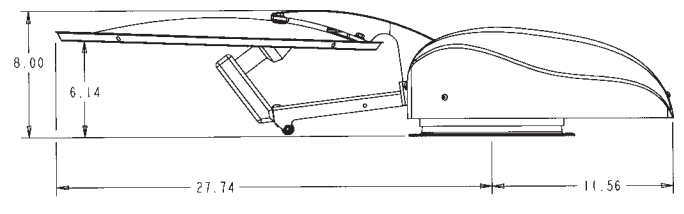


FIGURE 3

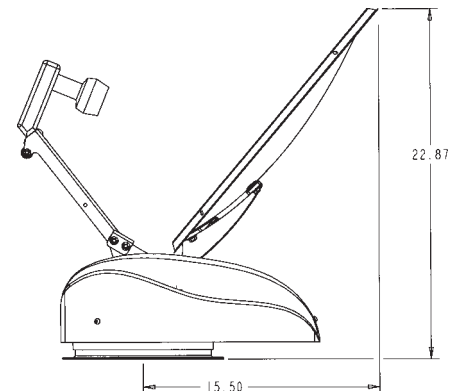


FIGURE 4

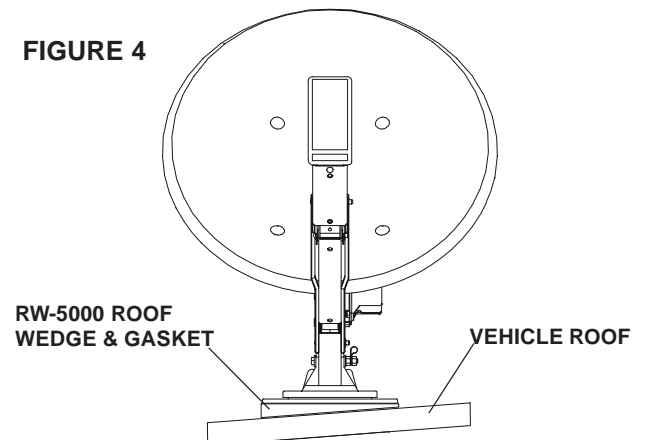
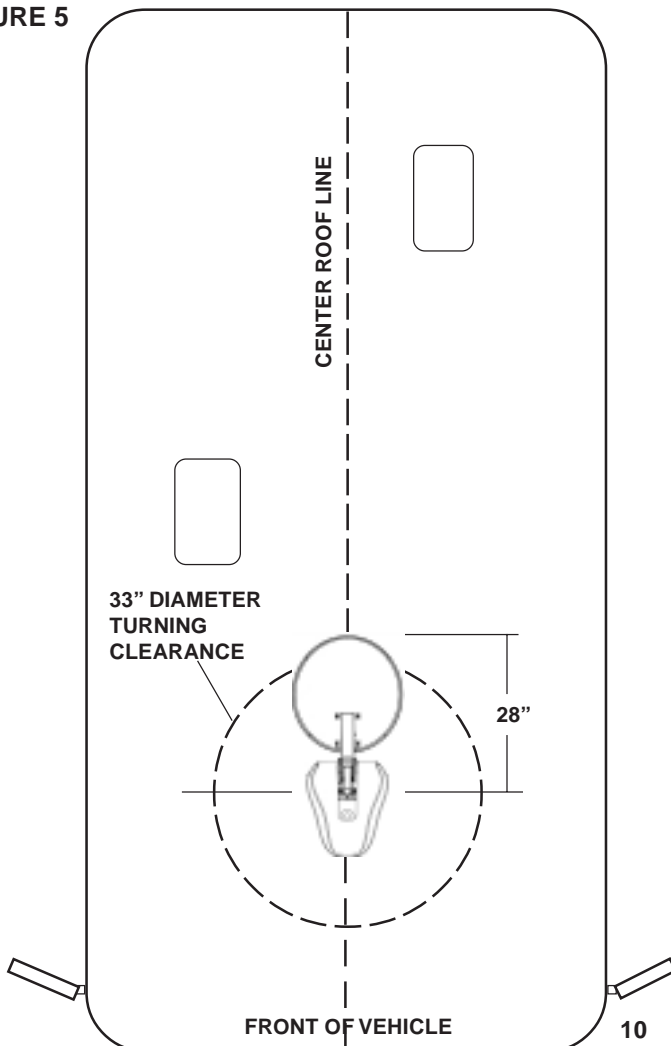


FIGURE 5



Mounting motorized dish assembly on roof

1. Position the roof template on the vehicle roof and drill 1/8" holes for the screws. **DO NOT drill clear through into interior of vehicle.** The screws fasten mount to the roof only. Be sure the roof can securely hold system.
2. Place base plate gasket under the base before screwing unit down. Secure the base plate of the motorized assembly to the roof using appropriate screws. **DO NOT APPLY SEALANT AT THIS TIME.**
Note: IF YOU ARE USING THE ROOF WEDGE (RW-5000), use the 3/16" gasket included with motorized mount under the roof wedge. Install 1/16" gasket included with the RW-5000 roof wedge *between* mount and roof wedge. Longer screws are needed for installation when using roof wedge.

CAUTION!! Cable MUST BE ROUTED AS SHOWN IN FIGURE 6 and 6A to prevent cable wrap! If not routed correctly, you may STRIP GEARS! BEFORE INSTALLATION, unroll cable to remove kinks.

3. Route cable assembly around the base of the unit, Figure 6. **FROM THE BACK OF THE ELECTRONICS BOX TO THE FIRST CLAMP MUST BE 53"!**
4. Drill hole for cable entry in appropriate place. **THIS MUST BE 4" MINIMUM FROM FIRST CLAMP!** You can also run cable to an *existing* cable entry hole that meets the *same distance requirements (4" minimum)*, Figure 6A. Be sure cable is not too tight from mount to entry point when dish is in stow position. If there is not enough slack in the cable, it will bind and prevent proper operation, or damage the mount.

FIGURE 6

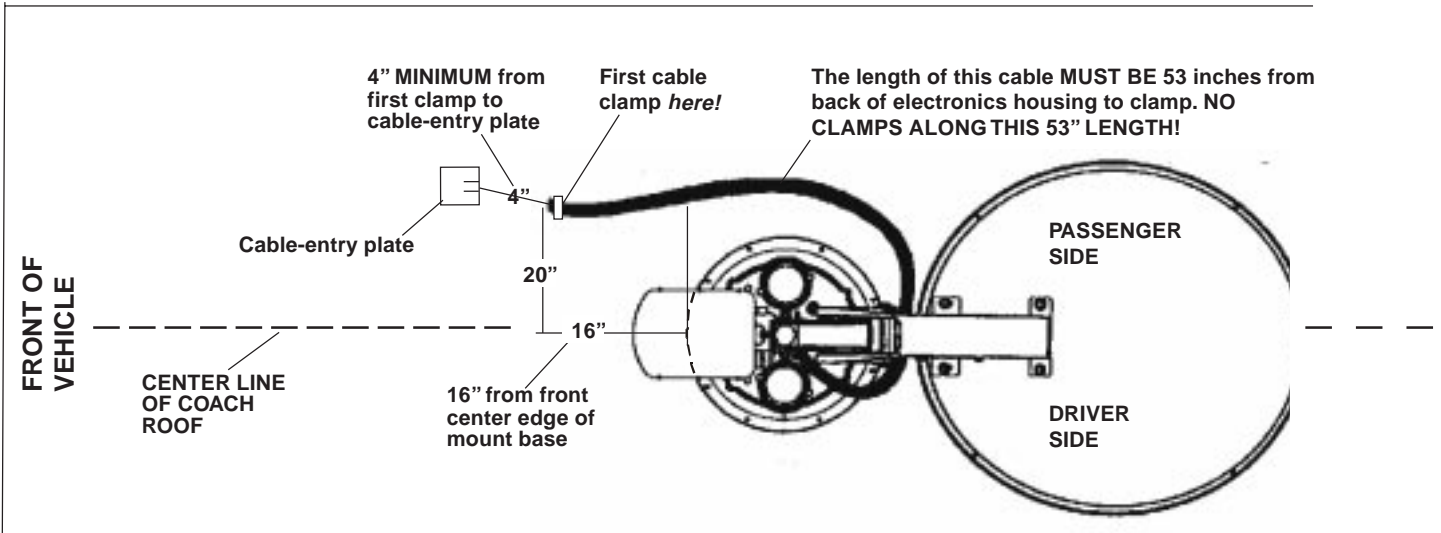


FIGURE 6A

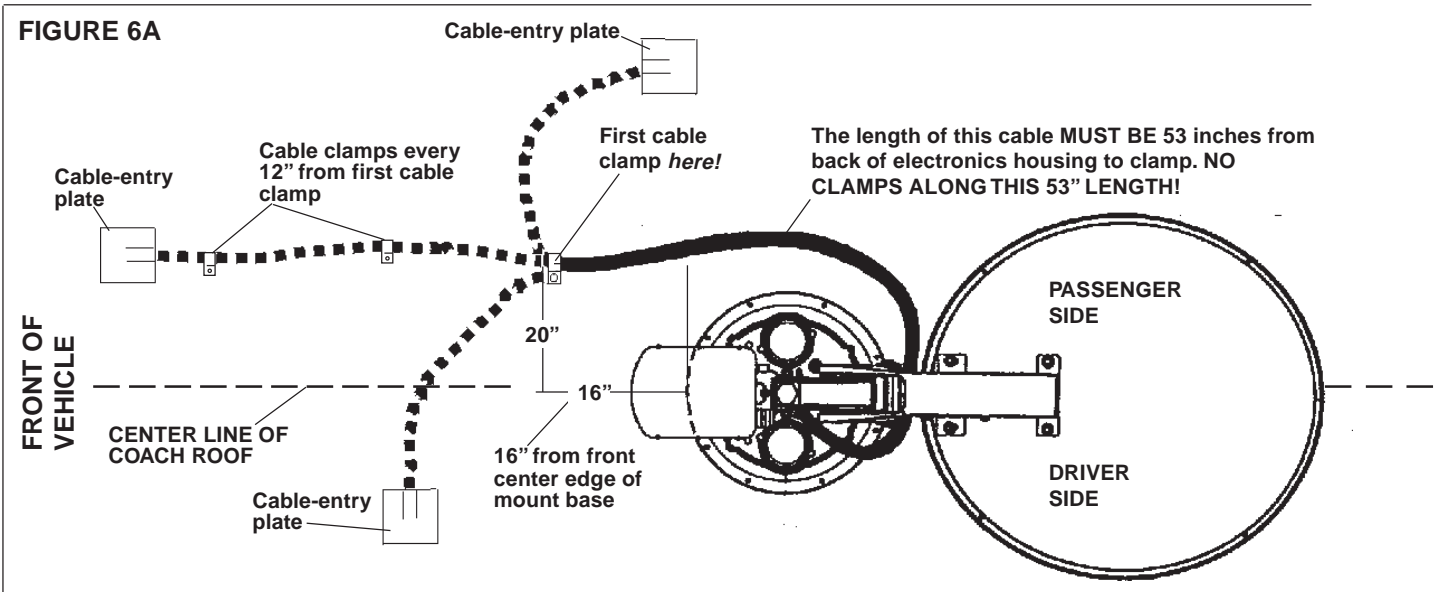
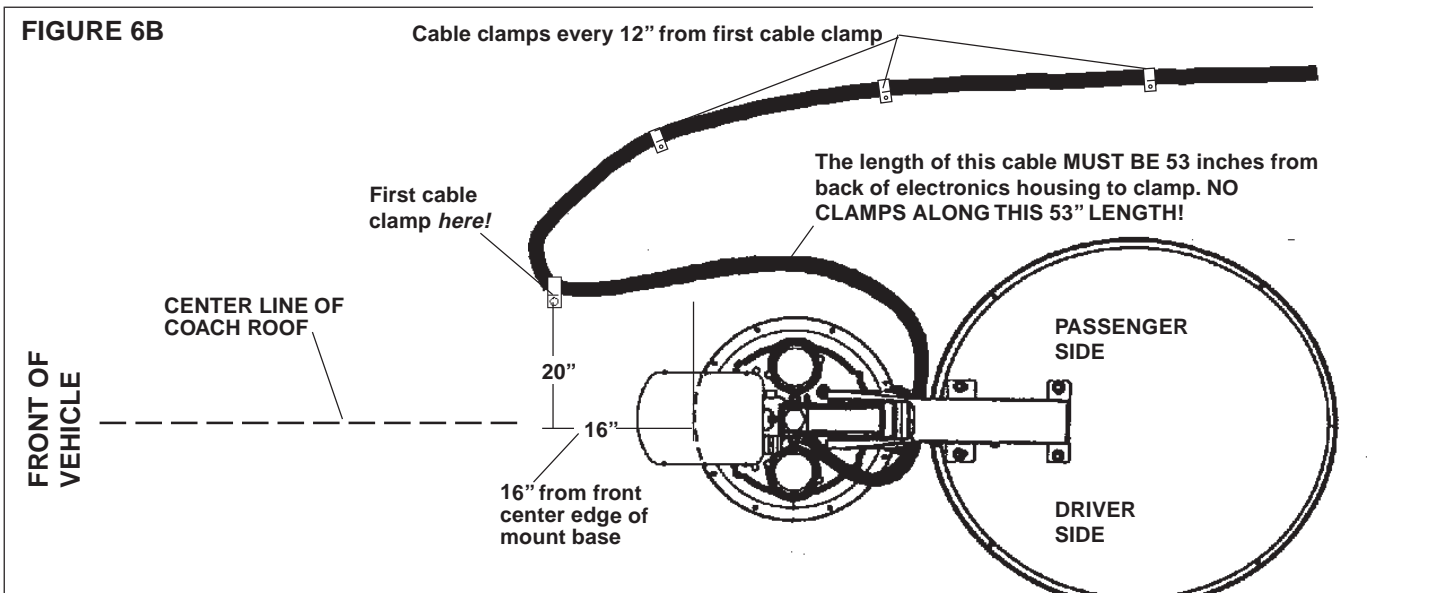


FIGURE 6B



- Cut the cable wrap approximately four (4) inches away from point where it enters the cable-entry plate, Figure 7, 7A. This allows proper sealant coverage. Do not damage cables when cutting away the cable wrap. (The cable wrap protects and keeps together in one unit the coaxial cable, electrical cable and 8 wire data cable.) After cutting, wrap the outer cable wrap with electrical tape as shown, Figure 7, 7A. Push cable through cable entry point on roof. Do not damage cable. **DO NOT APPLY SEALANT AT THIS TIME.**
- Pre-drill 1/8" holes for cable entry plate. Fasten down with screws provided. DO NOT APPLY SEALANT.**

FIGURE 7, RM-9946

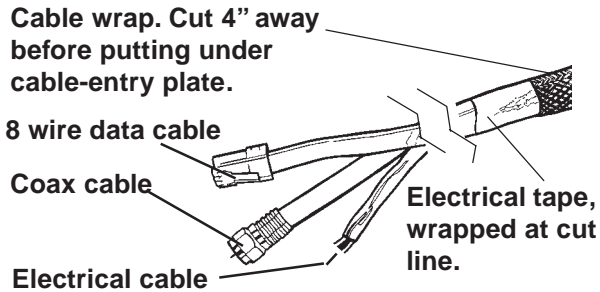
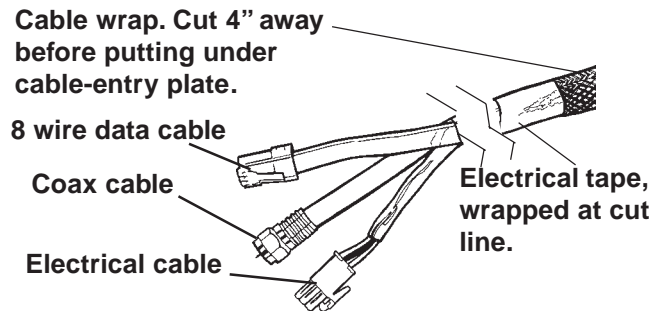
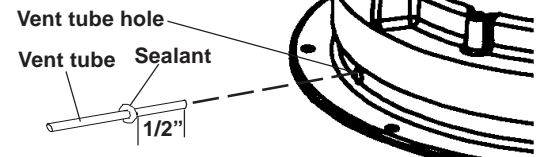


FIGURE 7A, RM-9947



- Install the vent tube on the back of the mount base (This is the side opposite the word FRONT). The hole for the vent tube is shown in Figure 8. **CAUTION: DO NOT seal hole in vent tube.** Put sealant around the outside of the vent tube, approximately 1/2 inch from end. Push the vent tube into the hole, Figure 8. The sealant will seal the hole as you push in. Leave approximately 2 to 2-1/2 inches of the vent tube extending from the hole. **DO NOT APPLY SEALANT TO ANY SURFACES UNTIL YOU TEST YOUR UNIT.**

FIGURE 8



- Assemble dish and backup structure using bolts and nuts provided, Figure 9.
- Install cover using the following steps. Refer to Figure 10 for parts.
 - Press nylon inserts (# 4) into square holes in bracket (# 5).
 - Slide bracket onto unit. **Dish must be in stowed position.**
 - Fasten bracket to turret using threading cutting screws (# 2).**NOTE:** Figure 10A shows cover bracket installed on unit.
 - Place cover (# 3) over bracket (# 5).
 - Line up holes in cover to nylon inserts (# 4).
 - Secure cover using screws (# 1).

FIGURE 9

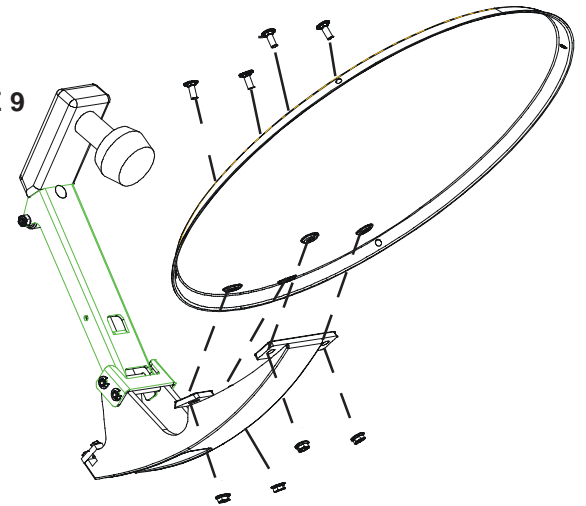


FIGURE 10

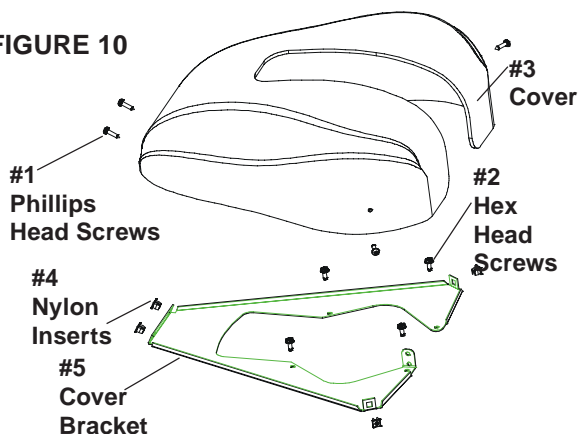
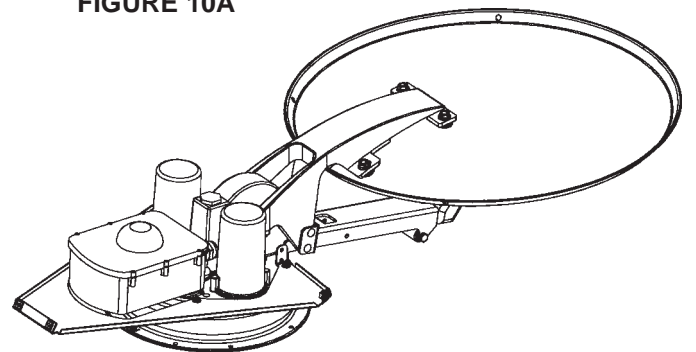


FIGURE 10A



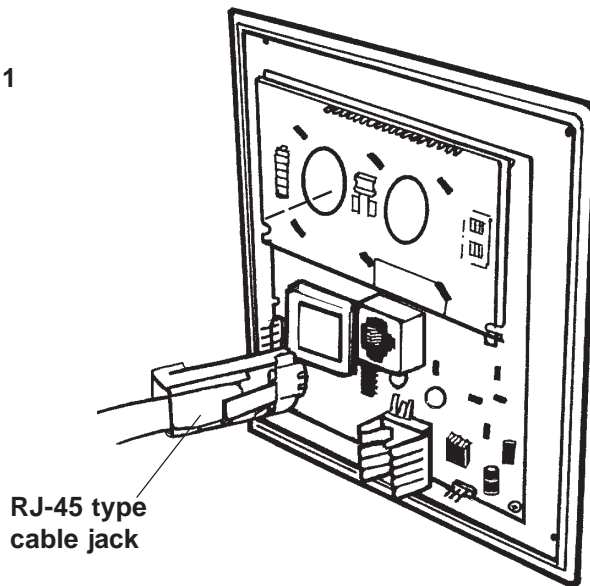
TEST UNIT TO BE SURE IT OPERATES PROPERLY *BEFORE* YOU APPLY ANY SEALANT!
 Use a sealant compatible with your roof material.

Mounting interior wall plate controller

Inside your vehicle, choose a convenient location for the wall plate controller. Consider wiring layout, ease of viewing the information on the readout and distance from your television set. The wall plate uses only 8-conductor cable. Power goes to unit on roof.

1. Install the 8-conductor RJ-45 type cable to the back of the wall plate controller before mounting, Figure 11.
2. Connect the 8-conductor RJ-45 telephone type connector to the back of the wall plate controller. **DO NOT SHORTEN the length of this cable.** Warranty will be voided and unit will be damaged. **If you need to extend the cables,** contact Winegard at 1-800-288-8094 for source of cable — Winegard's CL-0825 (25') or CL-0850 (50') and coupler (part number 2780253).

FIGURE 11

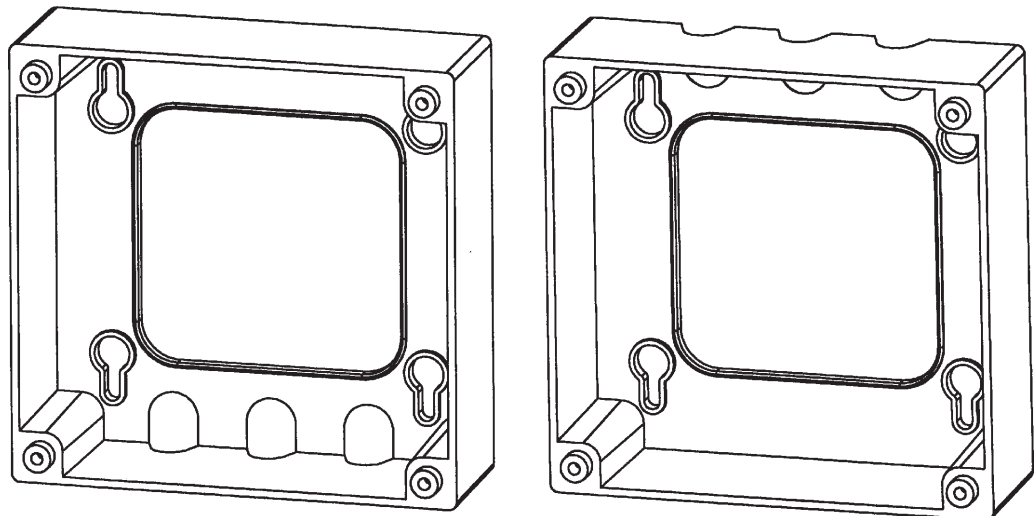


3. Mount the wall plate controller flush with the wall or inside a cabinet. You can also use the surface mount box (provided), Figure 12.

FIGURE 12

Surface Mount
Box for Wall
Plate Controller

Box can be
mounted two
ways, as shown.



Wiring the system:

This unit requires a +12 VDC fused circuit. Unit draws up to 3 amps. The unit uses sophisticated microprocessor technology and needs “clean” (filtered) power to function properly.

DO NOT USE power designated to operate a +12 VDC lighting circuit from the converter, or a converter that does not have a battery connected to it, or any unfiltered converter! Damage to the system could result!

If in doubt, contact your dealer or the manufacturer of your vehicle.

1. Make connection of the red wire to +12 VDC available when the ignition is not on. The orange wire to the ignition supplies +12 VDC only to the GPS electronics. This will enable the GPS to continue to update while you are driving. **Be sure you do not connect the orange and red wires together — the unit will not operate when voltage is present to orange wire.**

If you have a vehicle without ignition (towable), DO NOT HOOK UP ORANGE WIRE. This is for vehicles with ignition systems only.

Connect the black wire to the ground.

2. Connect the RG-6 coax cable to “Satellite In” jack on the back of your receiver.
3. Connect the receiver “Out to TV” to the television.
4. Plug receiver into 117 VAC receptacle.

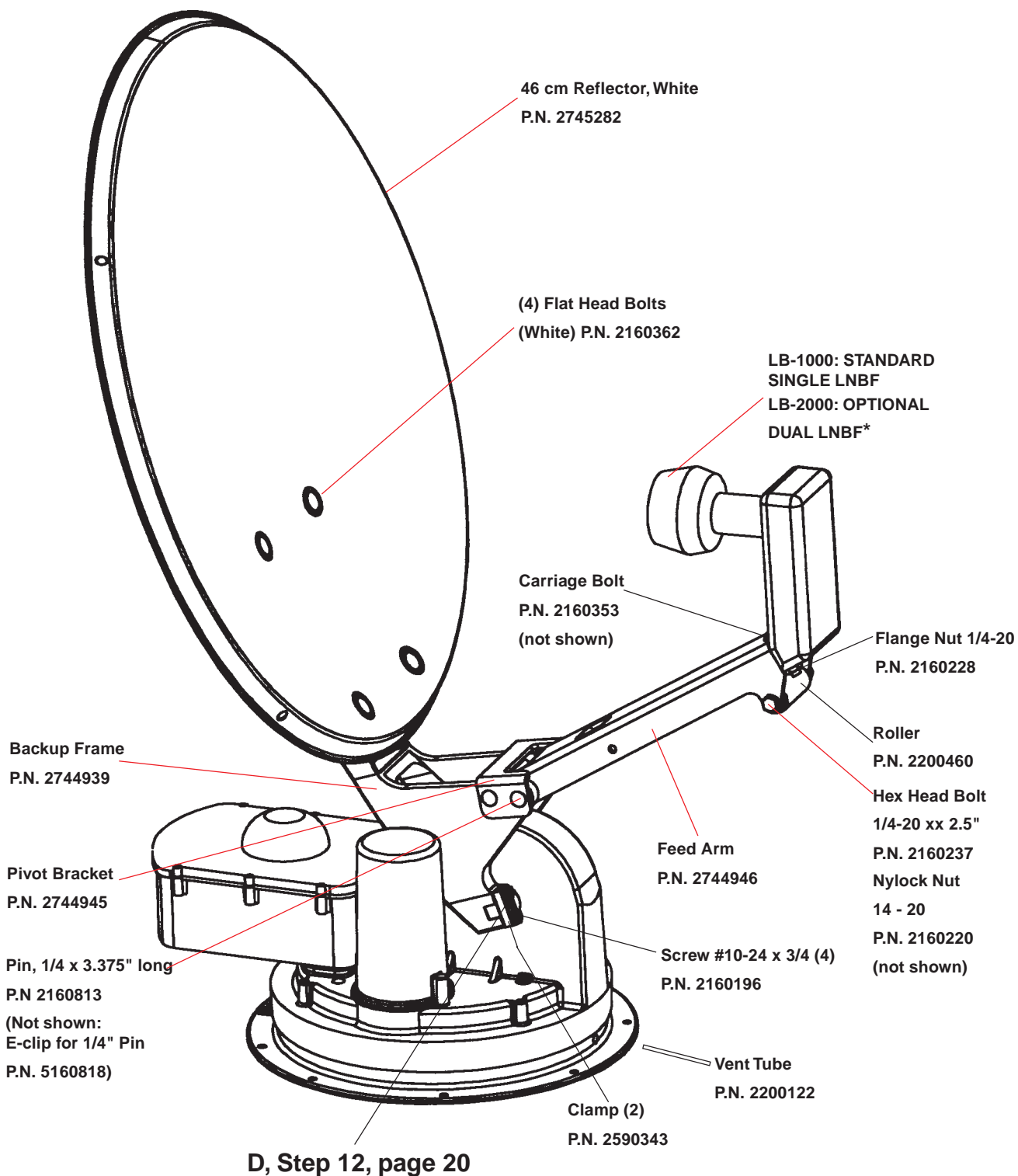
CAUTION: Receiver MUST be plugged in and green light on before operating wall plate controller. If this is not done, the dish will SCRAPE THE ROOF OF YOUR VEHICLE!

For proper operation:

1. To check for LNBF voltage, you must have your receiver connected to your system. Lack of receiver or a bad connection at some point will result in a “Caution no LNBF voltage” message on the display. The dish will not be able to lock on any satellites.
2. Refer to the Operation Section to fully test the system!

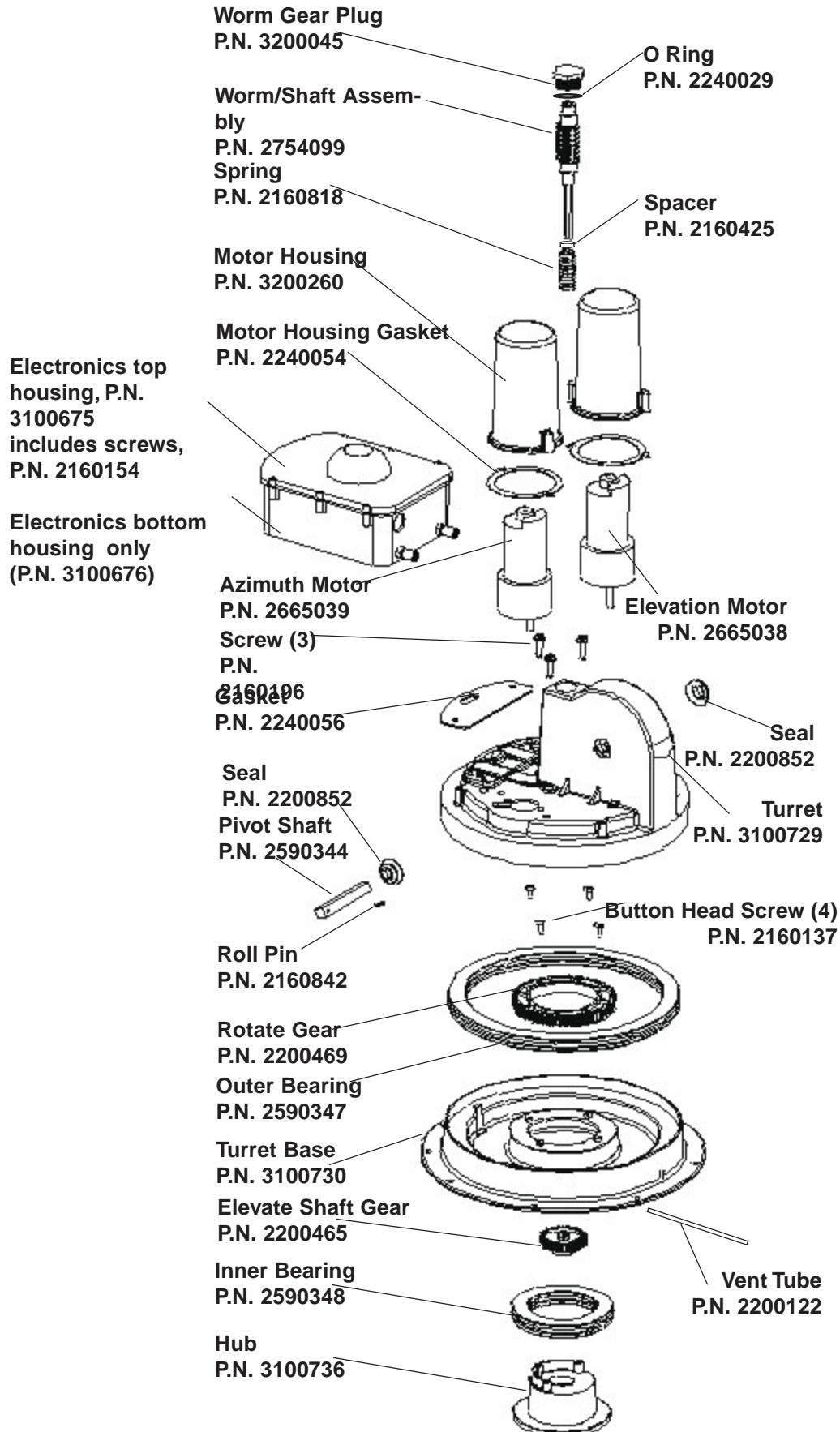
NOTE: Before you operate your system —

1. Power up receiver, then wall plate controller.
2. Press cancel and stow on wall plate controller to be sure unit is in park position.
3. Power off wall plate controller.
4. Go to Operation, page 5.



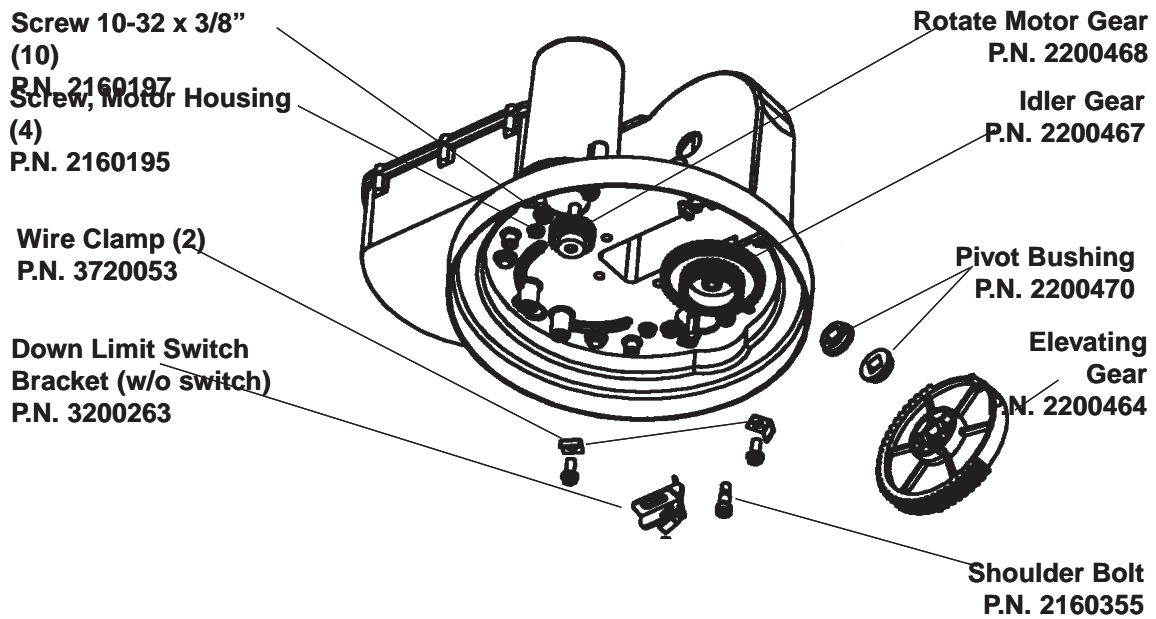
* Additional RG-6 coax cable with weatherproof connectors w/O-ring needed for dual LNBF.
Contact your dealer for Winegard's CX-0625 (25'), CX-0650 (50') or CX-0675 (75').

Base Assembly

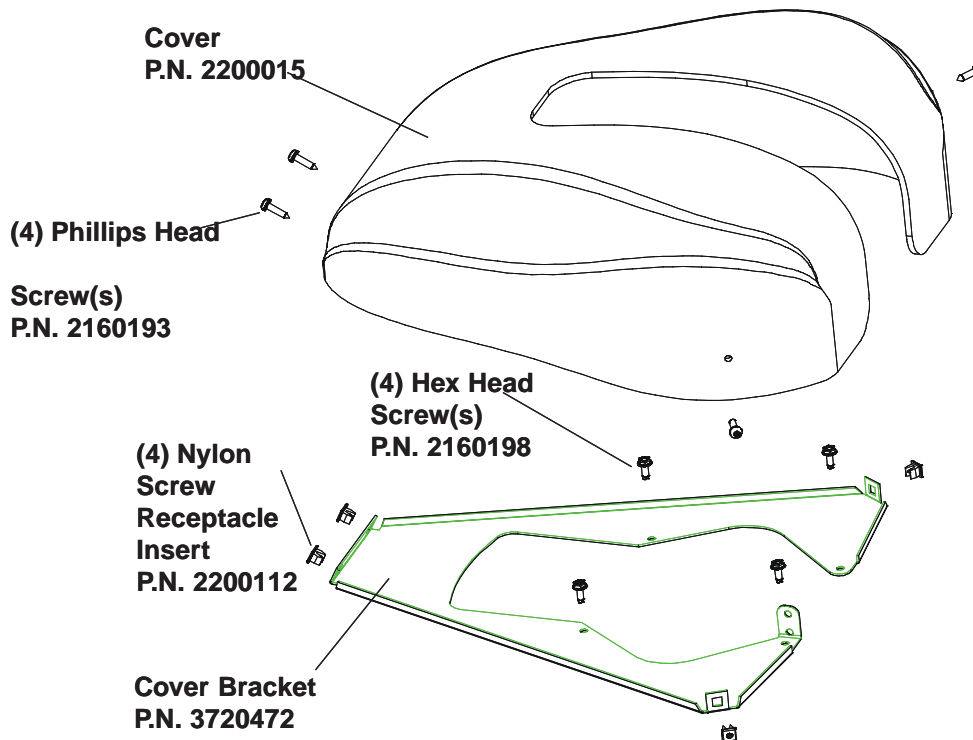


Turret Assembly

TURRET ASSEMBLY



Cover



Troubleshooting the system



Some of the problems we are troubleshooting here are marked with this symbol. For these problems, we advise you to seek professional service. Contact the retailer or dealer where you purchased this system, or call Winegard Technical Support at 1/800/-788-4417, Monday through Friday, 7:00 a.m. to 4:00 p.m., Central Time.

Solutions to problems in this manual have been categorized according to type. See troubleshooting tips #1 through #12 on page 20; numbers correspond with numbers in this chart.

Display Messages/Problems	TV Picture/Signal	Mount	Reference #
No display; buttons don't work.			#1, 2 & 6
No display, but green and red LEDs light.			#2
Message on display scrambled			#2
"Motor stalled" message			#5
"No LNB power" message			#4
No voltage			#6
"Unable to determine Sat" message			#7
	No signal - any satellite		#3, 4 & 13
	No signal - some satellites		#3
		Motorized unit on roof makes thumping sound	#5
		Dish fails to stow - DO NOT FORCE DOWN!	#5 and 12
	Picture snowy		#8
	Picture interrupted then returns multiple times		#3, 9 & 13
	Only promotional channel comes in, can't watch any others		#10
	Wall plate controller message is "Enjoy the show" but no picture on TV		#11
	Wrong satellite found during search process		#7
	Wrong satellite found after wall plate controller message "Enjoy the show"		#11

Troubleshooting tips

1. Check fuse on supply circuit (power source for system). If +12 VDC is present, check the motorized unit on roof. Remove white plastic cover on the mount. Remove electronics housing cover and check the main board, J8 connector, for +12 VDC and ground. If there is voltage present and the cable harness is not damaged, contact Winegard Technical Services at 800/788-4417.
 2. Check the 8-conductor RJ-45 telephone type cable at each end. Look for corrosion or cable damage. This cable is specifically configured. Do not use computer networking type adapters or cables. For replacement, contact Winegard Technical Services.
 3. Check for obstructions — trees, buildings, signs, hills or anything that would block the view of the southwest sky.
 4. This system has auto-diagnosis for LNBF voltage and will warn you if there is a loss of voltage to the LNBF circuit. If you have no signal from any satellite, make sure this message is not displayed on the wall plate controller. If the message is displayed (“Caution no LNBF power”), check each end of the RG-6 coax cable to make sure there is a good connection. Unscrew connector and be sure the center wire extends 1/8” from connector (should not be too short). Be sure it is connected to “Satellite in” on the receiver. Receiver must be plugged in. There may also be a break in the cable.
 5. Check unit on roof for obstructions (tree limbs, etc.). Make sure the cable harness is not too tight when unit tries to stow, or that the cable harness may be snagging on another object on the roof. If the problem is not obvious, contact your dealer for repair.
 6. On the roof, check the voltage at the unit with a voltage meter set to DC voltage settings. Check specifications in the Parts/Specifications section for proper voltage range.
NOTE: Wiring: Red = +12 VDC operating voltage; Orange = Ignition; Black = Ground.
 7. This system is designed to find three digital satellites to function correctly. During the qualify process, it may stop on an incorrect satellite briefly. Or you may have obstructions in the southern sky that would prevent the “System qualify” on all three satellites.
 8. Check coax cable on each end for a bad connector at “Receiver out to TV”, and the back of the television, VCR or video selector box (this depends on how your system is set up). Because the digital signal your system receives is either on or off (no inbetween), snow or poor reception on your TV set is related to the signal it receives after the receiver sends it to the television.
 9. You may have a defective receiver. Contact place of purchase or your satellite service provider: DIRECTV at 1/800-DIRECTV, DISH Network at 1/800-333-DISH, ExpressVu - 1-888-SKYDISH.
 10. If you have just installed your receiver and haven’t completed your setup/activation, this is the only channel you’ll receive. You must have the receiver turned on and the dish aimed at the correct satellite before you call your provider for activation. The activation signal will come from the satellite to your receiver. Any questions can be answered by your service provider, or consult your receiver manual.
 11. Your system may be set to receive from the wrong satellite. Turn the system off at the wall plate controller and then back on. After GPS is acquired, the display will show the satellite selection menu. After the system has properly qualified the satellites needed, you may select a different satellite. Be sure the system is set for the correct satellite for your receiver (see page 6, Operating section). Check your receiver manual for satellite selection information.
 12. **DO NOT FORCE DOWN.** If there is no obvious problem, see D, page 16 and remove the four screw head bolts holding the backup frame to pivot shaft and coax from LNBF at the LNBF for travel. Cut tie wrap. **DO NOT drive with the dish in the up position!** After the dish backup frame has been removed, return to place of purchase or call Winegard for your nearest service center.
 13. Signal interruptions may occur during heavy cloud cover and/or rain, interfering with the search process and causing loss of signal. This is temporary! Begin your search again when weather conditions improve. If you were watching the programming from the desired satellite, your picture will automatically return when weather improves.
- IF YOU HAVE AN UNSUCCESSFUL SEARCH,** these messages will appear.
1. The Winegard logo briefly appears on the display.
 2. “Acquiring GPS” appears and remains until the system acquires the GPS signal.
 3. “Searching for sat” is displayed, followed by “Determining sat location.”
 4. “Can you see the show?” is displayed. Press ENTER for Yes, CANCEL for No.
 5. If no, “Do you know sat location?” is displayed. Press ENTER for yes, CANCEL for No.
 6. If yes, “Pick a sat < >” is displayed. If no, “Unable to find sat” is displayed. See “Dish Blockage” in your owner’s manual.