

# WINEGARD®

## Digital Elevation Sensor Electronic Calibrated Model for RM and RD models Models DM-4000/2000

U.S. Patent 5,945,945

**THIS UNIT HAS BEEN CALIBRATED AT THE FACTORY.  
No further calibration is necessary.**

**BEFORE YOU BEGIN**, take a few minutes to look at **Figure 1**. Be sure you have received all parts.

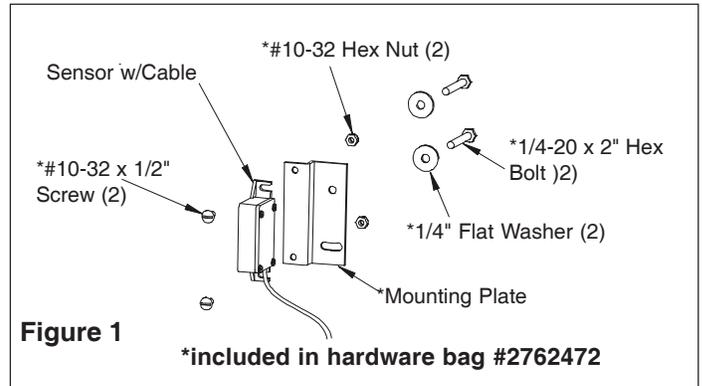
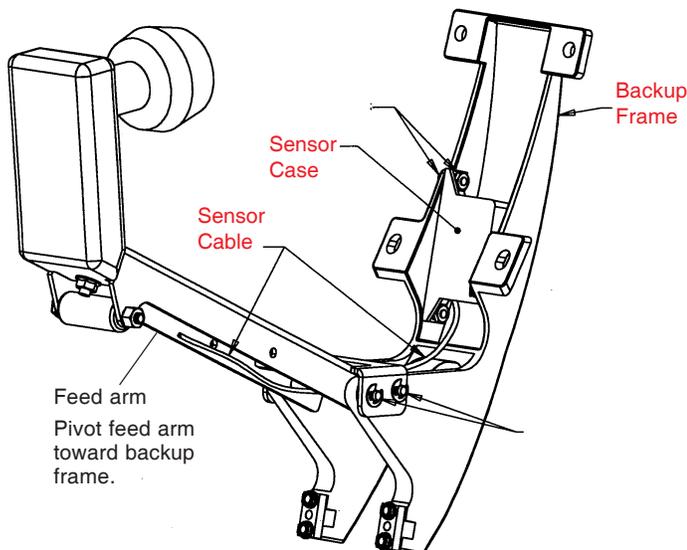
Contact Winegard Company for help if you have questions concerning this product.

Technical Service hours are 7:00 a.m. to 4:00 p.m., Monday through Friday, Central Time. Call toll-free at 1-800-788-4417.

### RM MODELS

**STEP 1:** To install sensor on your RM model, remove dish from backup frame. Place sensor inside backup frame, Figure 4. Cable must exit from bottom of sensor. Route under pins, Figure 4. To place case correctly, mounting screws must be completely in slots. Fasten sensor case to frame, being careful not to overtighten. Loosely secure Sensor cable to coax with wire ties. Pivot feed arm toward backup frame, making sure sensor cable is not preventing movement. When cable is properly positioned, finish tightening wire ties.

**Figure 2**



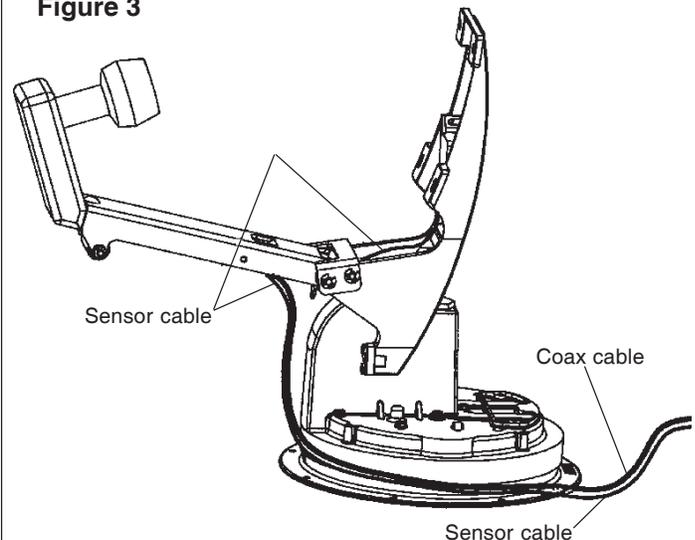
**Figure 1**

**STEP 2:** Using cable ties (provided), attach sensor cable to coax cable, Figure 3.

**NOTE:** Some RV manufacturers prewire the coach with cable for the digital elevation sensor. These wires are found at the appropriately marked spot on the roof.

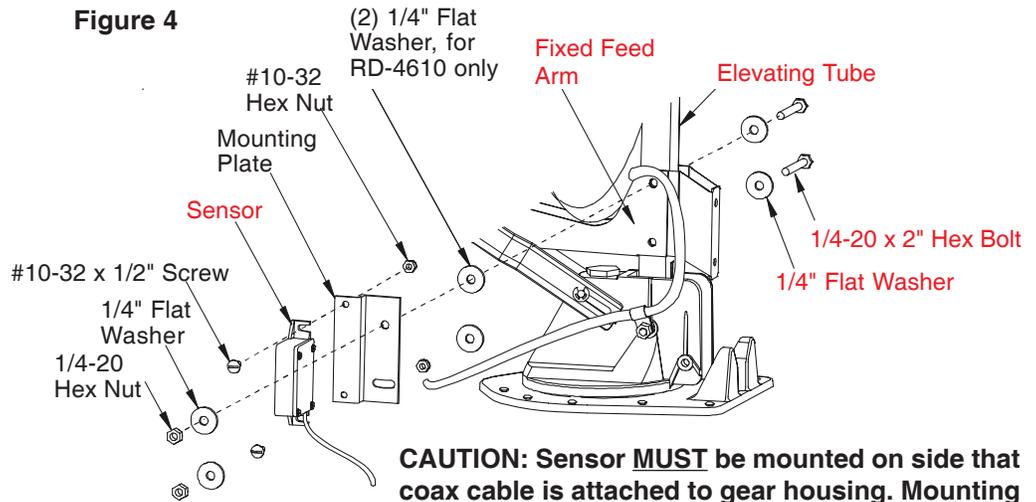
**If not prewired**, run wires from sensor through opening (normally the same entrance as coax) into the vehicle to the area where you are installing the wall plate display unit. It is recommended the display unit be mounted so you can read the elevation numbers while moving the antenna to the correct angle.

**Figure 3**



## RD MODELS

**STEP 1:** Positioning antenna to a near vertical angle will make installation easier. Assemble mounting plate against fixed feed arm, Figure 4. Remove existing 1/4" nuts, bolts and washers. Using new hex bolts and nuts and washers you just removed, assemble parts as shown. Align the plate parallel to elevating tube, Figure 4, and tighten hardware.



**CAUTION:** Sensor MUST be mounted on side that coax cable is attached to gear housing. Mounting differently than shown WILL CAUSE IMPROPER OPERATION.

**STEP 2:** Using cable ties (provided), attach sensor cable to coax cable, Figure 5.

**NOTE:** Some RV manufacturers prewire the coach with cable for the digital elevation sensor. These wires are found at the appropriately marked spot on the roof.

**If not prewired,** run wires from sensor through opening (normally the same entrance as coax) into the vehicle to the location where you are installing the wall plate display unit. It is recommended the display unit be mounted so you can read the elevation numbers while moving the antenna to the correct angle. With antenna plumb, readout should be 24°.

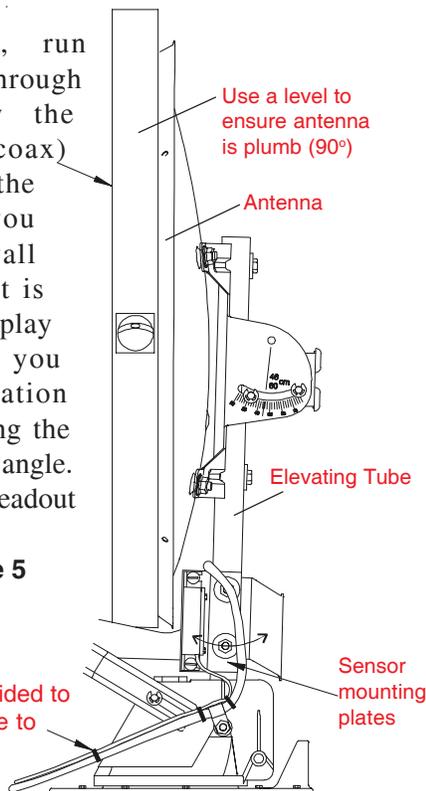
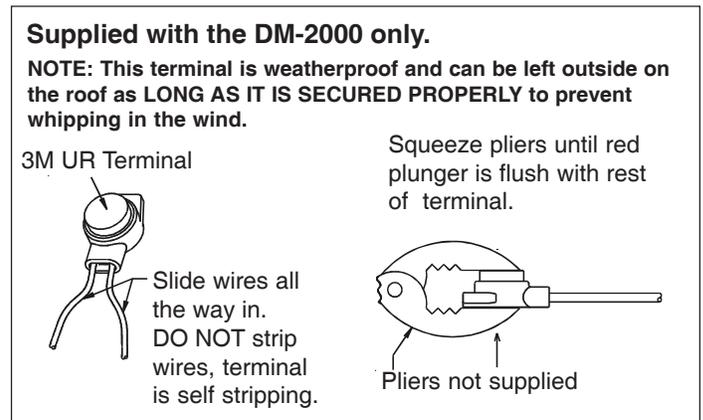


Figure 5

**Step 3:** Two persons will be required for this step, one inside the vehicle and one outside. Using the interior elevating crank, raise antenna to vertical (plumb) position. Place a level across face of antenna as shown and, using interior crank, adjust to a perfect plumb. **BE ACCURATE!**

**Step 4:** Figure 6 shows the different methods of connecting wires at roof level. Method will depend on model. Wire colors **MUST MATCH** (red to red, black to black, green to green). **NOTE:** Some prewire systems, or older models, used 4 wires. Ignore the white wire when connecting model DM-4000/2000.

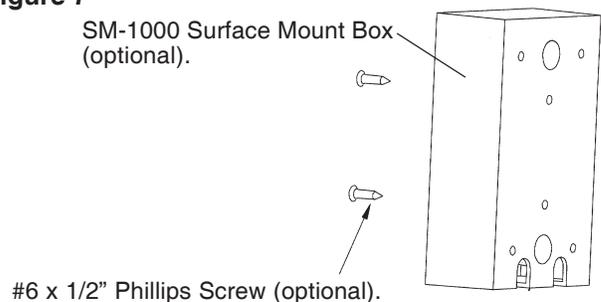
Figure 6



**STEP 7:** If using SM-1000 surface mount box (Figure 7), feed cable through hole in box.

Figure 7

SM-1000 Surface Mount Box (optional).



#6 x 1/2" Phillips Screw (optional).

**CAUTION:**

**If using +12 VDC, it must be FILTERED!**

If using non-filtered +12 VDC, the product will be **damaged** and **Warranty voided**.

**STEP 8:** Connect wires coming from sensor on roof to wall plate display in vehicle, Figure 8. It is important to properly connect the wires at the roof and the wall plate. (Plug will click when inserted properly.) The system is designed to use a 9 volt battery **OR** +12 VDC from vehicle. Do not use both! **IMPROPER WIRING WILL CAUSE DAMAGE TO THE PRODUCT.**

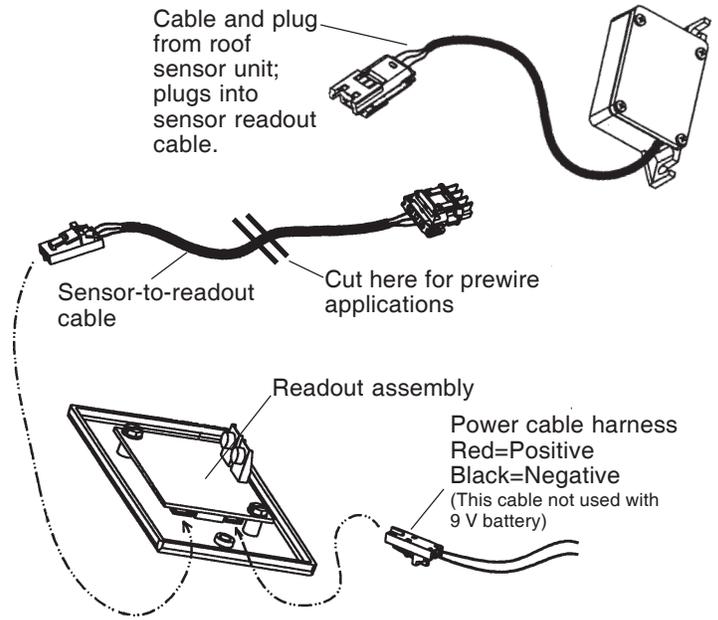
**STEP 9:** Pressing the button when the antenna is in a vertical position should display 24 (can be plus [+] or minus [-] 1 degree). Display will automatically turn off after 1 minute.

**STEP 10: Check connectors and cable entry points.** Be sure these areas are **properly sealed to prevent water damage** to the system and property.

**ERROR CODES on display**

LL .....	Low Limit (antenna too low)	LO .....	Low Battery
HL .....	High Limit (antenna past range of readout)	ER ....	Connection Fault (check wiring & connections)

**Figure 8**



**OPERATING INSTRUCTIONS**

**STEP 1:** Using satellite receiver, find correct elevation for your location. See the receiver manual for details of setup information.

**STEP 2:** Press button on Winegard digital display wall plate. If antenna is in travel position, the display will show HL for High Limit (RD models), LL for Low Limit (RM models).

**STEP 3:** Crank elevation handle to raise antenna. Stop when readout displays correct elevation for your location.(Found on receiver setup menu.)

**STEP 4:** Rotate antenna VERY SLOWLY until correct satellite signal is acquired. NOTE: Rotate 3° and stop. DO NOT rotate continuously even if your are rotating slowly. If the elevation angle has changed, it could be due to the following —

- Vehicle is not parked level.
- Antenna system mounted on slightly sloped roof. If this is the reason, after you have rotated the antenna to the approximate correct compass direction, adjust to correct elevation and continue search.

**Special Notes:** When you have found the satellite signal, adjust the antenna up/down and right/left for the strongest signal your receiver displays. Due to variation in receivers and installation methods, you may find the elevation numbers after peaking on strongest signal no longer match what the receiver display recommended. This is normal. The elevation sensor should always get you close enough to pick up a signal to peak on. If display turns off while you're searching, just push button for another minute of operation. With a little practice, most users find the signal in 30 to 50 seconds.

**Replacement Parts**

For replacement parts, contact Winegard Company. Customer Service hours are 7:00 a.m. to 5:00 p.m., Monday - Friday, Central Time. Call toll-free 1-800-288-8094. Credit card only, \$5.00 minimum order. Refer to Figure 1 on page 1 of this instruction sheet for part numbers.

