AutoScan Satellite System
9630   9630-LP
Installation and Operating Instructions
IMPORTANT!
The satellite TV market is expanding and changing. The information in this manual was accurate at the time of printing. If your King-Dome does not operate as outlined in this manual please call King Controls at (800) 982-9920 or visit our website at www.kingcontrols.com.

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DIRECTV® is a registered trademark of DIRECTV, Inc.
Dish Network™ is an official trademark of Echostar Communications Corporation.
Bell ExpressVu® is an official trademark of Bell Canada.
DVB® is a trademark of the DVB Digital Video Broadcast Project (1991-1996)
The King-Dome AutoScan Satellite System includes 2 main components (Fig. 1).

Dome (Antenna) Unit  Located on the roof of the vehicle. The dish is covered by a protective dome that keeps operational components free from the elements.

Controller  Located in the vehicle. Used to activate the system, position the dish, and access diagnostic information.

Note: A TV, satellite receiver, and program subscription are also required for satellite TV viewing. (Purchased separately.)
SECTION 2 DEFINITION OF TERMS

AZIMUTH: Circular rotation around the vehicle.
(like a clock face: front of vehicle is 12:00, rear is 6:00) (Fig. 2)

ELEVATION: Angle in degrees measured from the ground plane (Fig. 3).

SIGNAL STRENGTH: Intensity of electronic signal received from the satellite transmission.
SECTION 3 INSTALLATION

TOOLS AND MATERIALS REQUIRED:

- drill and drill bit set
- tape measure
- 7/16" open end wrench (coax connections)
- adhesive sealant (compatible with roof material)
- appropriate fasteners to install all components and wiring
- 5/32" allen wrench, channel lock or pliers (to remove shipping bolts)
- wire cutter (to remove shipping tie strap)

KIT CONTENTS:

1. Unpack and identify all components (Fig. 4).
IMPORTANT! The tie strap and spacer, and the bolts and washers must be removed from the bottom of the dome unit prior to installation. DO NOT REMOVE THE DOME COVER TO REMOVE THESE SHIPPING RESTRAINTS.

YOU MUST PLUG THE SHIPPING BOLT HOLES WITH THE SUPPLIED PLUGS (ATTACHED TO TIE STRAP SHIPPING RESTRAINT).

2. Remove and discard the tie strap and spacer (KEEP RUBBER PLUGS), and the (2) bolts and (2) washers that pass through the bottom of the base (Fig. 5).

3. Insert provided plugs into holes that were occupied by the shipping bolts. Inserted plugs should be flush with base (Fig. 5).

Fig. 5

DO NOT REMOVE DOME COVER

IMPORTANT!
After removing shipping bolts, firmly insert plugs into holes. Plugs should be flush with base.

IMPORTANT!
Remove and discard Tie Strap and Plastic Spacer prior to installation. KEEP RUBBER PLUGS.

IMPORTANT!
Remove and discard Bolts and Washers prior to installation.

5/32" Allen Wrench, Channel Lock or Pliers
DOME LOCATION

4. Select an area on the roof for the dome unit and the location where the wiring will enter the vehicle through the roof to the satellite receiver, controller, and 12 volt power source inside, using the following criteria:

a) The shortest distance between the dome unit and the satellite receiver is most desirable.

b) The dome unit requires a 28 inch diameter mounting area.

c) The dome unit must be mounted on the centerline of the vehicle. Mounting off centerline reduces electronic level compensation.

d) There must be no "line of sight" obstructions. Air conditioning units, other antennas, and storage areas that are too close to the dome unit may prevent the satellite signal from reaching the dish (Fig. 6).

<table>
<thead>
<tr>
<th>HEIGHT OF OBSTRUCTION</th>
<th>APPROXIMATE MINIMUM DISTANCE TO DOME EDGE</th>
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</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>11&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
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<td>18&quot;</td>
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<tr>
<td>16&quot;</td>
<td>20&quot;</td>
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</tbody>
</table>

IMPORTANT! For installations on trucks with air shields, a bracket must be used for mounting the dome unit. The dome unit MUST be mounted to the air ride cab: NEVER to any structure mounted directly to the frame.

See bracket instructions for proper installation (Fig. 7).
5. Place dome unit on installation location chosen using the criteria discussed in the previous section. Shipping restraints must be removed (Fig. 5, Page 5), and cable connections must be positioned facing rear of vehicle.

6. The dome unit must be positioned so that both feet on each side of the vehicle are equal distances from the roof edge. This should be checked by measuring the distance from each foot to the roof edge. Confirm that these measurements are equal (Fig. 8).

IMPORTANT! The dome unit MUST be mounted to the air ride cab: NEVER to any structure mounted directly to the frame.

DOME INSTALLATION

IMPORTANT! Make sure shipping restraints are removed from bottom of dome unit (Fig. 5, Page 5).

Cable connections must ALWAYS be positioned facing the rear of vehicle.

5. Place dome unit on installation location chosen using the criteria discussed in the previous section. Shipping restraints must be removed (Fig. 5, Page 5), and cable connections must ALWAYS be positioned facing rear of vehicle.

6. The dome unit must be positioned so that both feet on each side of the vehicle are equal distances from the roof edge. This should be checked by measuring the distance from each foot to the roof edge. Confirm that these measurements are equal (Fig. 8).
7. Mount the dome unit. Use the pre-drilled holes in the mounting feet as a guide to install the fasteners into the roof. Use additional fasteners whenever necessary.

8. Test that the dome unit is secure by pulling upward from each foot location.

EXTERNAL WIRING

9. Plug external wire harness into wiring port on back of dome unit and tighten connection until it clicks past the detent lock (Fig. 9).

Note: The installer is responsible for determining the most appropriate fastener to secure the dome unit to the roof. Depending on the roof material, fasteners such as lag screws, well nuts, sheet metal screws, toggle bolts and T anchors may be used, and should always be used in combination with a roof compatible sealant.

IMPORTANT! The installer is responsible for weather proofing all holes with sealant.

IMPORTANT! The King-Dome is wired for a dual LNB. There are two coaxial ports on the back of the dome unit. The one labeled “MAIN” MUST be connected to the main receiver in vehicle. The one labeled “AUX” can be used for an additional receiver.

Note: The installer is responsible for weather proofing all holes with sealant. Depending on the roof material, fasteners such as lag screws, well nuts, sheet metal screws, toggle bolts and T anchors may be used, and should always be used in combination with a roof compatible sealant.

IMPORTANT! Do not remove the rubber sleeves from the coax ports. The coax cable ends will slide inside the sleeves as they are tightened.

10. Connect coax cable to coax port labeled MAIN on back of dome unit and tighten connection. If using a second receiver, connect second coax cable to coax port labeled AUX and tighten connection. Do not over tighten coax connections (Fig. 9).

IMPORTANT! Coax connections will slide inside rubber sleeves. Coax connections should be snug. DO NOT OVER TIGHTEN!
11. Run wires from the back of the dome unit to the roof edge, then along edge to location where wiring will be fed into the vehicle. (If installing an optional second receiver, run auxiliary coax to location where it will enter the vehicle.) Secure wiring to roof every 12-18 inches (Fig. 10).

12. Drill 3/4” hole through the roof and into the cabinet where receiver is stored. Feed wiring down through hole. Seal opening with roof compatible sealant so that it is entirely waterproof (inside and outside of the 3/4” hole). Repeat for optional second receiver (Fig. 10).

13. Remove blue protective sheet and red “position to rear” sticker from the dome unit.
14. Inside vehicle, connect main coax from the dome unit directly to the “satellite in” port of the main receiver. Do not go through an “A-B” or any other switch, box, or booster. Connect auxiliary coax directly to optional second receiver.

15. Connect red and black two conductor wire to a power source and ground. Red connects to +12 volts, and black connects to ground.

16. Plug phone style Controller Cable into Controller.
1. Turn TV and satellite receiver on.

2. Go to the signal meter screen on TV.
   Choose transponder number: Dish Network #11
   DIRECTV #19

3. Enter local ZIP code on signal meter screen to determine satellite elevation. If you do not know your local zip code, determine your elevation from the maps on pages 12-14.

4. Press and hold UP/ON arrow on King-Dome Controller for 3 FULL SECONDS to turn King-Dome on.

Note: The Controller will flash a series of codes and then display its elevation. Wait for the Controller to steadily display the elevation before continuing (about 10 seconds).

5. Press UP or DOWN arrow on King-Dome Controller to match elevation on Controller to elevation on TV signal meter screen or elevation from maps on pages 12-14.

IMPORTANT! In Step 6, as soon as you begin holding the right arrow, you must continuously monitor the TV signal meter screen until signal appears on TV.

6. Press and hold RIGHT arrow until Controller begins RAPIDLY flashing its clock position (7-10 seconds). (See Fig. 2, Page 3.) Remember, you must watch for signal strength on TV! Dish will automatically perform a 360 degree scan for satellite. When signal strength appears on TV, press ANY BUTTON to stop the dish from rotating.

7. Press the UP, DOWN, LEFT or RIGHT arrows to fine tune signal strength to the highest possible number on TV signal meter screen. Enjoy your programming!
Elevation Map for DIRECTV 101

Find your location on the map. Use the elevation lines to determine your approximate elevation.
Elevation Map for Dish/DIRECTV 110

Find your location on the map. Use the elevation lines to determine your approximate elevation.
Elevation Map for Dish/DIRECTV 119

Find your location on the map. Use the elevation lines to determine your approximate elevation.
While the dish rotates, the direction of the dish in relation to the vehicle’s position will be displayed on the controller as a clock number. (The windshield is always 12:00 o’clock: see Fig. 2, Page 3.)

This information can be used to determine when the dish is close to pointing at the desired satellite.

IMPORTANT! You must continuously monitor the TV for signal strength while the dish is rotating. DO NOT WATCH THE KING-DOME CONTROLLER.
**SECTION 5  STORE/RECALL POSITIONS**

Note: For use with multi-satellite services (such as Dish 500).

**Store Satellite Position #1**

1. Once locked onto a desired satellite, hold LEFT AND RIGHT arrows simultaneously until display flashes.

2. Hold LEFT arrow until 1P (Position 1) appears on display. Position #1 is stored in memory for this position.

**Store Satellite Position #2**

3. Once locked onto the second desired satellite, hold LEFT AND RIGHT arrows simultaneously until display flashes.

4. Hold RIGHT arrow until 2P (Position 2) appears on display. Position #2 is stored in memory for this position.

**Recall Satellite Position #1**

5. Press DOWN AND LEFT arrows simultaneously. Dish will automatically move to Satellite Position #1 and controller will display 1P.

**Recall Satellite Position #2**

6. Press DOWN AND RIGHT arrows simultaneously. Dish will automatically move to Satellite Position #2 and controller will display 2P.
If the controller turns on and displays OH:

Make sure you press and hold the up arrow for **3 FULL SECONDS**.

If no signal strength appears on TV:

Reset receiver.

Verify dish elevation matches satellite elevation.

Continuously watch TV for signal strength.

Make sure you hold right arrow until display rapidly flashes clock position.

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To check Coaxial Cable Connection: Press **UP AND LEFT** arrows simultaneously.

1E = Receiver is not connected or bad coax connection.

OH = Proper coax connection.

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To check Supply Voltage: Press ON. After controller counts down and displays OH, press **UP AND RIGHT** arrows simultaneously.

Example: When Display flashes:

<table>
<thead>
<tr>
<th>BLANK</th>
<th>then</th>
<th>92 = 9.2 volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>then</td>
<td>00 = 10.0 volts</td>
</tr>
<tr>
<td>1</td>
<td>then</td>
<td>20 = 12.0 volts</td>
</tr>
<tr>
<td>1</td>
<td>then</td>
<td>36 = 13.6 volts</td>
</tr>
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</table>

**Voltage must be greater than 10 volts.**

When Display quickly flashes:

1L = Clockwise rotational limit reached.

2L = Counterclockwise rotational limit reached.
The King-Dome Satellite System has been designed to be maintenance and trouble free.

For optimum signal strength, keep the dome clean from dirt, bugs, and other debris. Periodic washing of the dome with mild soap and water is recommended.

If you plan on storing your vehicle for long periods of time, it is recommended that the system be put through a search procedure on a quarterly basis to keep all moving parts in good working order.

If you have any comments or questions, please contact the King Controls Service Department at (800) 982-9920, or email King Controls at info@kingcontrols.com

Rain Fade

Rain or dew on the dome can cause signal interference and make the digital picture freeze, pixel or go out altogether. This loss of signal is commonly referred to as “rain fade” and is caused by the combination of water in the atmosphere and water on the dome surface.

To minimize this issue and eliminate the effects of water on the dome, apply King Controls Dome Magic® rain fade solution to the dome. This will prevent water from sticking to the dome surface and blocking the signal. For additional details on Dome Magic® rain fade solution please contact your authorized King-Dome dealer or call King Controls at (800) 982-9920.
Every King Controls Satellite System is thoroughly inspected and tested before leaving the factory. It is covered by a two year parts and one year labor limited warranty from the date of original purchase. This warranty does not cover installation and external wiring or refurbished units.

Should any trouble develop during the warranty period, contact King Controls or one of its certified dealers. Only King Controls and certified dealers are authorized to perform warranty evaluations and repairs.

If it is determined that the unit needs to be returned, return COMPLETE product, freight prepaid, to:
King Controls, 11200 Hampshire Avenue South, Bloomington, MN 55438-2453. If inspection shows the trouble is caused by defective workmanship or material, King Controls will repair (or at its option, replace) without charge.

This warranty does not apply where:

- The product has been abused, misused, improperly installed or improperly maintained.
- Repairs have been made or attempted by others who are not certified by King Controls to do such repairs.
- Repairs are required because of normal wear and tear.
- Alterations have been made to the product.

In no event shall King Controls be liable for any indirect, incidental, or consequential damages from the sale or use of the product. This disclaimer applies both during and after the term of the warranty.

King Controls disclaims liability for any implied warranties, including implied warranties of “merchantability” and “fitness for a specific purpose,” after the one year term of this warranty.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.