

Automatic Satellite System

for DISH Network® Programming

Model KD5500

Installation and Operating Instructions



For Sales Information Please Contact

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Digital TV Solutions for Mobile Markets

11200 Hampshire Avenue South, Bloomington, MN 55438-2453 Phone: (952) 922-6889 Fax: (952) 922-8424

www.kingcontrols.com

IMPORTANT!

This King-Dome Automatic Satellite System is designed to work with both standard definition and high definition satellite TV broadcasts from DISH Network's satellites 110/119/129, and <u>ONLY</u> with DISH Network model ViP211, ViP211k and 411 receivers. It <u>will not work</u> with other DISH Network receiver models or with equipment for other satellite TV service providers.

The mobile 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 (952) 922-6889 or visit our website at www.kingcontrols.com.

Please read this entire manual before beginning the installation process.

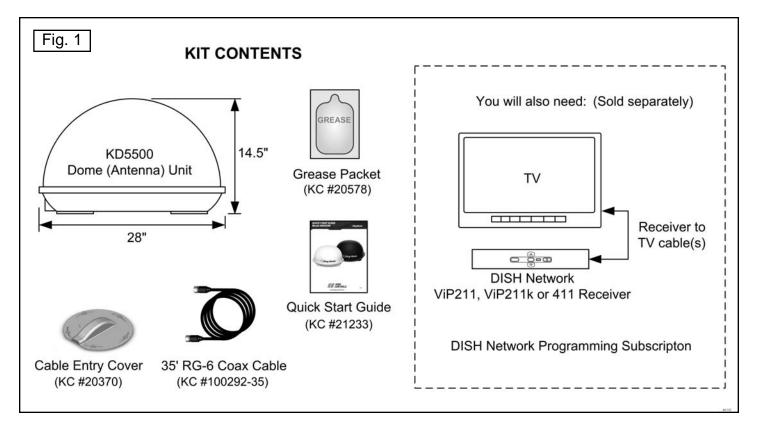
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SECTION 1 INTRODUCTION

The King-Dome model KD5500 Automatic Satellite System is designed for permanent, roof mounted installation on a recreational vehicle. A single coaxial cable connection between the King-Dome antenna and your DISH Network model ViP211, ViP211k or 411 receiver provides power to the automated positioning system under the dome and transmits your SD and HD satellite video signals to your receiver.

An optional second receiver may be connected to provide independent channel viewing on two different TVs. Your DISH Network programming is broadcast from two or three satellites and the King-Dome automatically switches between satellites based on the channel selected on your main receiver. Channels available on the second receiver will depend on the channel (satellite) selected by the main receiver.



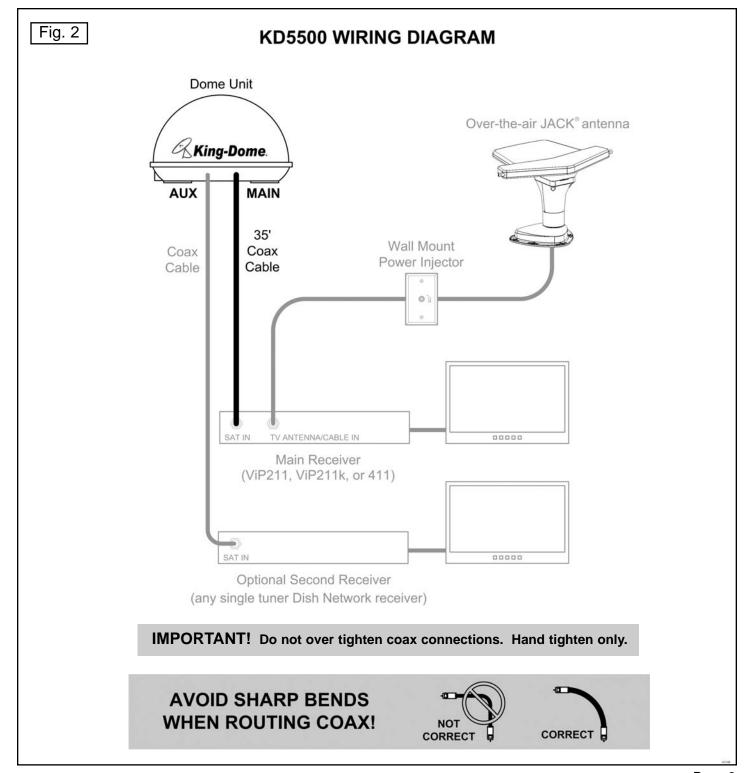
TOOLS AND MATERIALS REQUIRED

- 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

SECTION 2 WIRING DIAGRAM

NOTE: All components sold separately except for dome unit and main 35 foot coax.

See your respective owner's manuals for the best connections between your compatible DISH Network receiver and TV.



SECTION 3 INSTALLATION

TIP: Many RVs are pre-wired for satellite with RG-6 coaxial cable. Contact the manufacturer of your RV or your local dealer to verify where the coaxial cable for satellite pre-wire is located.

DOME UNIT LOCATION

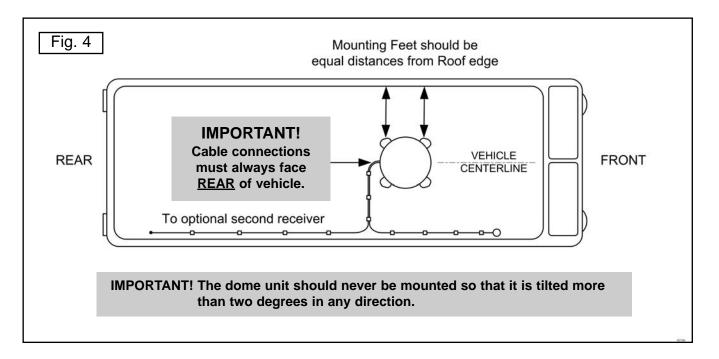
- 1. Select an area on the roof for the dome unit and the location where the wiring will enter the vehicle through the roof to the satellite receiver inside using the following criteria:
 - a) A shorter distance between the dome unit and the satellite receiver is most desirable.
 - b) The dome unit requires a 28 inch diameter mounting area.
 - c) The dome unit should be mounted on the centerline of the vehicle.
 - 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 antenna (**Fig. 3**).

Fig.3	HEIGHT OF OBSTRUCTION	APPROXIMATE MINIMUM DISTANCE TO DOME EDGE	
	10"	8"	
	11"	10"]
	12"	12"]
	13"	14"	1
	14"	16"	1
	15"	18"	1
	16"	20"	1
	Approxime Minimum D to Dome	Pistance	Height of Obstruction
Vehicle Ro	of.		<u> </u>

DOME UNIT INSTALLATION

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

- Place dome unit on installation location chosen using the criteria discussed in the previous section. Cable connections must be positioned facing rear of vehicle.
- 3. The dome unit must be positioned so that both mounting 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. 4).



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 weatherproofing all holes with sealant.

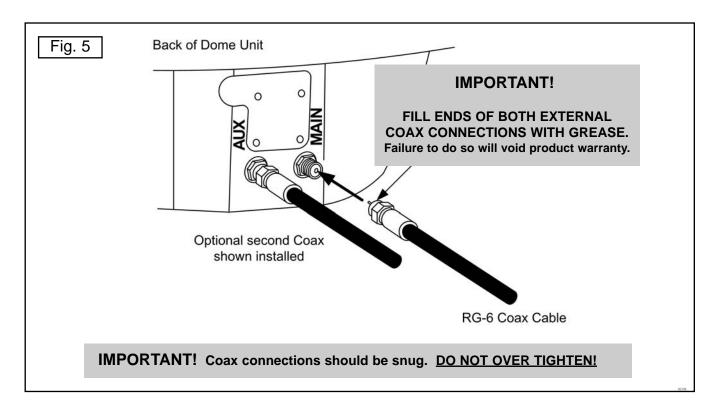
- 4. Mount the dome unit. Use the pre-drilled holes in the mounting feet as a guide to install the fasteners into the roof. Use additional fasteners whenever necessary.
- 5. Test that the dome unit is secure by pulling upward from each foot location.

EXTERNAL WIRING

NOTE: There are two coax ports on the back of the dome unit. The one labeled "MAIN" <u>MUST</u> be connected to the main receiver in vehicle (DISH Network model ViP211, ViP211k, or 411 only). This is the receiver that will control automatic satellite switching. The one labeled "AUX" can be used for an additional receiver (may be any single tuner DISH Network receiver - see Section 5 of this manual).

6. Fill end of coax cable that will connect to the MAIN port on the dome unit with supplied dielectric grease. Connect this end of the coax cable to the MAIN port and tighten connection (Fig. 5). DO NOT OVER TIGHTEN.

If using a second receiver, fill end of second coax cable with supplied dielectric grease and connect it to the AUX port. Tighten connection. **DO NOT OVER TIGHTEN.**





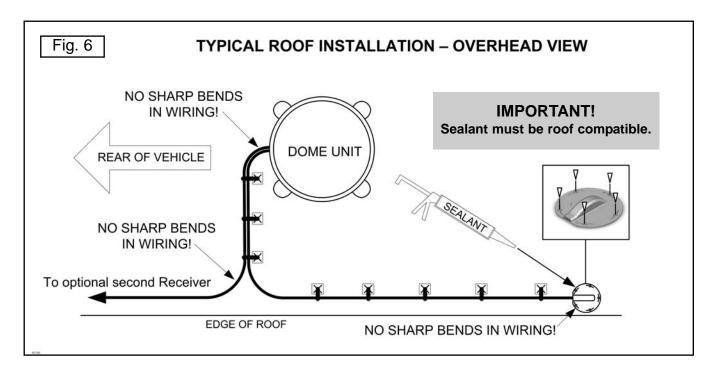
7. Run the main coax from the back of the dome unit to the roof edge, then along the edge to the location where it will be fed into the vehicle. If installing an optional second receiver, run second coax to location where it will enter the vehicle. Secure wiring to roof every 12-18 inches (Fig. 6).

IMPORTANT! Use adhesive sealant compatible with roof material.

Installer is responsible for determining proper roof compatible adhesive sealant and fasteners for cable entry cover.

Roof holes for cables must be sealed so they are completely waterproof. Mounting holes, perimeter of cable entry cover and cable opening of cable entry cover must be sealed so they are completely waterproof.

- 8. Drill 3/4" hole through the roof and into the cabinet where receiver is stored. Feed coax down through hole. Seal opening with roof compatible sealant so that it is completely waterproof (inside and outside of the 3/4" hole). Repeat for second coax if present.
- 9. Fasten cable entry cover to roof with appropriate adhesive sealant and roof fasteners. Seal mounting holes, perimeter of cover and cable opening so they are completely waterproof.



10. Remove blue protective sheet and red "position to rear" sticker from the dome unit.

INTERNAL WIRING (FIG. 2, PAGE 3)

- 11. Connect the coax from the MAIN port on the King-Dome to SATELLITE IN on your main receiver (must be DISH Network model ViP211, ViP211k or 411).
- 12. Follow the instructions in Section 5 if you plan to use a second receiver.

SECTION 4 OPERATION

IMPORTANT: Satellite TV reception requires a clear "line of sight" to the southern sky where the satellites are located. Mountains, buildings, trees, telephone poles, etc. can all block the satellite signal from reaching the antenna.

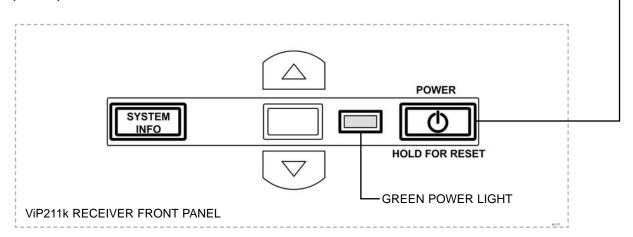
After completing the SCAN process, please call DISH Network at 1-800-333-DISH (3474) if you need to authorize or re-authorize your satellite receiver.

THIS ANTENNA IS DESIGNED TO WORK AUTOMATICALLY WITH DISH NETWORK MODEL VIP211, VIP211k AND 411 RECEIVERS AND <u>WILL NOT WORK</u> WITH OTHER DISH NETWORK RECEIVER MODELS OR WITH EQUIPMENT FOR OTHER SATELLITE TV SERVICE PROVIDERS.

1. Turn on your inverter or generator, or plug into a 110 VAC power source to provide 110 volt AC power to your satellite receiver and TV.

The green light on your receiver should illuminate or begin cycling on and off. Wait for the green light to turn solid (this may take up to two minutes).

If the green light does not illuminate after two minutes, power on your receiver using the front panel power button.

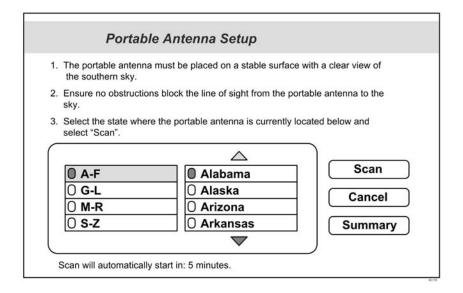


2. Turn on your TV.

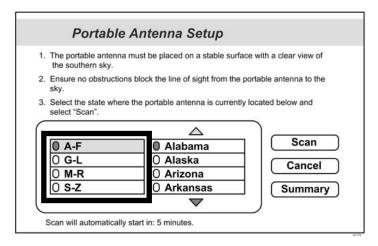
Use your TV's input selection menu to select the input that matches the connection to your DISH Network receiver, i. e. if using an HDMI cable connection you should select the HDMI TV input.

The Portable Antenna Setup screen will be displayed on your TV (shown on next page).

IMPORTANT: If the Portable Antenna Setup screen does not display, press MENU, 6, 1, 1 on your DISH Network remote control. Highlight the "Check Switch" button then press SELECT on your remote.

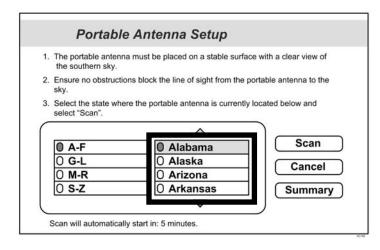


3. Use the arrow buttons on your remote to highlight the letter group that includes the first letter of the state you are currently in.

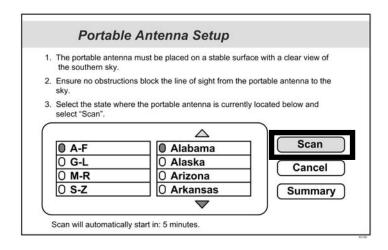


Press **SELECT** on your remote.

4. Highlight the state you are currently in from the state menu.

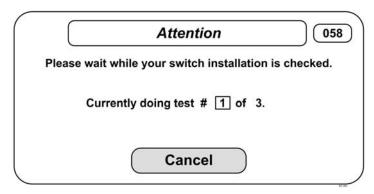


5. Verify "Scan" is highlighted.

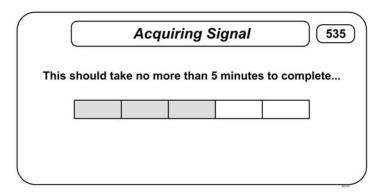


Press **SELECT** on your remote.

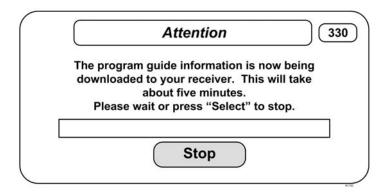
The scan will begin and may take several minutes to complete. This screen will display during the scan:



6. When the scan is complete, the "Acquiring Signal" message will display. Acquiring the signal may take up to 5 minutes to complete.



7. After your receiver has acquired the signal, the electronic program guide will download. This may take up to 5 minutes to complete (potentially longer if an external hard drive is connected for DVR use).



8. SEE IMPORTANT RECEIVER AUTHORIZATION INFORMATION BELOW!

IMPORTANT! YOU MUST AUTHORIZE YOUR DISH NETWORK RECEIVER.

When using your receiver for the first time the 129 error message will appear. Call DISH Network at 1-800-333-DISH (3474) to authorize your receiver.

If your receiver has not been used for awhile the 013 error message may appear. Call 1-800-333-DISH (3474) and follow the prompts to automatically re-authorize your receiver.

You can view your programming when your receiver has been authorized and the guide has finished downloading.

OPERATING NOTES

If you move your vehicle, you will have to repeat the scan process to re-acquire the satellites and restore programming.

When in the northeastern United States, television programming from the 129 satellite may not be available (see page 17).

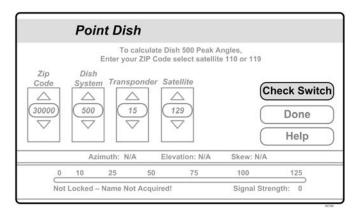
If your system is inactive for an extended period of time, you may have to call DISH Network Customer Service at 1-800-333-DISH (3474) to re-authorize your receiver.

SECTION 5 SECOND RECEIVER OPERATION

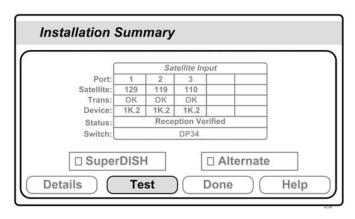
INITIAL SETUP FOR SECOND RECEIVER

With the second receiver disconnected from the King-Dome, use your DISH Network remote control and press MENU, 6, 1, 1 to display the Point Dish screen.

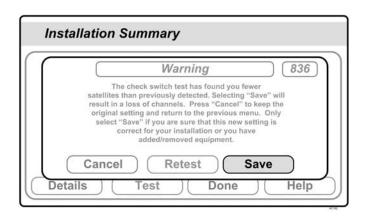
Use the arrow buttons on the remote to highlight "Check Switch" and press **SELECT**.



Verify "SuperDISH" and "Alternate" are not selected. Verify "Test" is highlighted and press **SELECT**.



When test is complete, highlight "Save" and press **SELECT**. After successfully saving the results, connect the AUX coax connection of the King-Dome to SAT IN on the second receiver.



See the next page for downloading programming to the second receiver.

DOWNLOADING PROGRAMMING TO THE SECOND RECEIVER

The channels available on the second receiver are determined by the channel/satellite selected by the main receiver. For example, if you select a channel on the main receiver that is broadcast from the 119 satellite, then the second receiver will be able to view any channel broadcast from the 119 satellite after performing the following procedure:

With the antenna locked on, re-set the second receiver by pressing the POWER button on the front panel for 10 seconds. The TV picture will go away and should reappear within two minutes. The receiver will then download the program guide to show only the channels available on the current satellite as determined by the channel selected on the main receiver. Downloading the new program guide can take up to five minutes to complete.

If you switch channels on the main receiver to one that is broadcast from a different satellite, (i.e. your channel was broadcast from satellite 119 but your new channel is broadcast from the 110 or 129), the antenna will automatically switch to the new satellite and programming will be lost on the second receiver until you either:

• Select a channel on the main receiver that is broadcast from the previous satellite (satellite 119 in this example).

(or)

• Reset the second receiver to download the program guide for the newly selected satellite (satellite 110 or 129 in this example).

TIP: Most DISH Network HD channels are broadcast from the 129 satellite location. Selecting an HD channel on the main receiver before re-setting the second receiver will provide independent viewing of most available HD channels on either receiver.

SECTION 6 TROUBLESHOOTING

Symptom/Message	Possible Cause	Troubleshooting
Complete Signal Loss - 015	Obstructions to the King-Dome's view of the southern sky, such as tree branches, severe rain, etc. Coax cable not connected properly between your receiver and the King-Dome.	 Make sure nothing is blocking the King-Dome's view of the southern sky, such as tree branches, severe rain, or other obstructions. Check that the coax cable between your receiver and the King-Dome is connected properly. Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on.
No Satellites Found - 151	Obstructions to the King-Dome's view of the southern sky, such as tree branches, severe rain, etc. Coax cable not connected properly between your receiver and the King-Dome.	 Make sure nothing is blocking the King-Dome's view of the southern sky, such as tree branches, severe rain, or other obstructions. Check that the coax cable between your receiver and the King-Dome is connected properly. Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on.
Partial Signal Loss - 002	Obstructions to the King-Dome's view of the southern sky, such as tree branches, severe rain, etc.	 Make sure nothing is blocking the King-Dome's view of the southern sky, such as tree branches, severe rain, or other obstructions. Check that the coax cable between your receiver and the King-Dome is connected properly. Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on.
My remote is not working	Your remote is not currently paired with your receiver.	1) Check to make sure the batteries are properly inserted in your remote. 2) Set up your remote control: • Press the "SYSTEM INFO" button on the front panel of your receiver. The "System Info" screen displays. • Press and release the SAT button on your remote control. • Press and release the RECORD button. You may see the remote address change on the screen. • Press and release the SELECT button on your remote to continue.

Symptom/Message	Possible Cause	Troubleshooting
Channel Signal Loss - 004	King-Dome has not tracked to the appropriate orbital slot upon channel change.	1) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. 2) On the Portable Antenna Setup Screen: • Verify the correct state is selected. • Highlight "Scan" then press SELECT. • Once your system has found its satellites, it may take a few minutes to download the electronic program guide and acquire signal before live TV appears.
No Program Guide - 023	Your receiver has not yet acquired signal required to allow access to the electronic program guide.	1) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. 2) On the Portable Antenna Setup Screen: • Verify the correct state is selected. • Highlight "Scan" then press SELECT. • Once your system has found its satellites, it may take a few minutes to download the electronic program guide and acquire signal before live TV appears.
All Satellites Not Found - 150	Obstructions to the King-Dome's view of the southern sky, such as tree branches, severe rain, etc. Your physical location may be outside the footprint of the desired orbital slot.	1) Make sure nothing is blocking the King-Dome's view of the southern sky, such as tree branches, severe rain, or other obstructions. 2) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on.
Sporting Event Blackout - 744	Blackout patterns are applied based on the physical address on your account. Events outside the area surrounding your physical address may not be available.	N/A
Programming Not Authorized - 005/013/014	You may not be subscribed to the channels you are trying to view. Your receiver has been unplugged or not connected to signal for a significant period of time.	 Confirm that you subscribe to this channel by using dish.com/mychannels. Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. Call 800-333-DISH (3474) and select TECH. When prompted by the audio menu, enter the error number using your phone keypad and an activation command will be sent to your receiver.

Symptom/Message	Possible Cause	Troubleshooting	
Over-the-Air Antenna Channels Missing - Error 739	The quality of reception and number of over-the-air (OTA) channels available depends on, among other things, the type and positioning of your OTA antenna. Obstructions such as trees, buildings, mountains, and weather conditions may interfere with OTA signal reception.	1) Check that the wiring between your DISH receiver and your over-the-air antenna is configured properly. 2) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. 3) Re-scan over-the-air antenna channels to your receiver: • Using the DISH Network remote, press MENU then 6-8 to access the local channels screen. • Select "Scan Locals."	
Outside of Viewing Area - 120	Local channels may not be available if your receiver is not physically located at or near the address listed on your DISH Network account.	N/A	
Local Channels Interrupted - 536	Local channels may not be available if your receiver is not physically located at or near the address listed on your DISH Network account.	N/A	
Missing Channels	The electronic program guide may not be set to "My Channels." You may not have the orbital slots required to view the missing television programming.	1) Press the GUIDE button on your remote twice to display the "Favorites List Options" menu. Select "My Channels" using the arrow buttons on your remote. 2) Confirm that you subscribe to the missing channel by using dish.com/mychannels. 3) Perform a check switch test: • Using your DISH Network remote, press MENU then 6-1-1. Highlight the Check Switch Button then press SELECT. • Highlight "Scan" then press SELECT. • Once your system has found its satellites, it may take a few minutes to download the electronic program guide and acquire signal before live TV appears. 4) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on.	
Local Channels Missing	Local channels may not be available if your receiver is not physically located at or near the address listed on your DISH Network account.	N/A	

Symptom/Message	Possible Cause	Troubleshooting
Guide Information Not Available	Your receiver was not powered off at night to receive the nightly electronic program guide updates. Your receiver has not yet acquired signal needed to gain access to the electronic program guide.	1) Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. 2) On the Portable Antenna Setup Screen: • Verify the correct state is selected. • Highlight "Scan" then press SELECT. • Once your system has found its satellites, it may take a few minutes to download the electronic program guide and acquire signal before live TV appears.
Guide Time is Incorrect	The guide time may be incorrect if your receiver is not physically located at the address listed on your DISH Network account.	N/A
Video Pixels / Audio Pops	Obstructions to the King-Dome's view of the southern sky, such as tree branches, severe rain, etc. Your receiver's signal is low.	 Make sure nothing is blocking the King-Dome's view of the southern sky, such as tree branches, severe rain, or other obstructions. Unplug the power cord of your receiver for 10 seconds and plug it back in. It may take up to 5 minutes for your receiver to power back on. Check that the coax cable between your receiver and the King-Dome is connected properly.

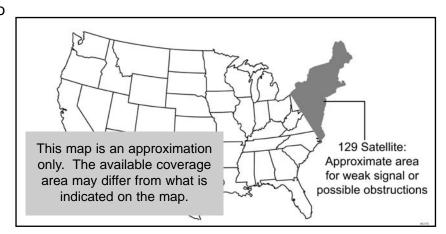
SATELLITE TV RECEPTION

Satellite TV signals are broadcast from satellites in a geo-stationary orbit over the earth. This enables the satellites to stay aligned over one place on the surface of the earth and to transmit your television programming to the antenna (inside dome unit) when pointed at the appropriate satellite.

Your television programming is delivered from up to 3 satellites located at the 110°, 119°, and 129° west longitudes. The King-Dome will automatically find and then switch between satellites as you

change channels on the main receiver to offer you the ideal viewing experience.

Due to the low look angle for the 129 satellite in the northeastern region of the United States, you may experience difficulty viewing programming from the 129 satellite while in the northeastern region. (Programming from the 110 and 119 satellites should still be available.)



RAIN AND SNOW FADE

Though rare, heavy rain, snow, or dense cloud cover can reduce the satellite signal, which may interrupt your programming. Your programming should return as conditions improve.

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SECTION 7 MAINTENANCE

The King-Dome Satellite System has been designed to be maintenance and trouble free.

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

IMPORTANT! Do not power wash the King-Dome.

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 (952) 922-6889, 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 adhering to the dome surface and blocking the signal. For additional details on **Dome Magic**® rain fade solution please contact an authorized King-Dome dealer or call King Controls at (952) 922-6889.



Single Application Packet #1830-SP



Spray Can #1830

NOTE: Dome Magic® will discolor black domes or domes painted a dark color.

SECTION 8 LIMITED WARRANTY

Every new King-Dome Satellite System is thoroughly inspected and tested before leaving the factory, and is covered by the following two year parts and one year labor limited warranty from the date of original purchase:

- Two year parts warranty: The customer is not responsible for the cost of replacement parts if the original part is determined to be defective under the terms of the warranty. The customer is responsible for the cost of replacement parts after two years.
- One year labor warranty: The customer is not responsible for labor costs to repair unit if unit falls under the terms of the warranty. Any warranty labor outside of that performed at the factory is not covered unless the product has been installed by an authorized dealer/installer or OEM manufacturer. The customer is responsible for all labor costs after one year.

Should any trouble develop during the warranty period, contact King Controls. You must contact King Controls before the warranty period expires. The customer must supply proof of purchase (such as a dated sales receipt) when requesting warranty service. If customer cannot supply proof of purchase, warranty period shall start 30 days after date of manufacture.

Only King Controls and certified dealers are authorized to perform warranty evaluations and repairs. Depending upon the problem, King Controls may authorize the dealer to perform the necessary repairs, or may have the unit returned to King Controls for repairs.

A certified dealer must not perform any repair without first contacting King Controls for a Service Order Number. King Controls will advise the dealer on how to proceed with any repairs.

If it is determined that the unit needs to be returned to King Controls, customer must 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.

When returning product, King Controls will supply an RMA number (Return Merchandise Authorization). This number must be clearly written on the box. Failure to clearly write RMA number on box may result in delays in processing claim. Along with product, customer should include in the box: his/her name, address, daytime phone number, proof of purchase and description of the problem.

This warranty does not cover installation and external wiring, or remanufactured units. This warranty is not transferable from the original owner.

Due to the expanding and changing TV market, King Controls cannot be held responsible for changes made to satellite services. Software updates to address such issues are not covered under warranty.

This warranty also does not apply where:

- The product has been abused, misused, improperly installed or improperly maintained.
- Repairs have been made or attempted by others that 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.
- The dome cover has been removed without authorization.
- Supplied grease not used in the external coax connections as specified in the instructions.
- Damage has been caused by power washing.
- · Circumstances beyond the control of King Controls cause the product to no longer operate correctly.
- Customer is not the original owner.

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.