

VQ4100

TROUBLESHOOTING GUIDE

VQ4100 KING Quest HDTV System



KING || QUEST™

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 **IMPORTANT** 

NEVER USE THE POWER INJECTOR AND UC1000 CONTROLLER IN COMBINATION WITH EACH OTHER!

The KING Quest may be connected to the power injector or the UC1000 controller.

For power injector connections, use section 3.

For UC1000 controller connections, use section 4.

NOTE: For installation information, refer to the VQ4100 Owner’s Manual available at www.kingconnect.com.

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The KING Service Department is dedicated to providing its dealers and customers with the highest possible level of satisfaction and service.

The satellite TV market is expanding and changing. The KING Service Department stays up to date with the latest information to assist you in keeping troubleshooting and repair time to a minimum.

When calling our service department, a KING technician will issue a Customer ID Number (or Case Number) and then clearly define the proper course of action to follow. If any work is to be performed or parts replaced, a Service Order Number will also be issued. Additionally, the KING technician will create a call log to aid in properly documenting the warranty claim.

IMPORTANT!

For warranty reimbursement, you must call KING for a Service Order Number

BEFORE performing any work: (952) 922-6889.

Please have serial number and model of unit available when calling.

Section 2 **WARRANTY INFORMATION**

Every VQ4100 Satellite System 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. 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 to do such repairs.
- Repairs are required because of normal wear and tear.
- Alterations have been made to the product.
- The top enclosure 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 cause the product to no longer operate correctly.
- Customer is not the original owner.

PROCESSING A WARRANTY CLAIM

IMPORTANT! Only KING certified dealers are authorized to perform warranty evaluations and repairs.

- 1) Technician must first determine if the unit is under warranty by verifying original owner and date of original purchase. Dealer must provide one of the following when submitting a warranty claim:
 - copy of original purchase receipt, or
 - if unit was installed by an OEM, verification of in-service date
- 2) Technician must call KING to get a Service Order Number (952) 922-6889. Technician must not proceed without a Service Order Number.
 - A KING technician will issue a Service Order Number and advise technician on how to proceed.
- 3) After repairs are completed, the following must be sent to KING:
 - Defective Part (Warranty Labor Claim will not be processed until part is returned.)
 - Warranty Consideration Form
 - Copy of Work Order
 - Proof of Purchase

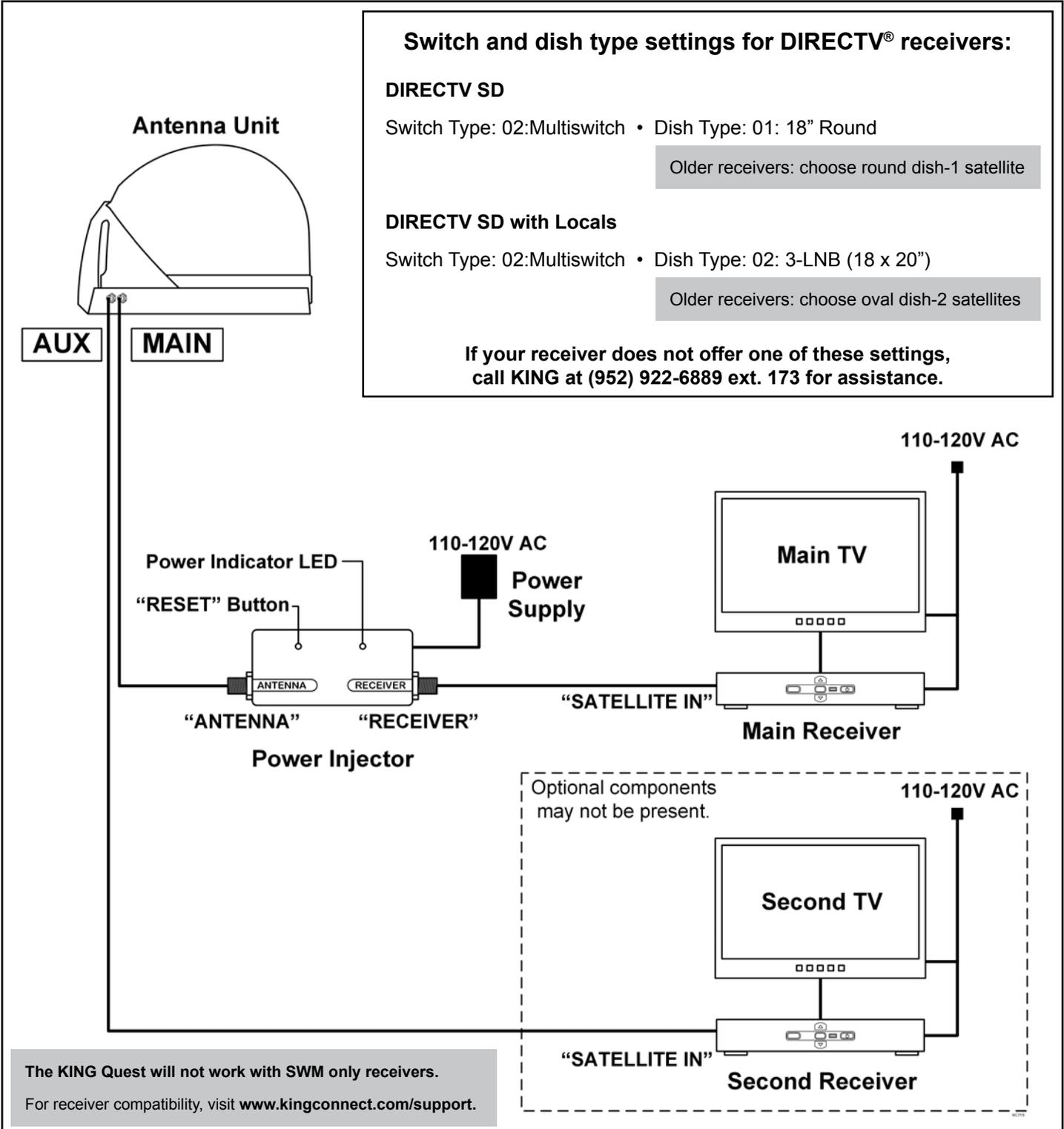
KEY POINTS

- 1) For units in service longer than one year, the customer is responsible for labor time.
- 2) Installation parts (for example coax cables) are not covered.
- 3) Replacement parts (including domes) are sent directly from KING. **DO NOT USE NEW PRODUCT FOR WARRANTY REPLACEMENT WITHOUT WRITTEN AUTHORIZATION FROM KING.**
- 4) Technician must call KING before performing any work for which warranty labor reimbursement will be submitted to KING. A KING technician will issue a Service Order Number and specify the allotted time for the repair. If repairs will take longer than the allotted time, and the servicing dealer wishes to receive proper reimbursement, the technician must receive prior authorization to exceed the allotted time.
- 5) Warranty claims must include: proof of purchase, Warranty Consideration Form with Service Order Number, and copy of work order with labor time which matches that allotted by KING.
- 6) KING shall reimburse the servicing dealer for warranty work at their published labor rates.
- 7) Enclose paperwork with defective part. Clearly mark the Service Order Number on outside of box.

Section 3 KING QUEST WITH POWER INJECTOR

If the KING Quest is connected with a power injector, use this section.
 (If connected with a controller, use section 4.)

3.1 Connections

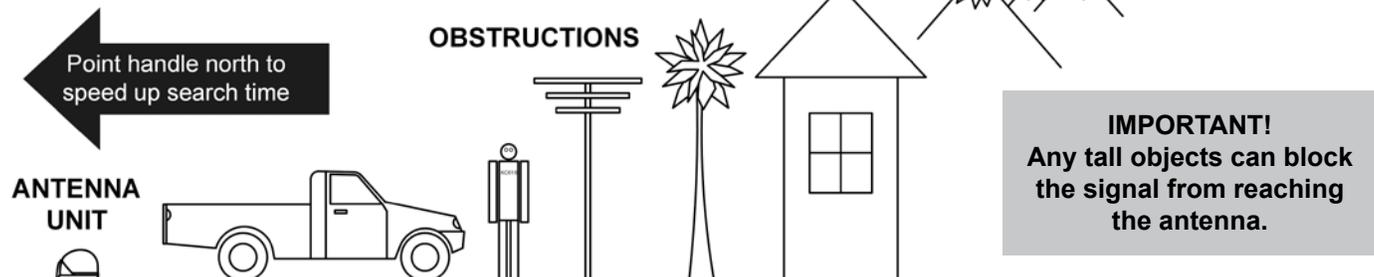


The KING Quest will not work with SWM only receivers.
 For receiver compatibility, visit www.kingconnect.com/support.

3.2 Operation

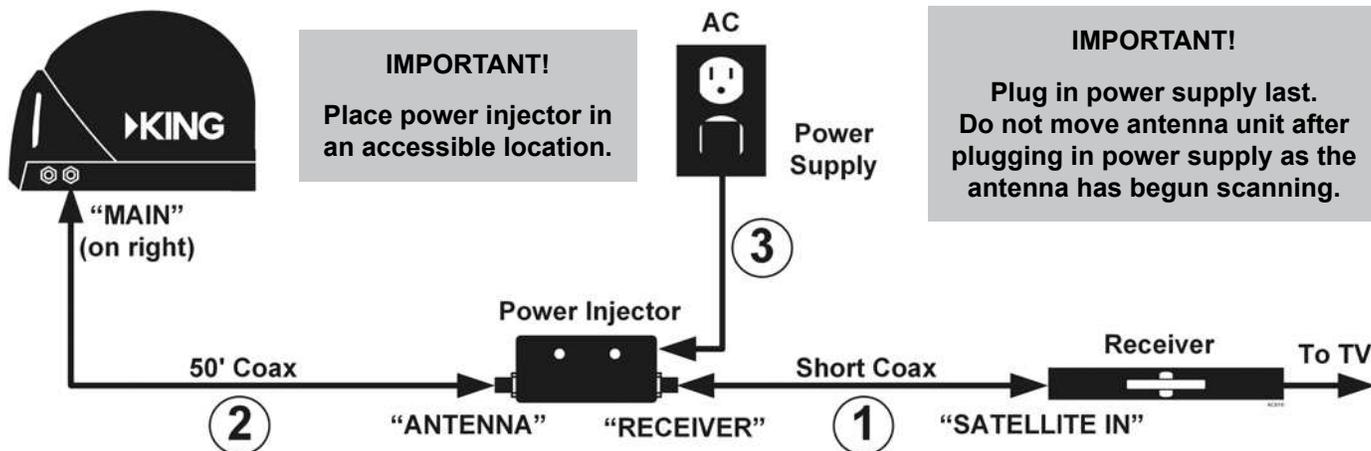
Place the antenna unit in a position with a clear view of the southern sky to scan for the DIRECTV 101 satellite.

SATELLITE IN SOUTHERN SKY



Place the KING Quest on a stable and reasonably level surface with a clear view of the southern sky. When placing the KING Quest in position, be sure surface is dry and free of loose dirt or sand.

Make connections 1-3 in the order shown.



Do not over tighten the coax connections.
Do not route the coax cable where it can be tripped on or run over by a vehicle.
Do not put sharp bends or kinks in the coax cable.

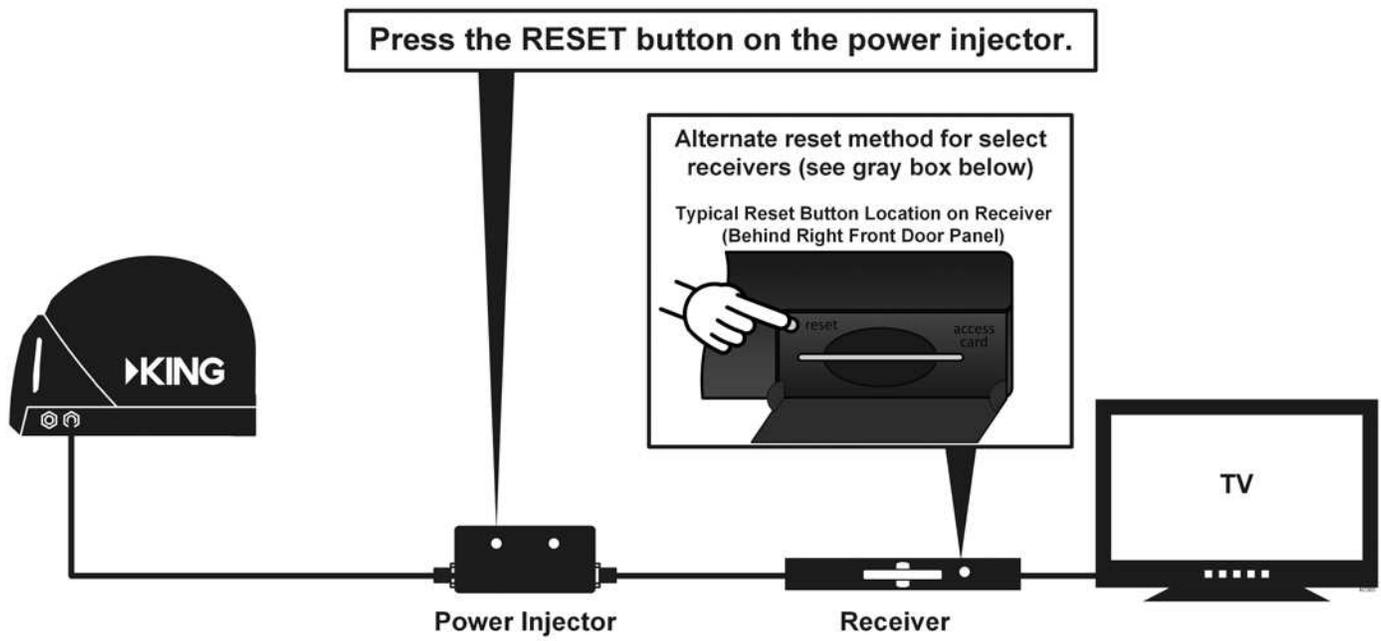
When all connections are made, the antenna will scan for the DIRECTV 101 satellite.

When the satellite is found, your programming will appear. Enjoy!

PLEASE BE PATIENT!
The antenna unit may lock on the satellite in as little as 2 minutes, but may occasionally take up to 10-15 minutes.

The KING Quest is not programmed to lock on the 119 satellite, so you will not receive your local channels if they are broadcast from the 119. If you wish to receive programming from the 119 as well as the 101, you can replace the power injector with the KING UC1000 Controller (sold separately - see your dealer or our website www.kingconnect.com for details).

If you wish to start a new scan (for example, the unit gets moved and you lose reception):



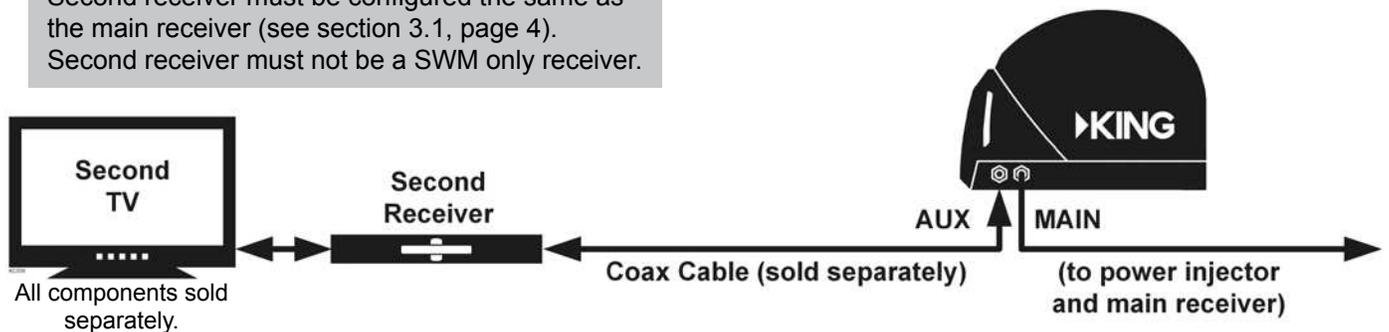
Pressing the power injector's RESET button is the preferred method to start a new scan, but there are two alternate methods as well:

- Disconnect and reconnect the coax from the MAIN port on the antenna unit.
- Press the RESET button on the receiver (this option works for select receivers only, such as models D12, H24 and HR24).

3.3 Second Receiver Operation

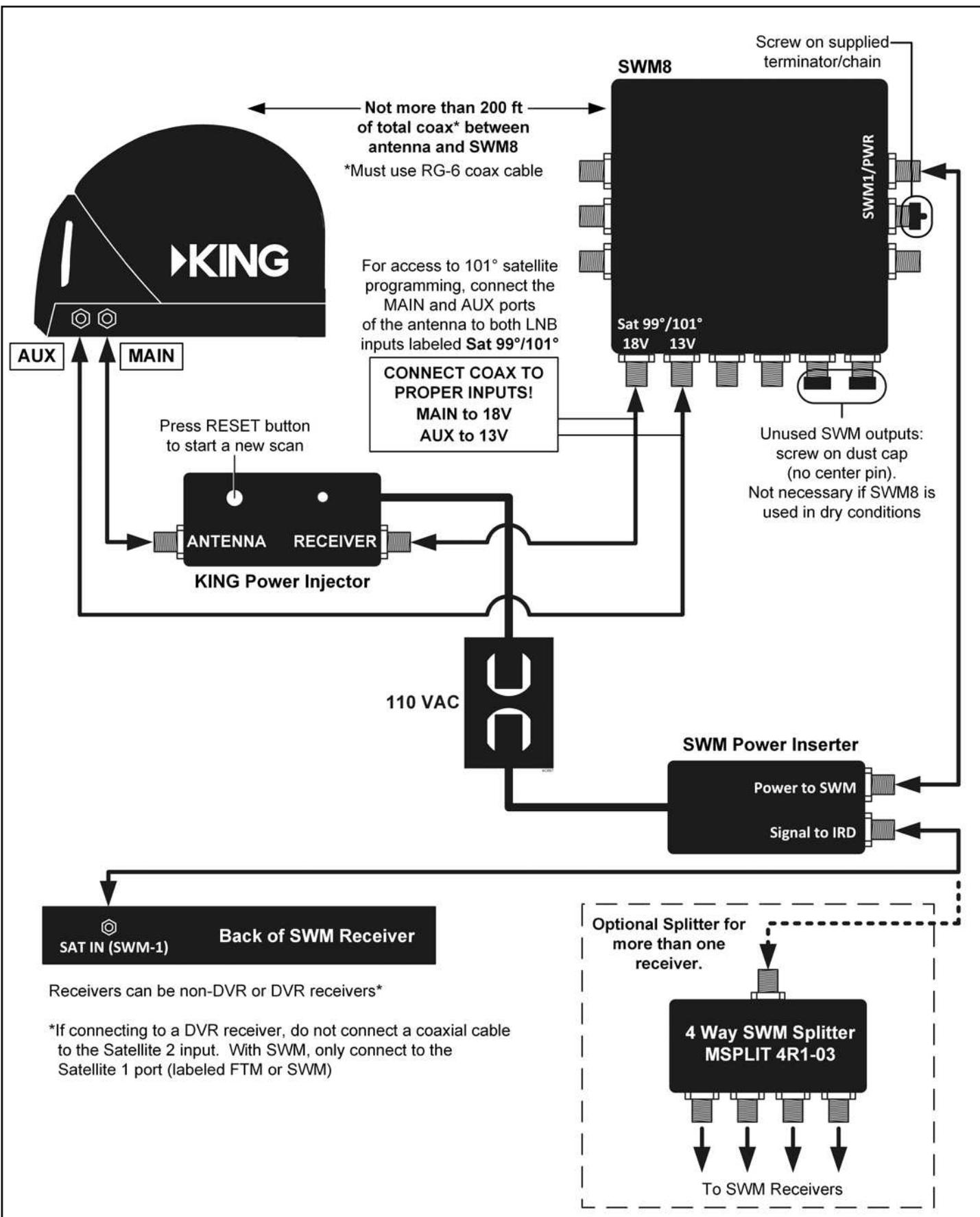
You can connect a second receiver and TV to the AUX port on the antenna unit.

Second receiver must be configured the same as the main receiver (see section 3.1, page 4).
Second receiver must not be a SWM only receiver.



If your main receiver has a second "satellite in" port and built in DVR, you can connect this input to the AUX port to record programs on a different channel than the one you are watching.

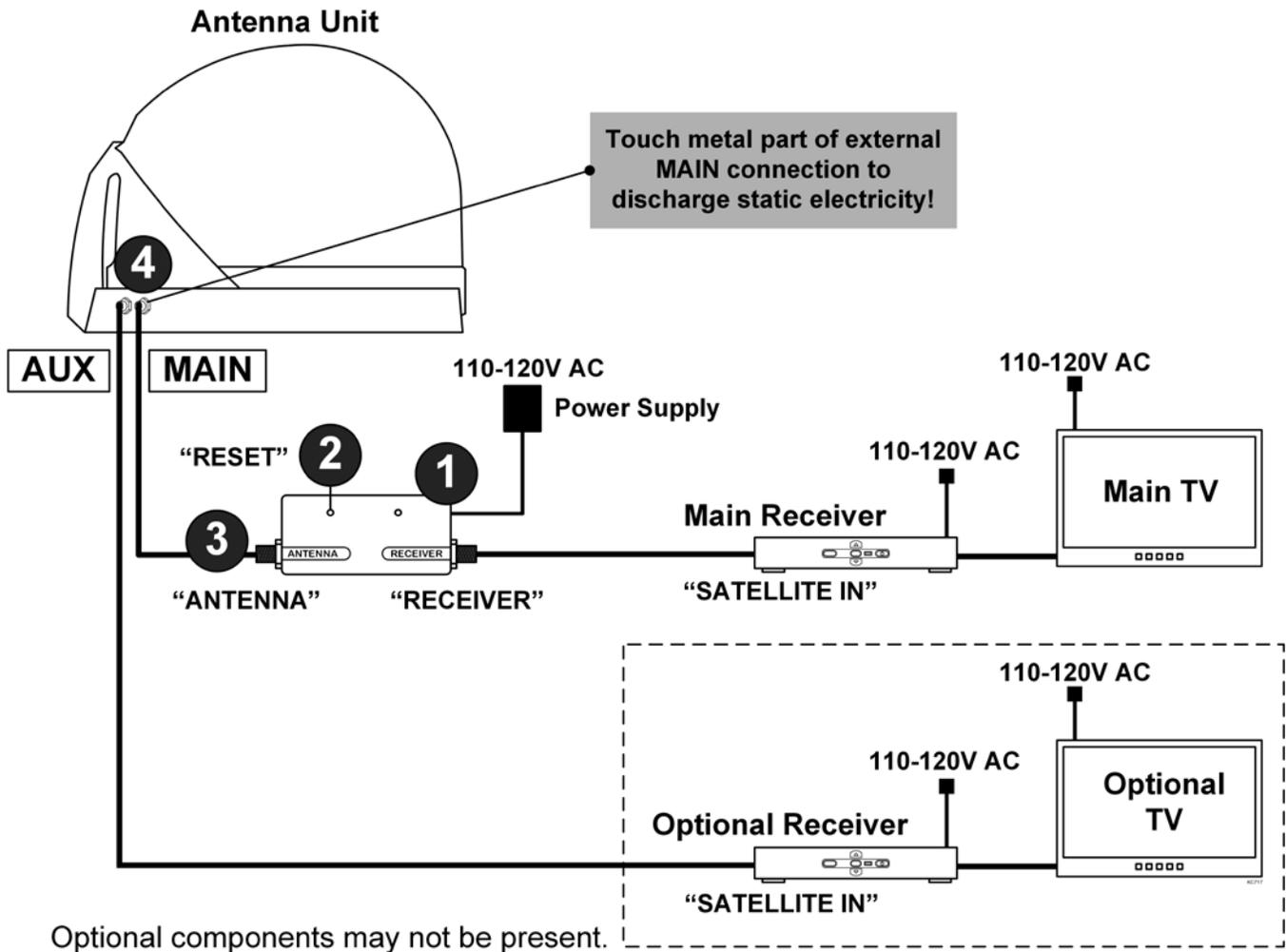
3.4 SWM Only Receiver Connections



3.5 Troubleshooting Flowchart

KING QUEST FLOWCHART CONNECTIONS

(with Power Injector)

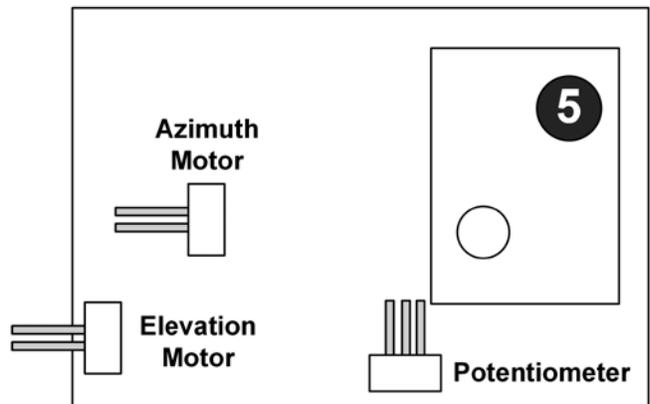


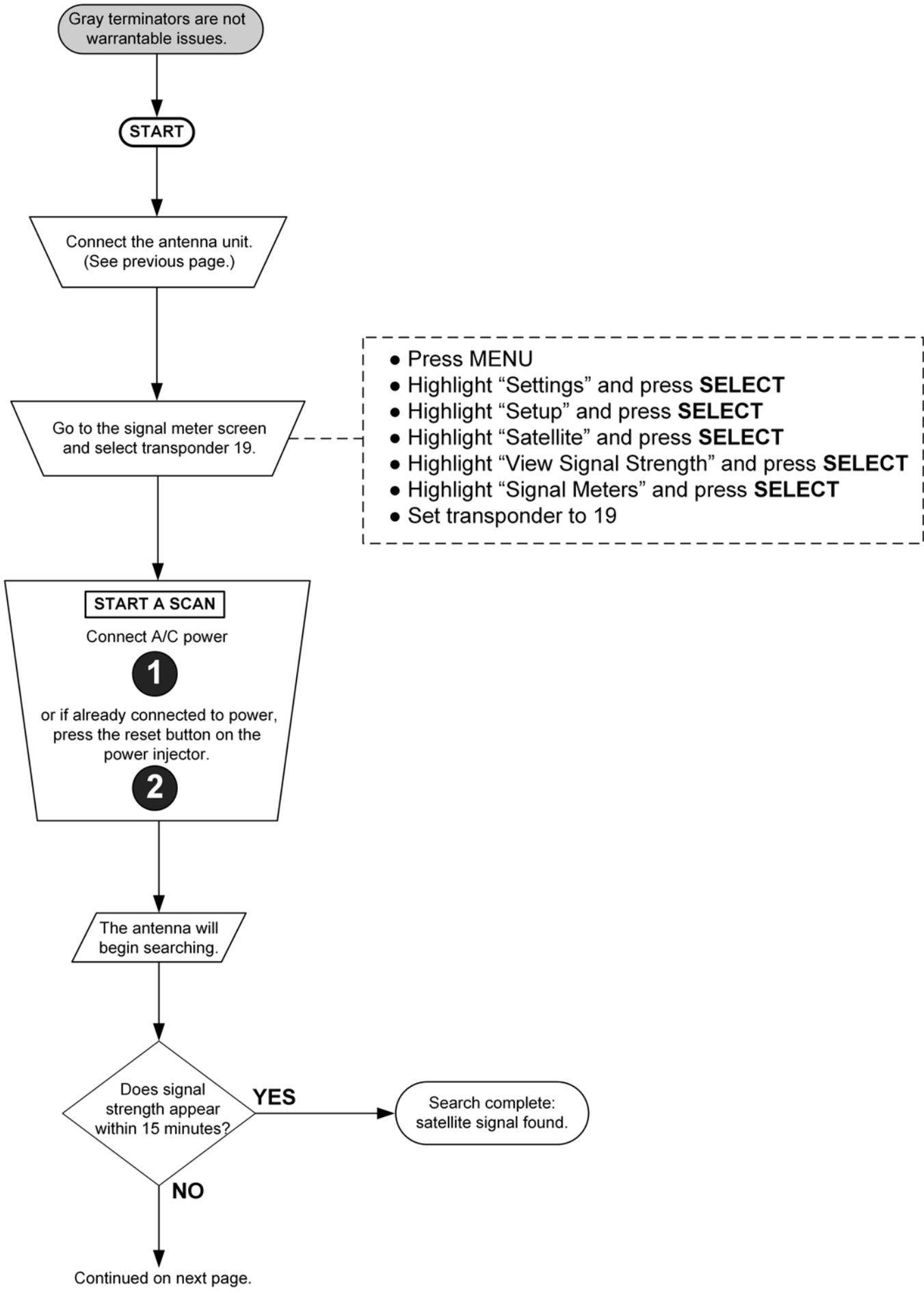
WARNING! STATIC ELECTRICITY!

Static electricity will damage the internal circuitry of the antenna unit. Discharge static electricity by touching the METAL part of the external MAIN coax connection on the base of the antenna unit before touching any internal components.

Repeat this procedure if you leave and come back to the antenna unit.

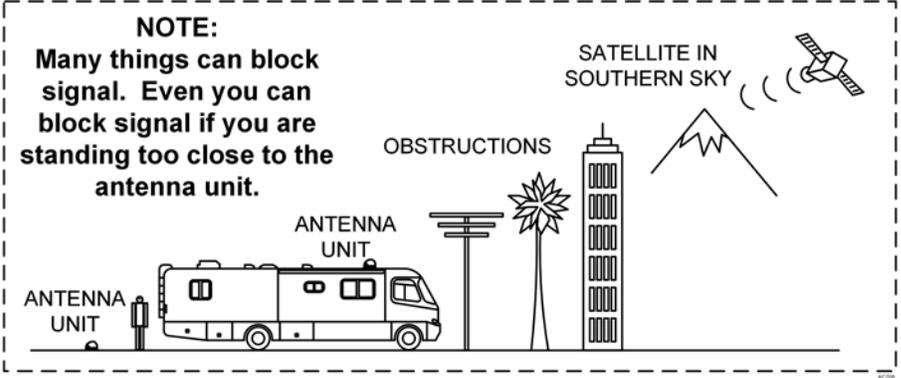
TOP VIEW CIRCUIT BOARD





Continued from previous page.

Unable to lock onto a satellite.
Possible obstruction.



Are there any line of sight obstructions?

YES

Move to a more open location, then go back to
START A SCAN

NO

Remove dome cover to see inside of unit and reset power injector.
2

Is there any antenna movement?
(Wait at least 30 seconds.)

YES

Is there both AZ and EL movement?

NO

Possible AZ or EL failure.
Call KING at 952-922-6889 ext. 174.

NO

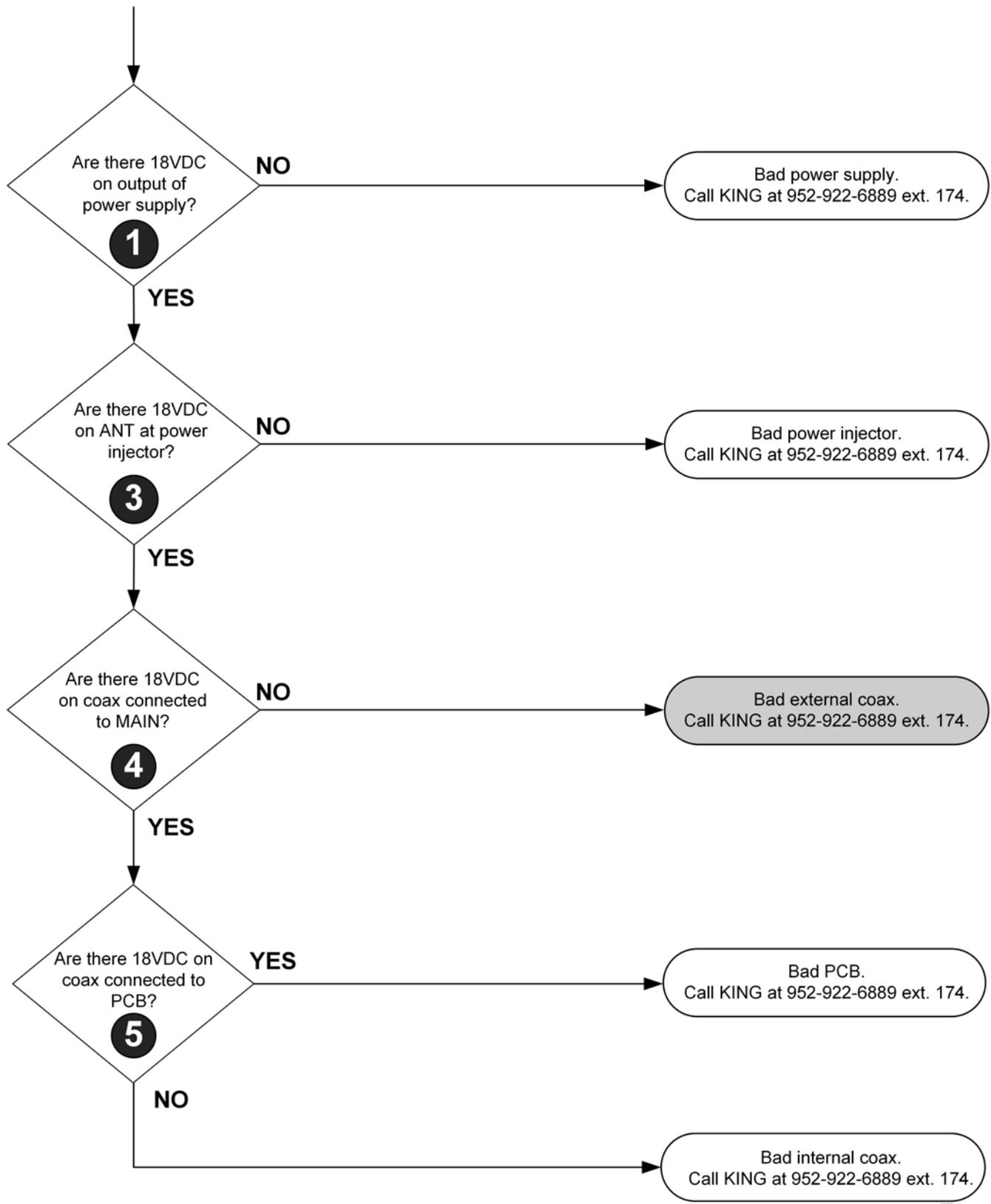
YES

Possible LNB, internal coax or PCB failure.
Call KING at 952-922-6889 ext. 174.

Possible insufficient power to PCB.

Continued on next page.

Continued from previous page.



3.6 Troubleshooting

SYMPTOM	POSSIBLE CAUSE	COURSE OF ACTION
Antenna unit does not scan for satellites.	<p>No power to antenna unit.</p> <p>Antenna unit needs to be reset.</p>	<p>Make sure antenna unit is connected to power injector.</p> <p>Make sure power injector is powered (LED will be lit).</p> <p>Press RESET on power injector.</p>
Antenna unit scans but no picture on TV.	Improper connections made.	<p>Make sure antenna unit is connected to power injector, and power injector is plugged in.</p> <p>Make sure powered receiver is connected to power injector and TV.</p>
Antenna unit scans but does not find satellite.	Line of sight obstruction.	Move antenna unit to have a clear view of the southern sky. Press RESET on power injector to start a new scan.
Picture on TV goes in and out.	Temporary obstruction of signal.	<p>Heavy rain or snow may cause loss of signal. Reception will improve as weather clears.</p> <p>Make sure nothing is temporarily blocking view to the southern sky (like tree branches blowing in the wind).</p>

If the KING Quest is connected with the UC1000 controller, use this section. (If connected with a power injector, use section 3.)

The KING Quest can be configured to work with DIRECTV, DISH, or Bell TV (each service requires paid programming subscription).

Use section 4.2 to verify, or change, the desired service configuration.

DIRECTV: Choose your desired DIRECTV service option, then go to section 4.4 Operation.

Switch and dish type settings for DIRECTV receivers:

DIRECTV SD

Switch Type: 02:Multiswitch • Dish Type: 01: 18" Round

Older receivers: choose round dish-1 satellite

DIRECTV SD with Locals

Switch Type: 02:Multiswitch • Dish Type: 02: 3-LNB (18 x 20")

Older receivers: choose oval dish-2 satellites

**If your receiver does not offer one of these settings,
call KING at (952) 922-6889 ext. 173 for assistance.**

The KING Quest will not work with SWM only receivers.

DISH: Choose your desired DISH service option, then go to section 4.3 receiver configuration. After performing the check switch test, use the operating instructions in section 4.4.

IMPORTANT! DISH CUSTOMERS ONLY!

If you have a DISH model ViP®211z, ViP211k, ViP211 or 411 single tuner HD receiver, you can use the simplified KING Tailgater user interface on your receiver.

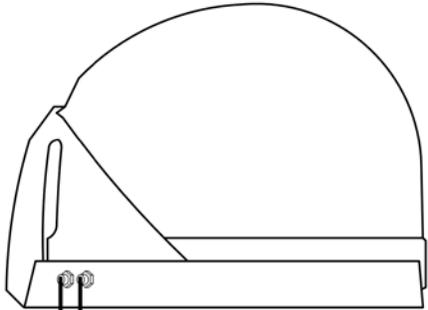
In section 4.2, Antenna Configuration, choose Tailgater Mode.

Turn on your TV, receiver and controller, and then go to section 4.6, Tailgater Mode (skip sections 4.3 and 4.4).

Bell TV: Choose your desired Bell service option, then go to section 4.3 receiver configuration. After performing the check switch test, use the operating instructions in section 4.4.

4.1 Connections

Antenna Unit



AUX

MAIN

IMPORTANT!
When using DIRECTV service, receiver(s) must not be SWM only receivers and must be configured as follows:
Dish Type: 01: 18" Round
Switch Type: 02: Multiswitch
Do this in the receiver's satellite setup menu screens.

110-120V AC
Power Supply

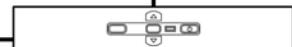


UC1000 CONTROLLER
(Back View)

"SATELLITE IN"



Main TV



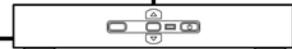
Main Receiver

110-120V AC

Optional components
may not be present.



Second TV



Second Receiver

110-120V AC

4.2 Antenna Configuration

TO CHECK THE CURRENTLY PROGRAMMED SERVICE:

1. Press **POWER** to turn on controller.
 - The **COAX CONNECTION** light will flash for approximately 10 seconds and then remain on.
 - **SCAN PROGRESS** lights will flash 3 times to indicate the selected service configuration.
- See chart below to determine currently programmed service indicated by the lights that flashed.

Service Option	Satellites	Light 1	Light 2	Light 3	Light 4
DIRECTV SD	101	●	○	○	○
DIRECTV SD with Locals	101, 119	●	●	○	○
DISH SD	110, 119	●	○	●	○
DISH HD and SD	110, 119, 129	●	●	●	○
DISH HD and SD Alternate	61.5, 110, 119	●	○	●	●
BELL SD	91	○	●	○	○
BELL HD and SD	82, 91	○	●	●	○
TAILGATER MODE	110, 119, 129	○	●	●	●

○ = OFF ● = ON

NOTE: The order of the lights corresponds to the order of the satellites listed.
EXAMPLE: DISH SD: Light 1 = satellite 110, Light 3 = satellite 119.

TO PROGRAM A DIFFERENT SERVICE:

1. With controller on, press and hold **SCAN** for five seconds.

The **COAX CONNECTION** light and the **SCAN PROGRESS** lights that indicate the currently selected service will begin flashing.
2. Press **SCAN** repeatedly to scroll thru the available service options.
3. When the correct lights turn on to show the desired satellite configuration, press and hold **SCAN** for five seconds to save in memory.

All lights will turn off except for the **COAX CONNECTION** light.
4. Turn off controller.

4.3 Receiver Configuration - DISH and Bell TV

1. Turn on the TV and satellite receiver.
2. Turn on controller and wait for the **COAX CONNECTION** light to stop flashing and remain on.

Press **SCAN**.



The antenna will locate all of the appropriate satellites before completing the search process.

After the antenna acquisition process is complete, specific **SCAN PROGRESS** lights will turn on to indicate which satellites have been found (see chart on page 18).

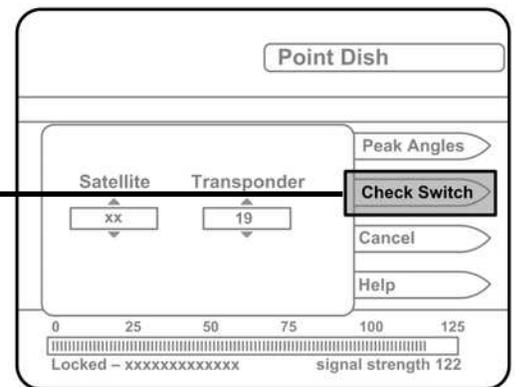
If you configured the antenna for DISH HD and SD and the antenna cannot acquire the 110, 119, and 129 satellites, you may need to configure the antenna for DISH HD and SD Alternate (page 15).

3. On the receiver remote, press **MENU, 6, 1, 1**.

4. Highlight "Check Switch."

Press **SELECT** on the remote.

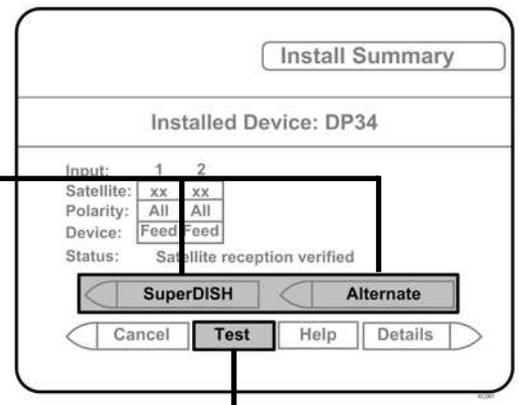
NOTE: Some receivers may prompt you to select "Check Switch" a second time to initiate the test.



Screen graphics may vary.

5. Make sure "SuperDISH" and "Alternate" boxes are **NOT** selected.

NOTE: Not all receivers will display a screen with options that include "SuperDISH" and "Alternate" boxes.



6. Highlight "Test."

Press **SELECT** on the remote.

The receiver will perform a check switch test, during which time the antenna will periodically move back and forth between satellites. This process will take several minutes.

7. When test is complete, a screen similar to one below should appear. After screen verification, continue with check switch test procedure at bottom of page.

DISH SD

**MUST SHOW
"SW21"**

NO "X"s

NOTE: Screen graphics may vary.

DISH HD and SD

NO "X"s

**MUST SHOW
"SW64"**

DISH HD and SD Alternate

Bell TV SD

NO "X"s

MUST SHOW "SW21"

"None"

Bell TV HD and SD

8. When the installation summary shows the successful check switch test results, save the settings, exit to the main menu screen and wait for programming to download.
9. **DISH HD and SD** and **DISH HD and SD Alternate** only: Verify saved settings show desired satellite trio: 61.5, 110, 119 or 110, 119, 129.

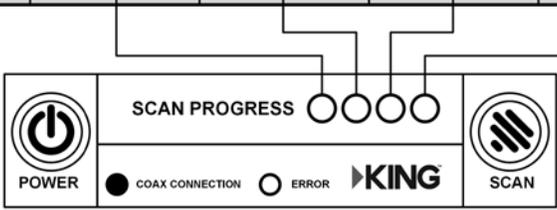
4.4 Operation

1. Make sure your TV and receiver are turned on.
2. Press **POWER** to turn on the controller. Wait for the lights to stop flashing and for the **COAX CONNECTION** light to remain on.
3. Press **SCAN**.
 - The antenna will scan for the selected satellites. The four **SCAN PROGRESS** lights will cycle on and off to indicate a scan is in progress.
 - As satellites are located, the corresponding **SCAN PROGRESS** lights will turn on (see below).
 - When scan is complete, the appropriate lights will be on to show which satellites were found.
 - Wait for the program guide to download and then select your desired channel. Enjoy!

“SATELLITES FOUND” CHART

Service	Satellites	Light 1	Light 2	Light 3	Light 4
DIRECTV SD	101	●	○	○	○
DIRECTV SD with Locals	101, 119	●	●	○	○
DISH SD	110, 119	●	●	○	○
DISH HD and SD	110, 119, 129	●	●	●	○
DISH HD and SD Alternate	61.5, 110, 119	●	●	●	○
BELL SD	91	●	○	○	○
BELL HD and SD	82, 91	●	●	○	○

○ = OFF ● = ON



Use this chart to determine which satellites have been found.

NOTE: The order of the lights corresponds to the order of the satellites listed.

Example for **DISH SD**: The 110 satellite corresponds to Light 1, and the 119 satellite corresponds to light 2.

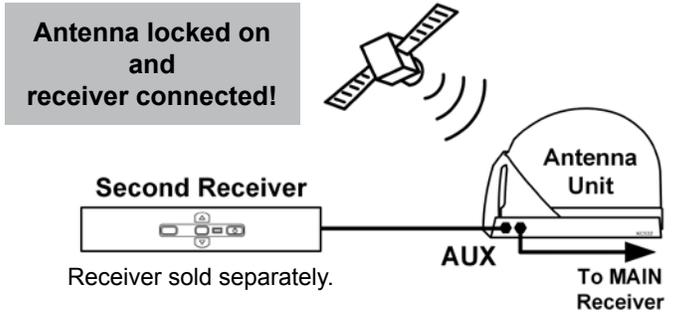
If you move the vehicle, you will have to reacquire the satellites by repeating the scan process. The KING Quest will go into “sleep mode” after 15 minutes and the **COAX CONNECTION** light will dim. To turn the unit off at any time, press **POWER** for 5 seconds.

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4.5 Second Receiver Operation

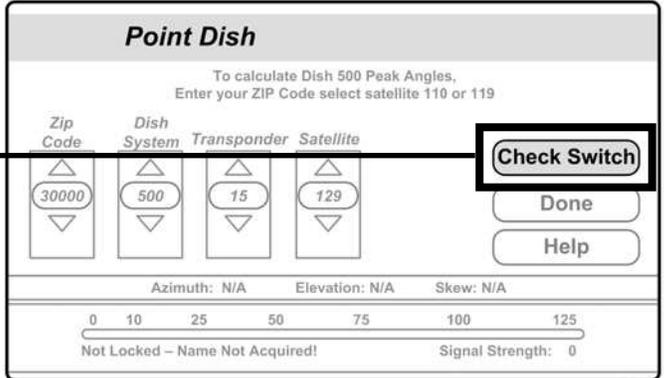
INITIAL SETUP FOR SECOND RECEIVER

1. With the antenna locked on the satellite and the second receiver connected to the antenna unit's AUX port coax, use your DISH remote control and press **MENU**, **6**, **1**, **1** to display the *Point Dish* screen.



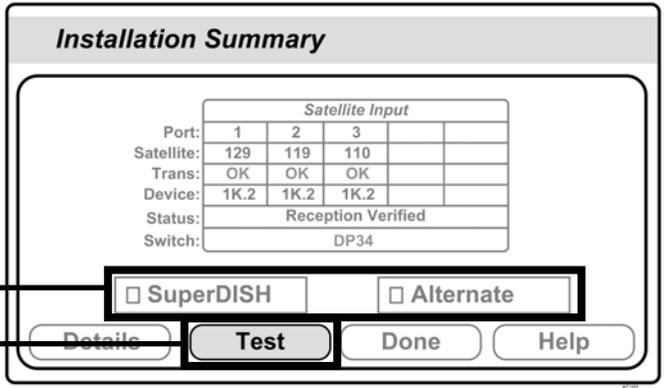
2. Use the arrow buttons on the remote to highlight "Check Switch."

Press **SELECT** on your remote.



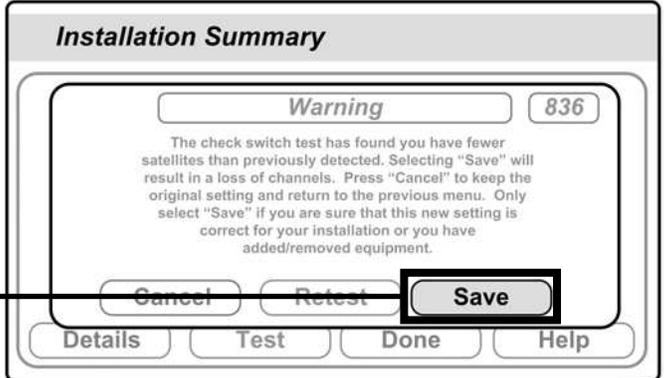
3. Verify "SuperDISH" and "Alternate" are not selected.

Verify "Test" is highlighted.



4. When test is complete, highlight "Save."

Press **SELECT** on your remote.



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

DOWNLOADING PROGRAMMING TO THE SECOND RECEIVER

1. After completing the steps on the previous page, reset 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.

The channels available on the second receiver are determined by the channel/satellite selected on 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.

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).

If you choose a channel on the main TV that causes the antenna to switch satellites, you may have to run a check switch on the second receiver.

4.6 Tailgater Mode

IF YOU ARE USING A NEW RECEIVER WITH THE KING QUEST, YOU MUST FOLLOW THE FIRST TIME SETUP PROCEDURE STARTING BELOW.

AFTER THIS FIRST TIME PROCEDURE, YOU CAN USE “STANDARD OPERATION WITH DISH RECEIVER” STARTING ON PAGE 26.

FIRST TIME OPERATION WITH NEW DISH RECEIVER

Go to kingconnect.com/receivers for a list of compatible DISH receivers.

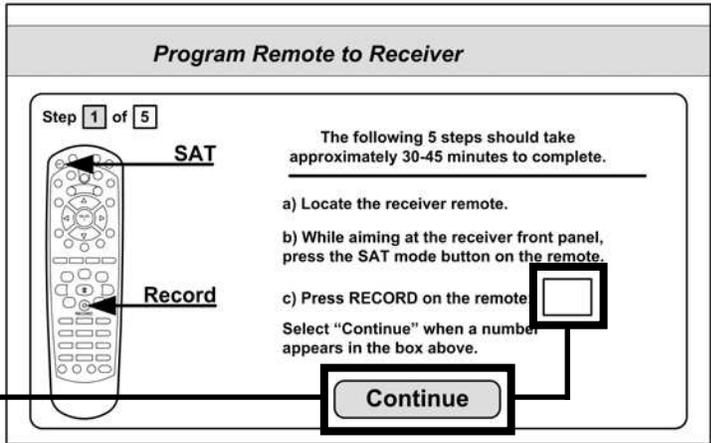
MAKE SURE TO INSTALL THE BATTERIES IN THE RECEIVER’S REMOTE CONTROL (INCLUDED WITH REMOTE CONTROL).

1. Point your receiver’s remote at the front of the receiver and press **SAT**.

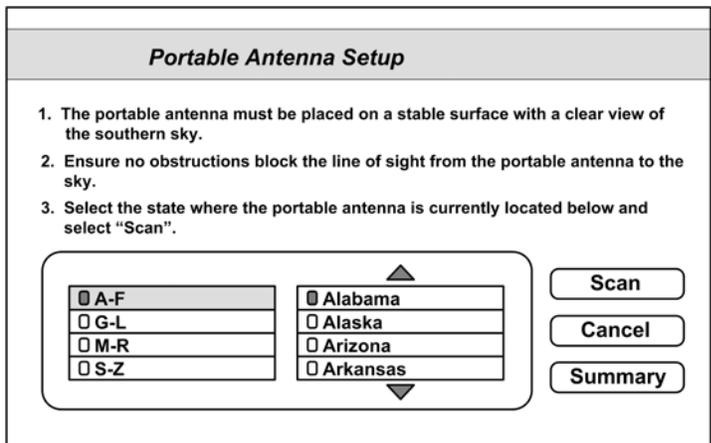
Press **RECORD**.

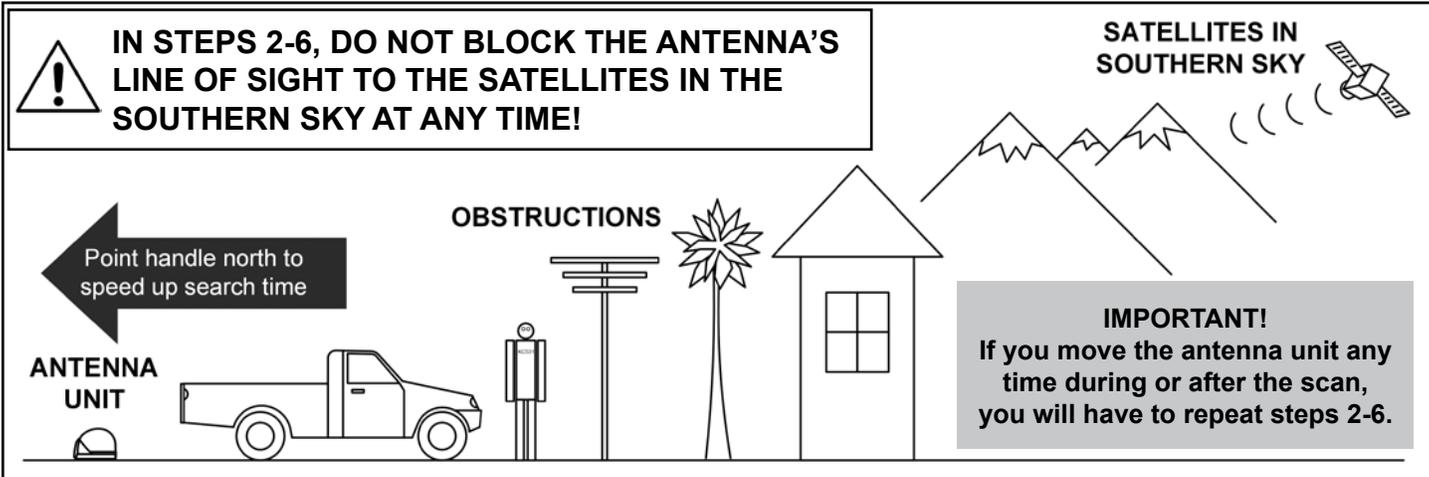
When a number appears in the box, verify “Continue” is highlighted.

Press **SELECT** on your remote.



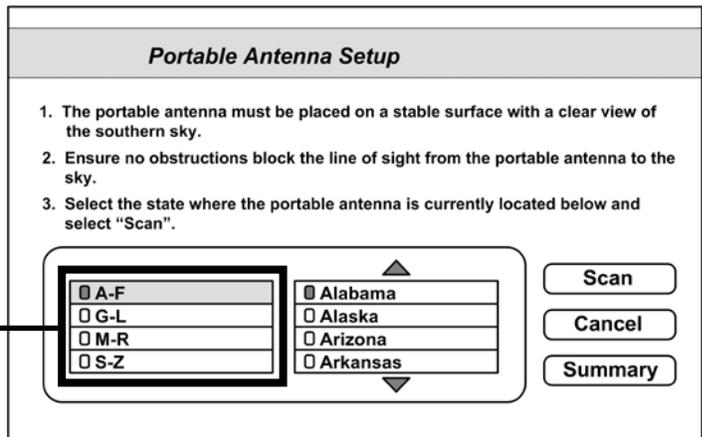
The *Portable Antenna Setup* screen will display.





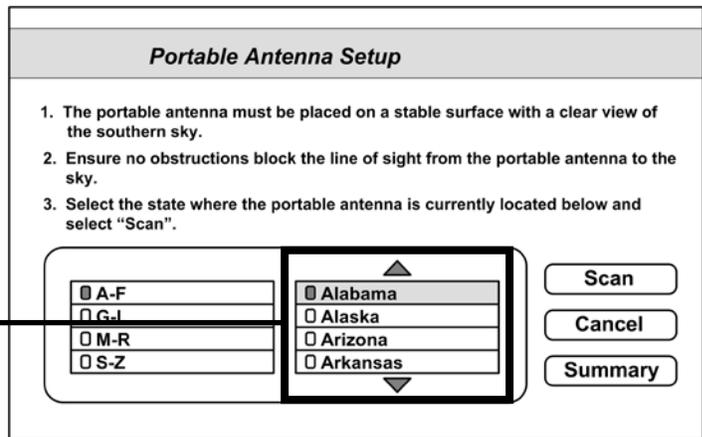
2. Use the arrow buttons on your remote to highlight the letter group that includes the first letter of the state you are currently in.

Press **SELECT**.



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

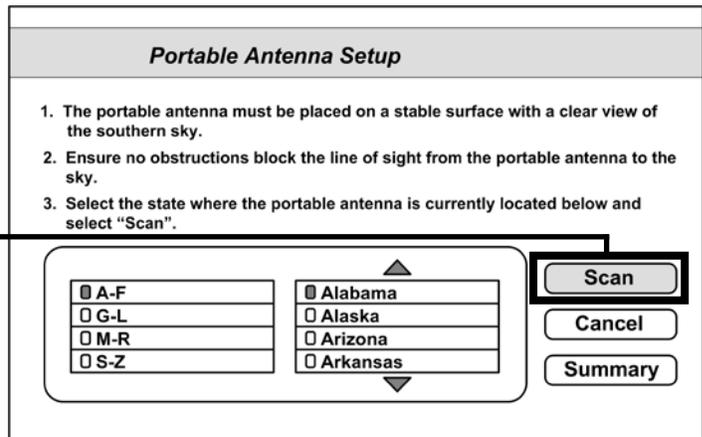
Press **SELECT**.



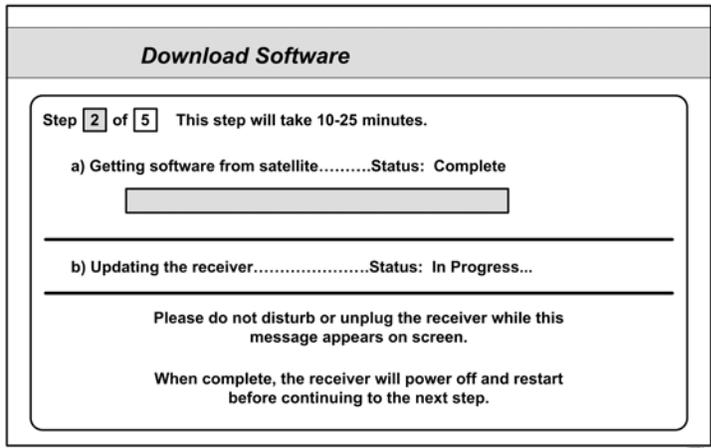
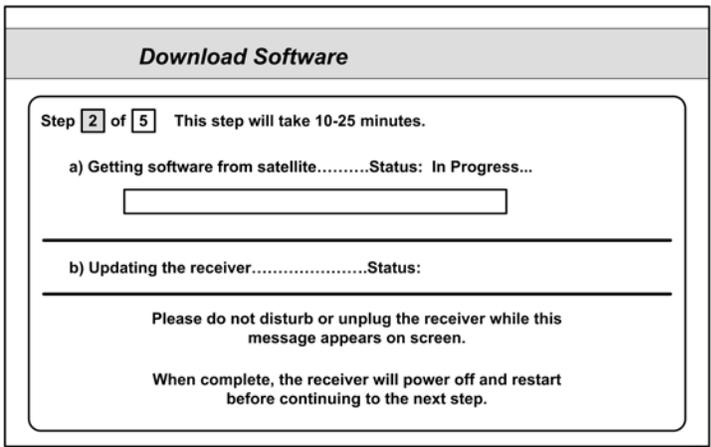
4. Verify "Scan" is highlighted.

Press **SELECT**.

The scan will begin and may take up to several minutes to complete.

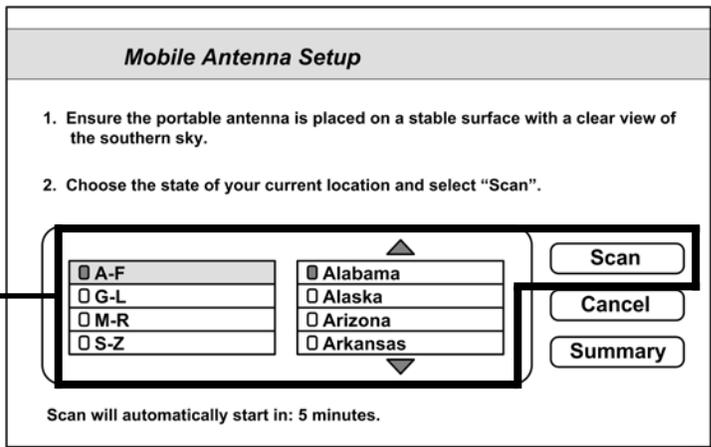


The receiver will download software for the Custom User Interface. This step may take 20-25 minutes.

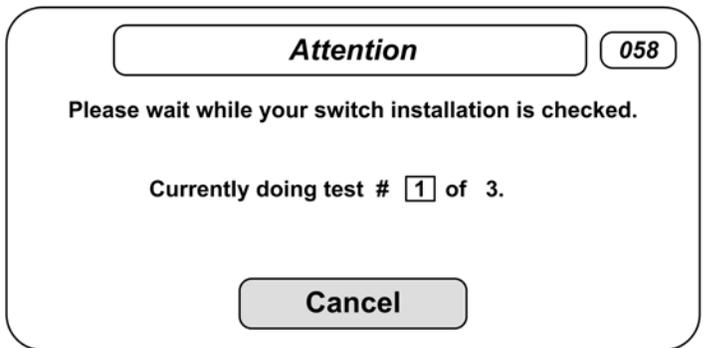


5. The receiver will reset and the *Mobile Antenna Setup* Screen will appear.

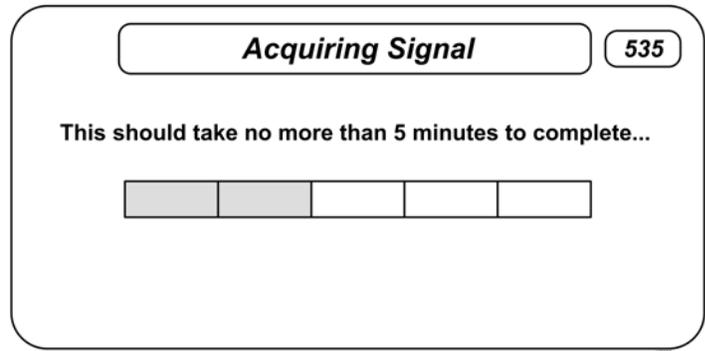
Repeat steps 2-4 to start a second scan.



The unit will scan a second time.



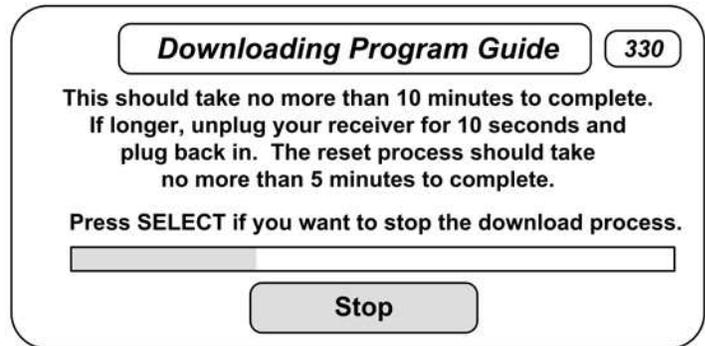
When the scan is complete, the *Acquiring Signal* message will display. Acquiring the signal may take up to 5 minutes to complete.



6. After your receiver has acquired the signal, it is ready to be activated. To activate service call 1-800-963-DISH (3474).



After your receiver is activated, the electronic program guide will download. This may take up to 10 minutes to complete (potentially longer if an external hard drive is connected).



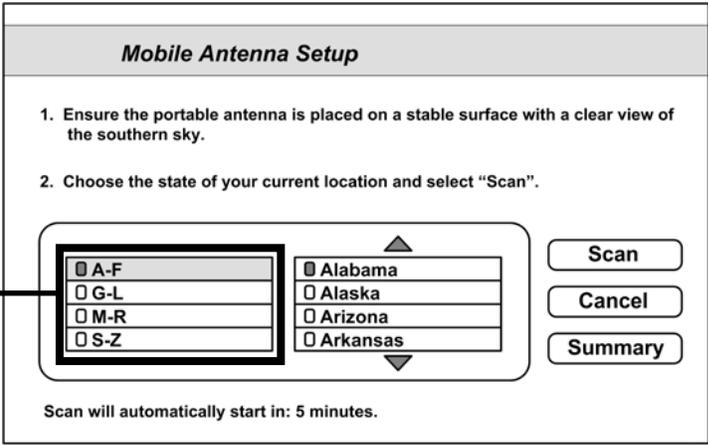
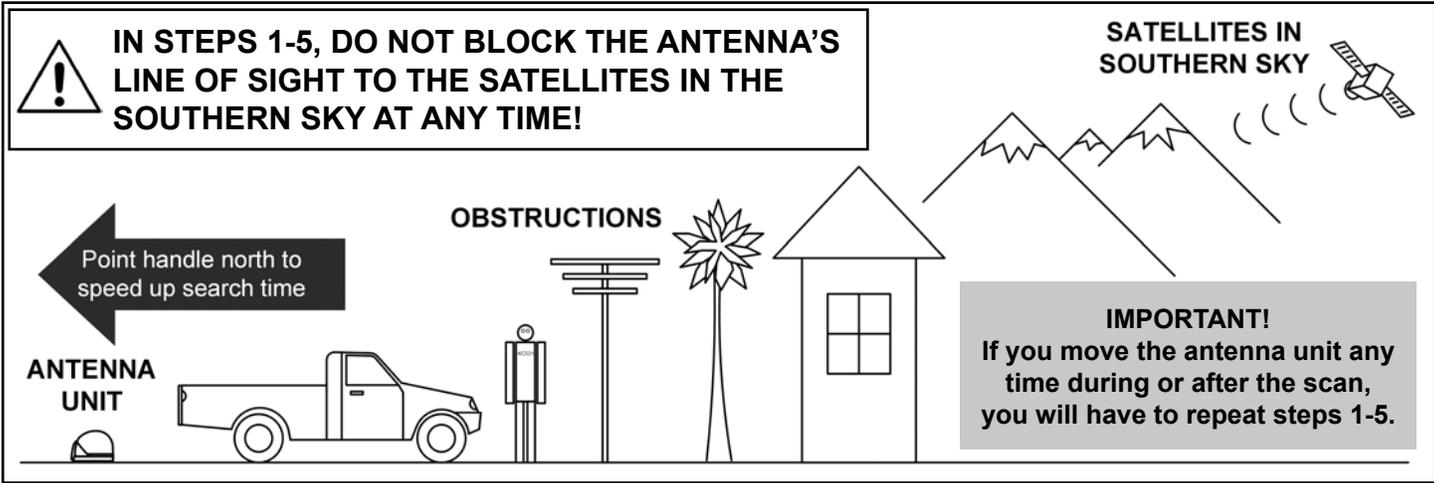
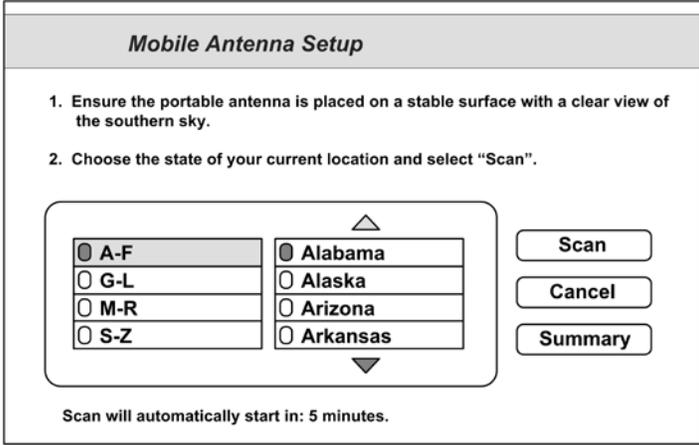
This completes the setup for new receivers. You may now use STANDARD OPERATION WITH DISH RECEIVER starting on the next page for subsequent use.

STANDARD OPERATION WITH DISH RECEIVER

⚠ IF YOUR RECEIVER IS NEW AND UNACTIVATED, YOU MUST COMPLETE THE STEPS ON PAGES 22-25 FIRST!

After connecting and turning on your equipment, the *Mobile Antenna Setup* screen will display. (It may take up to two minutes to display.)

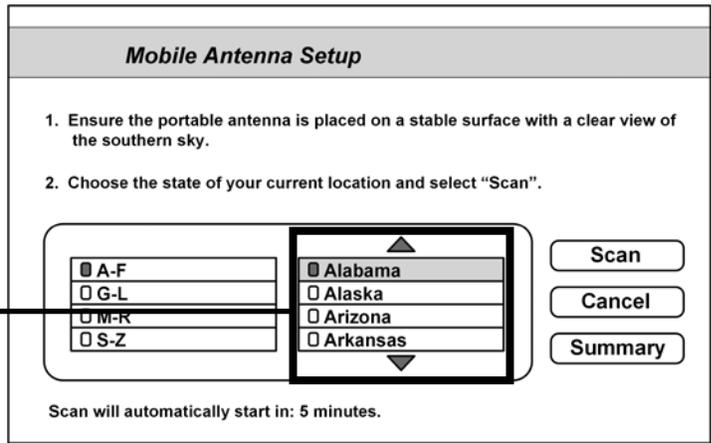
Note: If the *Mobile Antenna Setup* screen does not display, press **MENU, 6, 1, 1** on your remote. Highlight the “**Check Switch**” button then press **SELECT** on your remote.



- 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.

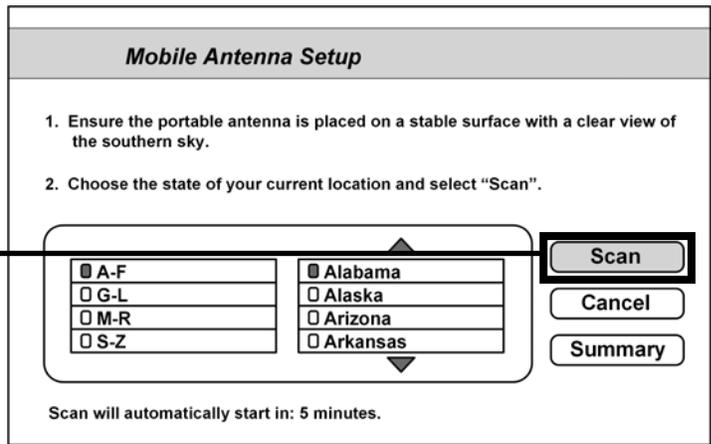
2. Highlight the state you are currently in from the state menu.

Press **SELECT**.



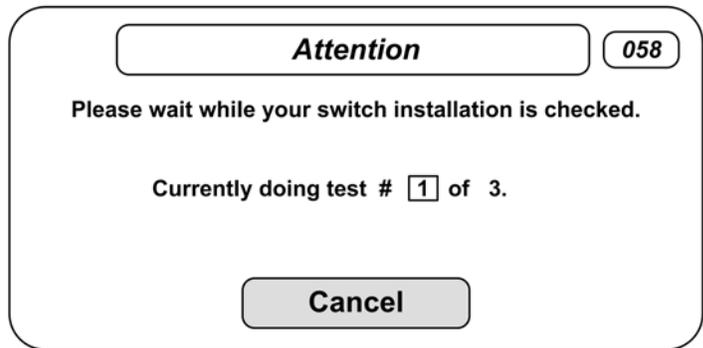
3. Verify "Scan" is highlighted.

Press **SELECT**.

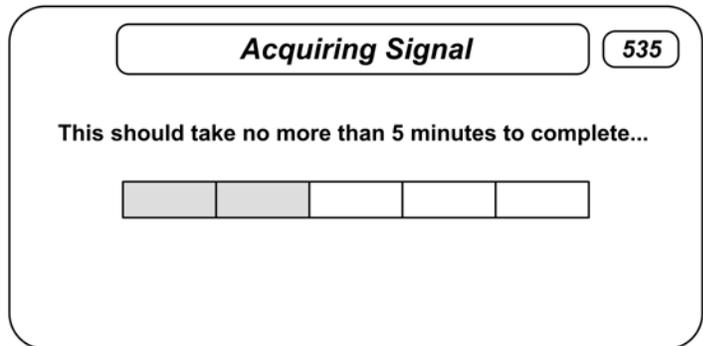


The scan will begin and may take up to several minutes to complete.

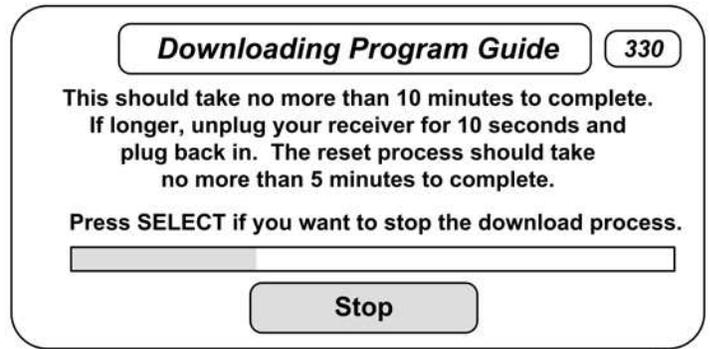
This screen will display during the scan.



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



5. After your receiver has acquired the signal, the electronic program guide will download. This may take up to 10 minutes to complete (potentially longer if an external hard drive is connected).



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 reauthorize your receiver. Note that if channel 101 appears, scroll channel up or down to make sure 013 error message does not appear.

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

OPERATING NOTES:



IF YOU MOVE THE KING QUEST, YOU WILL HAVE TO REPEAT STEPS 1-5 TO REACQUIRE THE SATELLITES AND RESTORE PROGRAMMING.

When in the northeastern United States, television programming from the 129 satellite may not be available (programming from the 110 and 119 should still be available.)

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

4.7 Alarm Configuration

1. Press **POWER** to turn on the controller. Wait for the lights to stop flashing and for the **COAX CONNECTION** light to remain on.
2. Simultaneously press and hold **POWER** and **SCAN** for five seconds. Controller begins beeping.
 - Single Beep (beep...beep...beep) Alarm is OFF.
 - Double Beep (beep beep...beep beep) Alarm is ON.
3. Press and release **SCAN** to toggle between the on and off conditions. Beep pattern will change to indicate new condition.
4. When alarm is in desired condition, press and hold **SCAN** for 5 seconds to save in memory. **COAX CONNECTION** light will turn solid and **SCAN PROGRESS** lights will stay off.
5. Press **POWER** to turn off the controller.

ALARM OPERATION

If the coax cable is disconnected from the antenna unit or the controller while the system is turned on or in standby mode, the controller will sound an audible alarm.

To turn off the alarm when it is sounding, press **POWER** until the controller turns off.

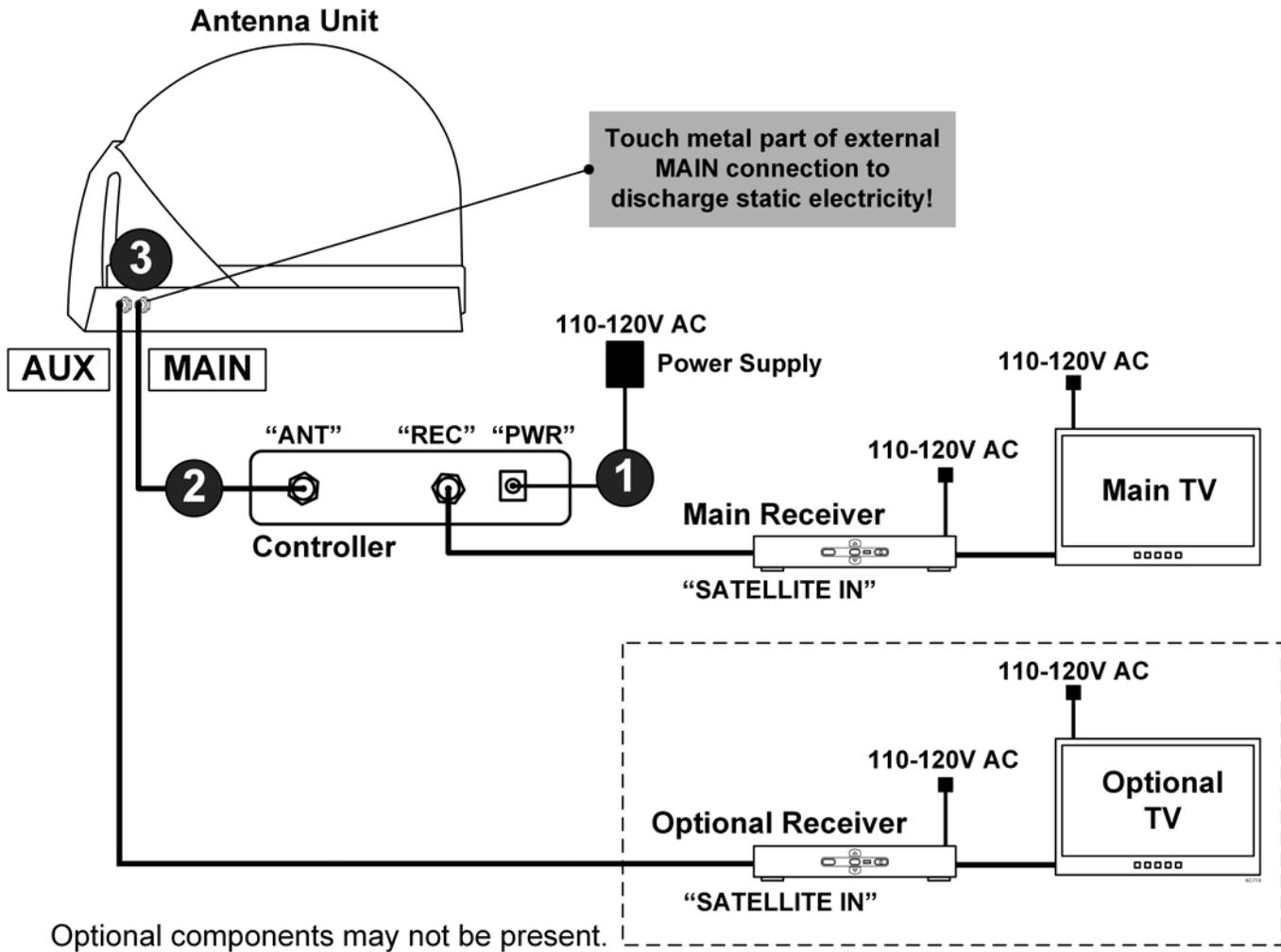
You can change the alarm condition at anytime by following the steps above.

4.8 Troubleshooting Flowchart

UC1000 Controller

KING QUEST FLOWCHART CONNECTIONS

(with Controller)

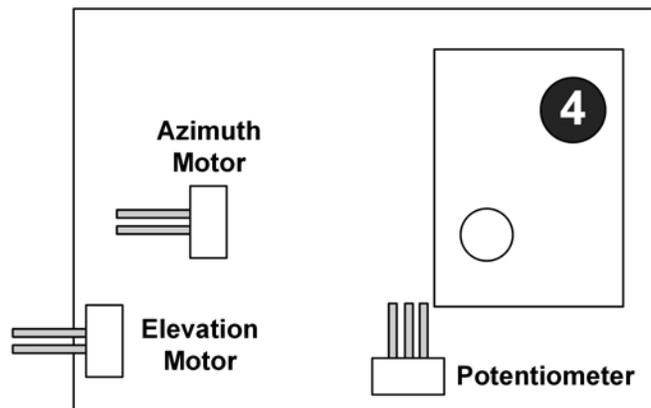


WARNING! STATIC ELECTRICITY!

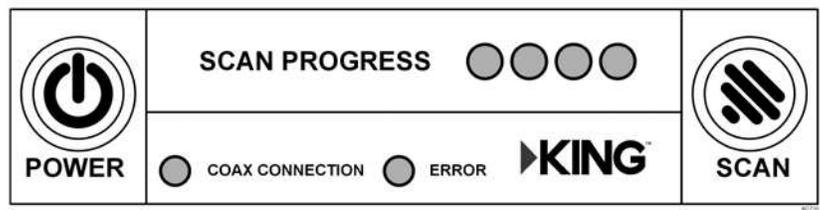
Static electricity will damage the internal circuitry of the antenna unit. Discharge static electricity by touching the METAL part of the external MAIN coax connection on the base of the antenna unit before touching any internal components.

Repeat this procedure if you leave and come back to the antenna unit.

TOP VIEW CIRCUIT BOARD



Gray terminators are not warrantable issues.



START

Press POWER button on controller.

Do any LEDs turn on?
 YES
 NO

Controller not powering up.

Are there 18 VDC out of the power supply to the controller?
1
 YES
 NO

Bad controller.
 Call KING at 952-922-6889 ext. 174.

Bad power supply.
 Call KING at 952-922-6889 ext. 174.

Is the COAX LED solid green?
 YES
 NO

ERROR LED blinking.
 No communication between main PCB and controller.

Are there 18 VDC out of controller?
2
 YES
 NO

Bad controller.
 Call KING at 952-922-6889 ext. 174.

Are there 18 VDC on coax where it connects to the Quest?
3
 YES
 NO

Bad external coax from Quest to controller.
 Call KING at 952-922-6889 ext. 174.

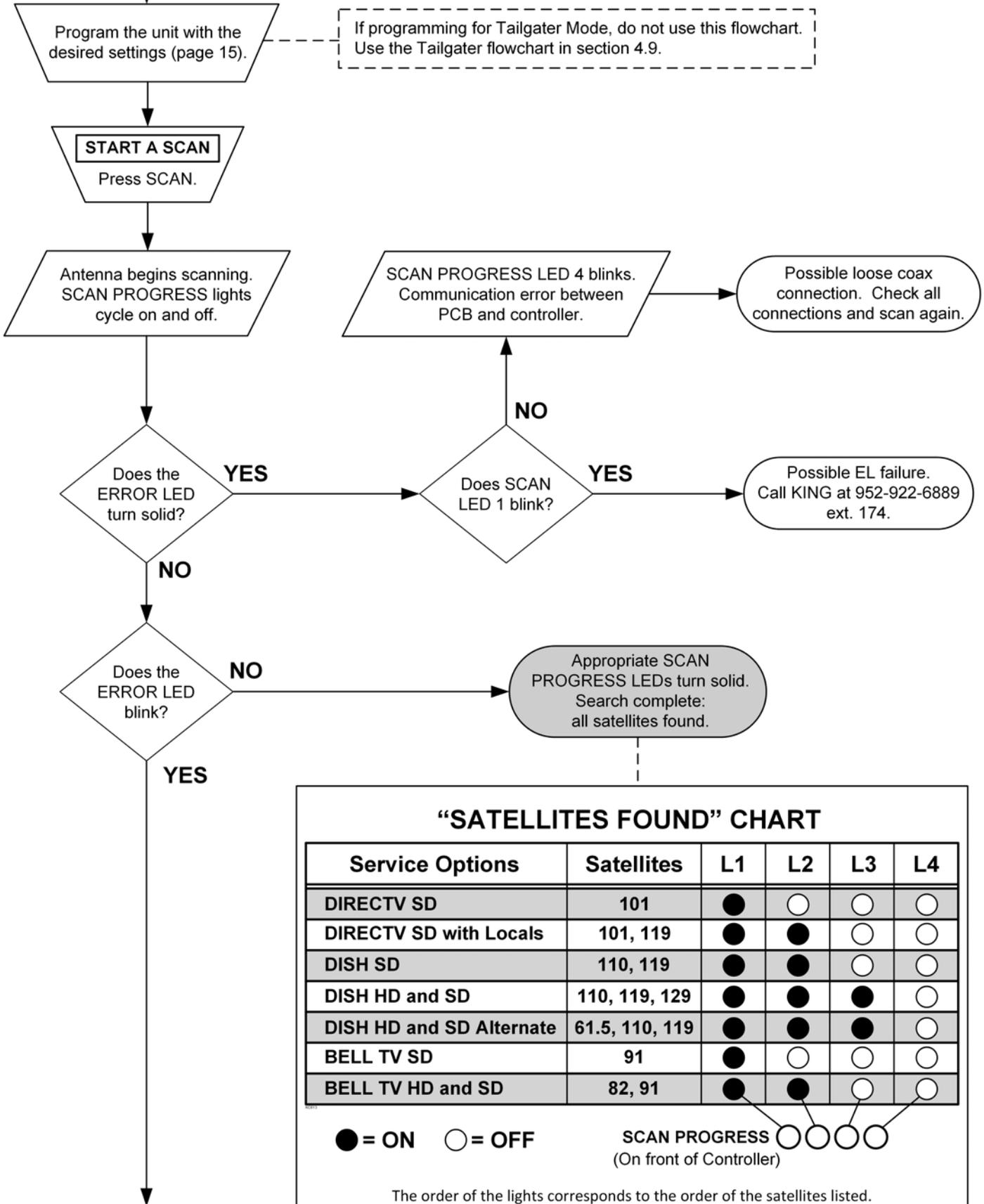
Bad main PCB.
 Call KING at 952-922-6889 ext. 174.

Are there 18 VDC on the coax at main PCB?
4
 YES
 NO

Bad internal coax from main PCB to outside of dome unit.
 Call KING at 952-922-6889 ext. 174.

Continued on next page.

Continued from previous page.



Continued on next page.

“SATELLITES FOUND” CHART

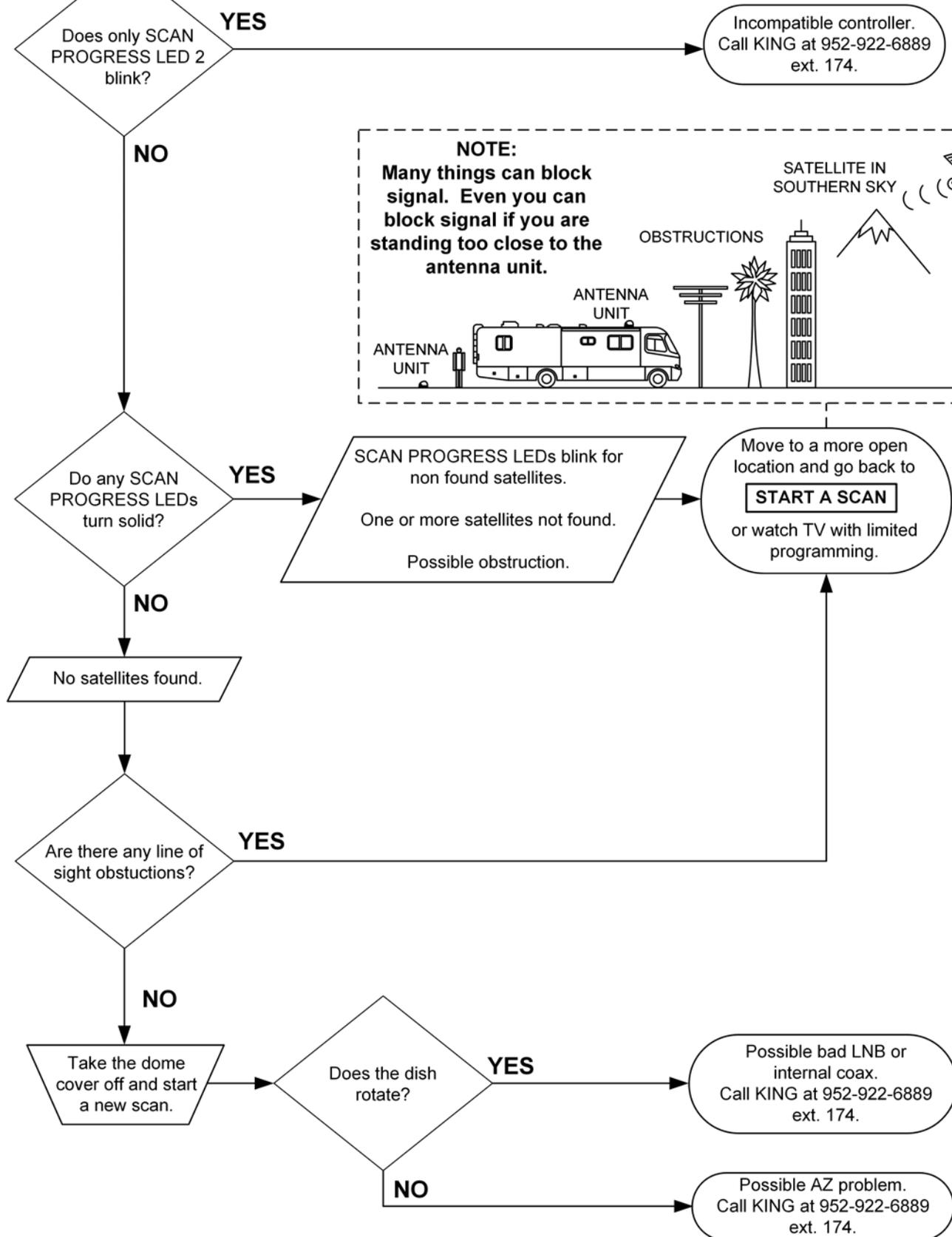
Service Options	Satellites	L1	L2	L3	L4
DIRECTV SD	101	●	○	○	○
DIRECTV SD with Locals	101, 119	●	●	○	○
DISH SD	110, 119	●	●	○	○
DISH HD and SD	110, 119, 129	●	●	●	○
DISH HD and SD Alternate	61.5, 110, 119	●	●	●	○
BELL TV SD	91	●	○	○	○
BELL TV HD and SD	82, 91	●	●	○	○

● = ON ○ = OFF SCAN PROGRESS (On front of Controller)

○ ○ ○ ○

The order of the lights corresponds to the order of the satellites listed.

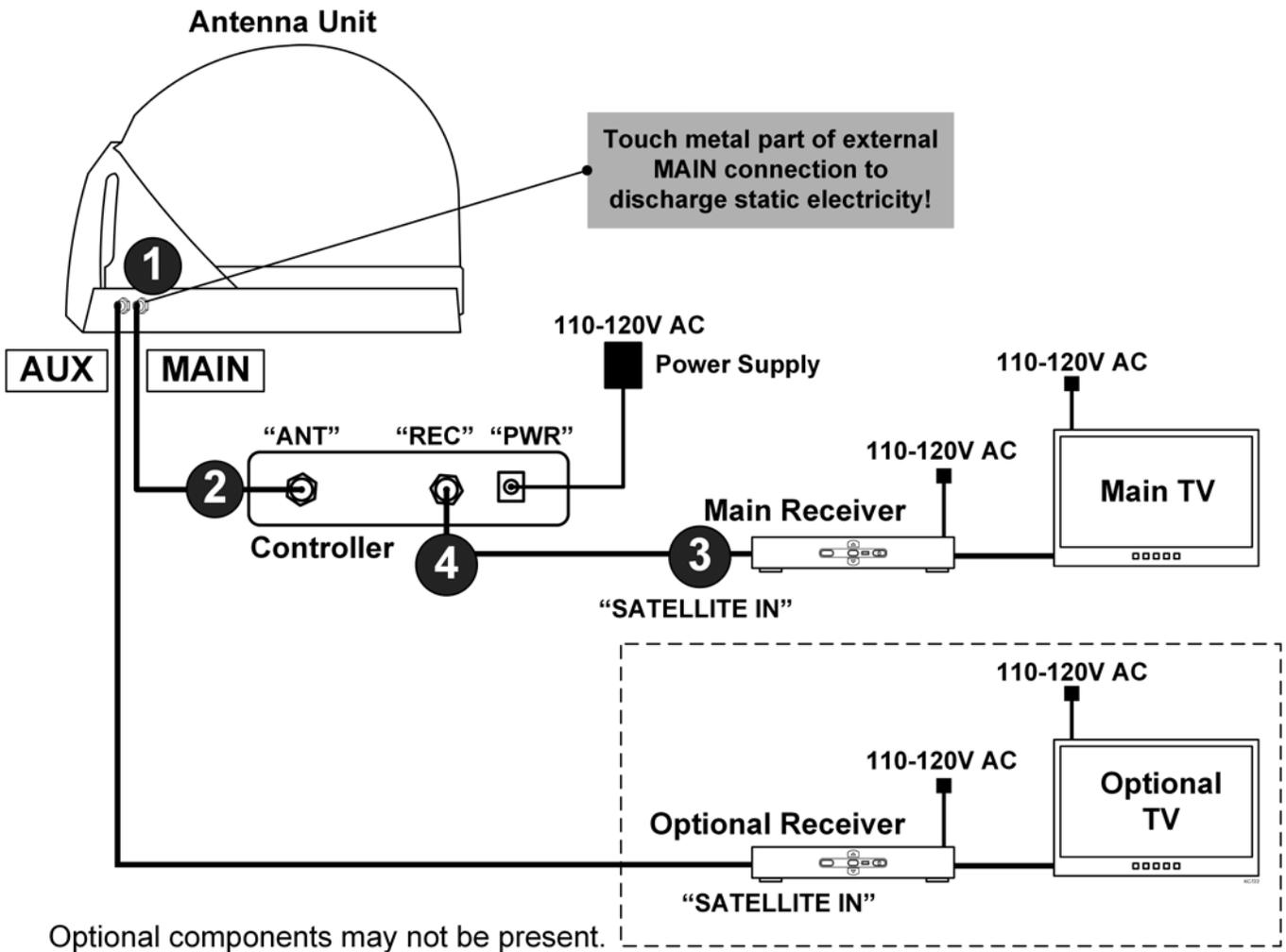
Continued from previous page.



4.9 Troubleshooting Flowchart (Tailgater Mode)

KING QUEST FLOWCHART CONNECTIONS

(with Controller & configured for Tailgater Mode)

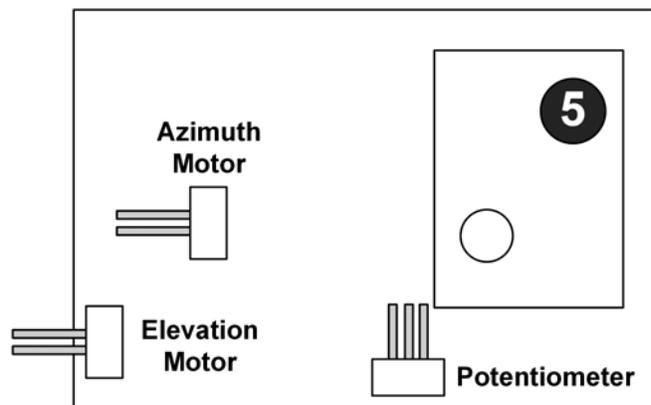


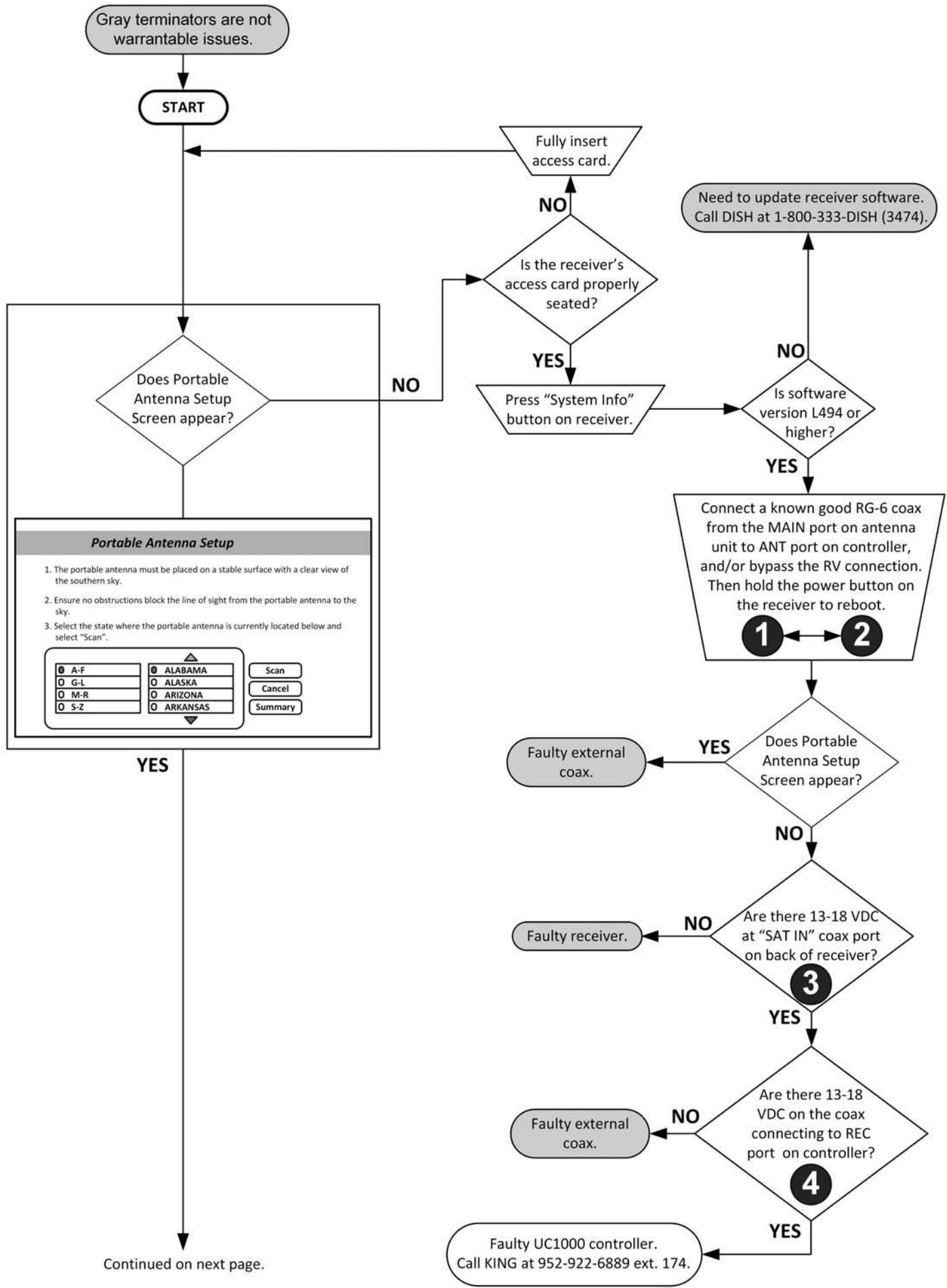
WARNING! STATIC ELECTRICITY!

Static electricity will damage the internal circuitry of the antenna unit. Discharge static electricity by touching the METAL part of the external MAIN coax connection on the base of the antenna unit before touching any internal components.

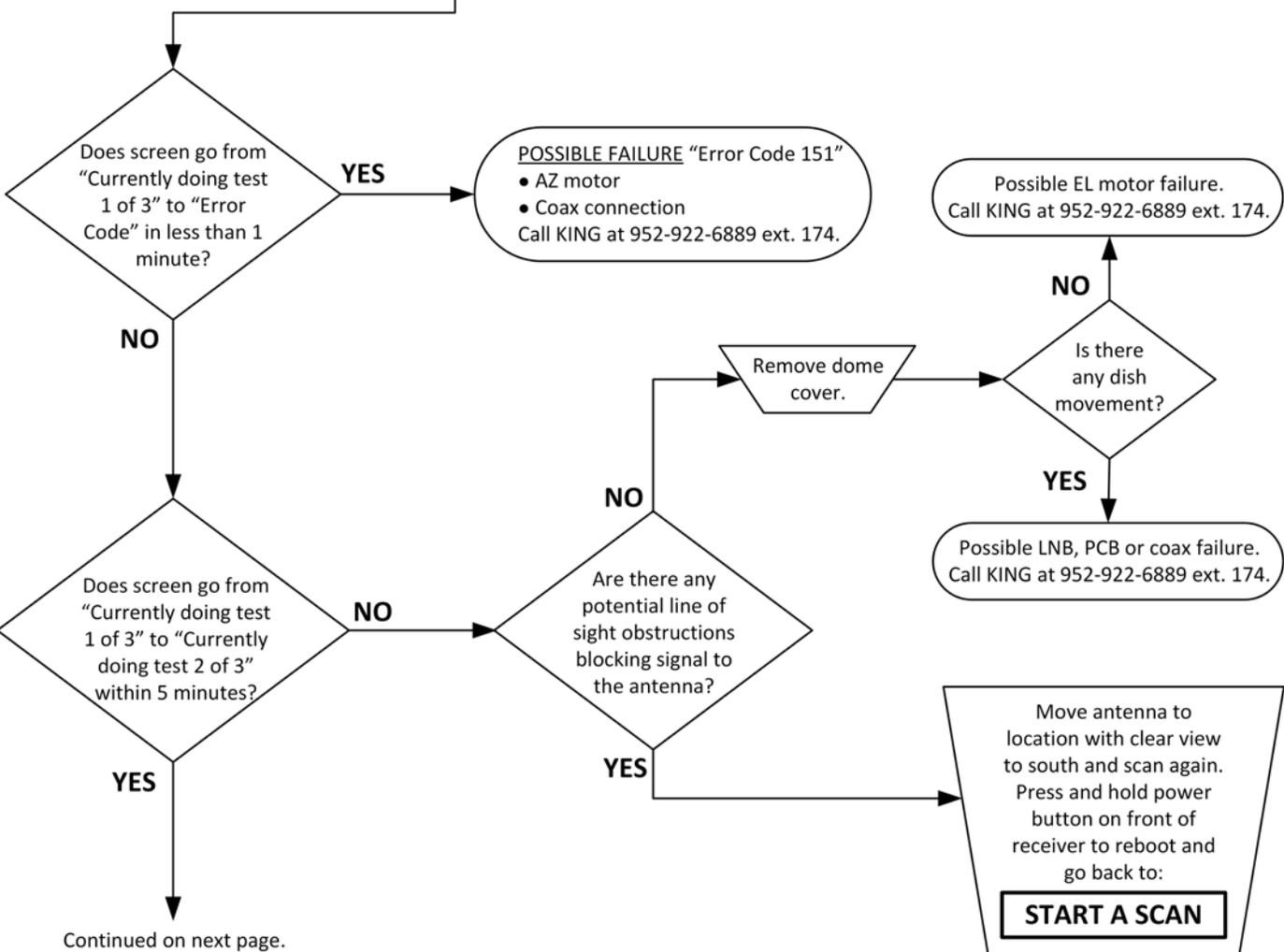
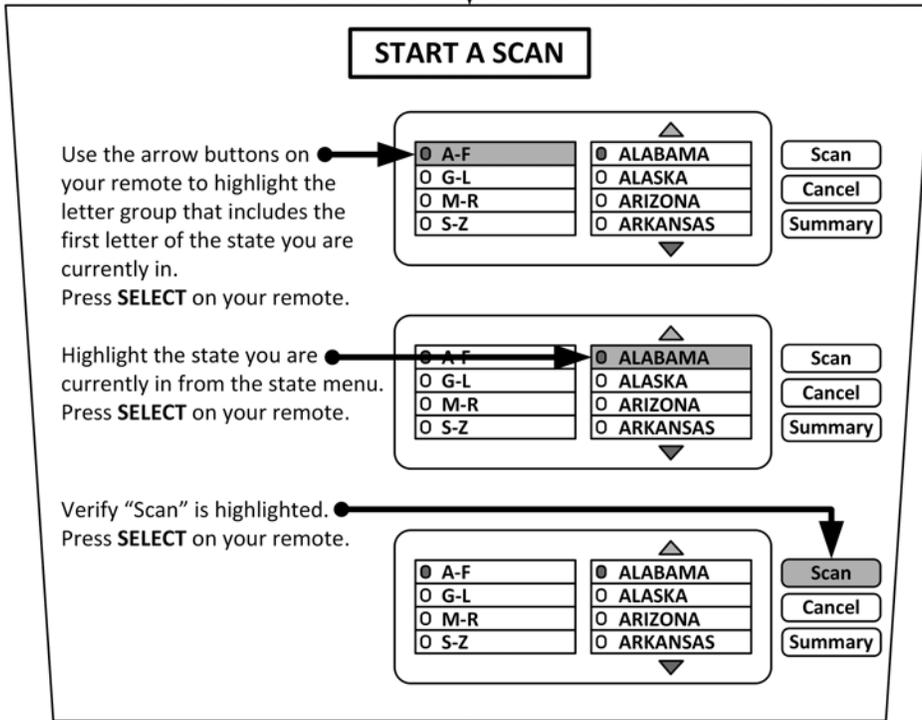
Repeat this procedure if you leave and come back to the antenna unit.

TOP VIEW CIRCUIT BOARD

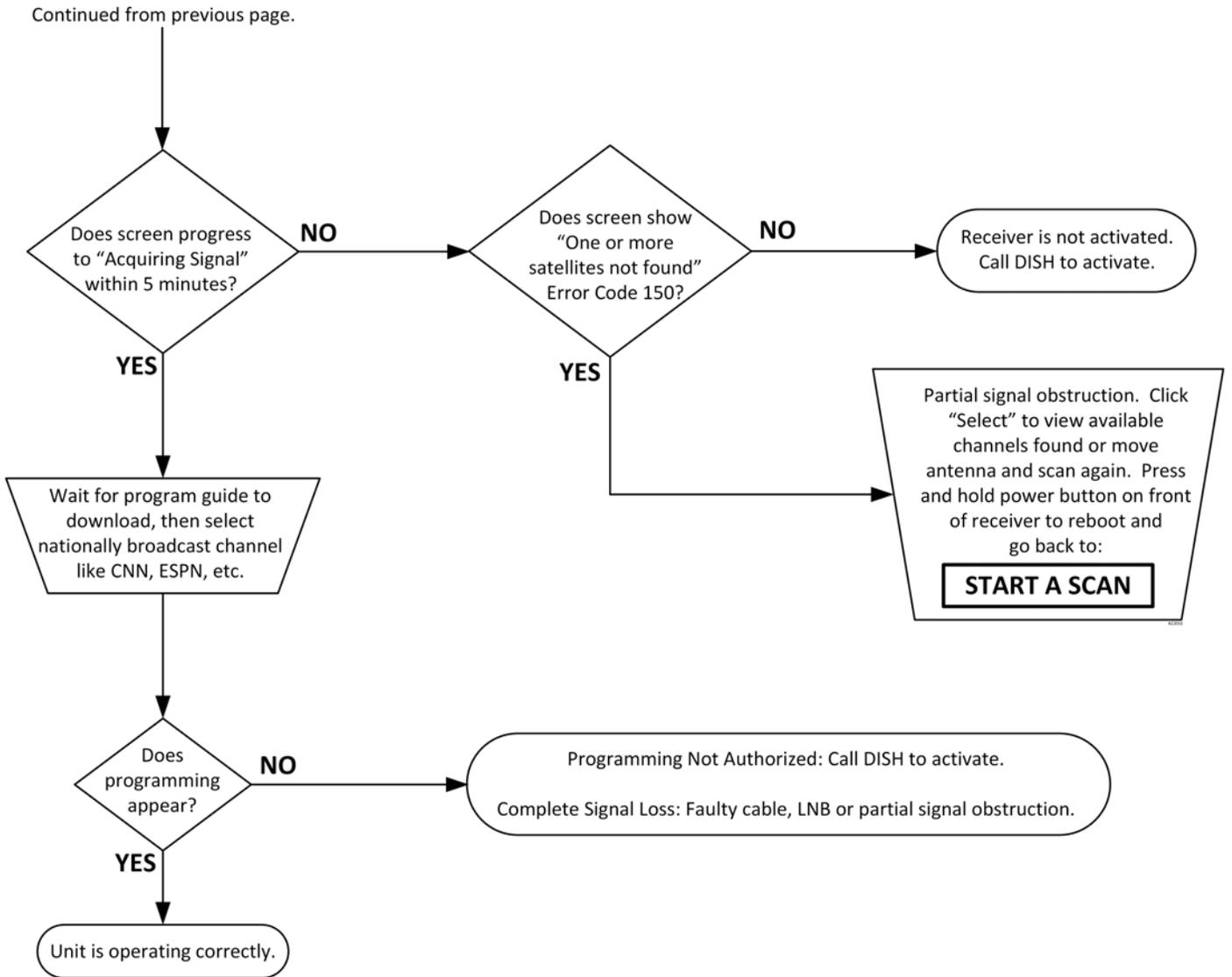




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Continued on next page.



4.10 Troubleshooting (Tailgater Mode)

Symptom/Message	Possible Cause	Troubleshooting
Complete Signal Loss - 015	<p>Obstructions to the antenna's view of the southern sky, such as tree branches, severe rain, etc.</p> <p>Coax cable not connected properly between your receiver and the antenna unit.</p> <p>You have selected a local channel but are outside of its spot beam area.</p>	<ol style="list-style-type: none"> 1) Make sure nothing is blocking the antenna's view of the southern sky, such as tree branches, severe rain, or other obstructions. 2) Check that the coax cable between your receiver and the antenna unit is connected properly. 3) 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. 4) Verify you have selected a nationally broadcast channel (CNN, ESPN, etc.).
No Satellites Found - 151	<p>Obstructions to the antenna's view of the southern sky, such as tree branches, severe rain, etc.</p> <p>Coax cable not connected properly between your receiver and the antenna unit.</p>	<ol style="list-style-type: none"> 1) Make sure nothing is blocking the antenna's view of the southern sky, such as tree branches, severe rain, or other obstructions. 2) Check that the coax cable between your receiver and the antenna unit is connected properly. 3) 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	<p>Obstructions to the antenna's view of the southern sky, such as tree branches, severe rain, etc.</p>	<ol style="list-style-type: none"> 1) Make sure nothing is blocking the antenna's view of the southern sky, such as tree branches, severe rain, or other obstructions. 2) Check that the coax cable between your receiver and the antenna unit is connected properly. 3) 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.	<p>Your remote is not currently paired with your receiver.</p>	<ol style="list-style-type: none"> 1) Check to make sure the batteries are properly inserted in your remote. 2) Set up your remote control: <ul style="list-style-type: none"> • 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	Antenna has not tracked to the appropriate orbital slot upon channel change.	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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.	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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	<p>Obstructions to the antenna's view of the southern sky, such as tree branches, severe rain, etc.</p> <p>Your physical location may be outside the footprint of the desired orbital slot.</p>	<ol style="list-style-type: none"> 1) Make sure nothing is blocking the antenna'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	<p>You may not be subscribed to the channels you are trying to view.</p> <p>Your receiver has been unplugged or not connected to signal for a significant period of time.</p>	<ol style="list-style-type: none"> 1) Confirm that you subscribe to this channel by using dish.com/mychannels. 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) 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	<p>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.</p> <p>Obstructions such as trees, buildings, mountains, and weather conditions may interfere with OTA signal reception.</p>	<ol style="list-style-type: none"> 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) Rescan over-the-air antenna channels to your receiver: <ul style="list-style-type: none"> • Using the DISH 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 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 account.	N/A
Missing Channels	<p>The electronic program guide may not be set to “My Channels.”</p> <p>You may not have the orbital slots required to view the missing television programming.</p>	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • Using your DISH 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 account.	N/A

Symptom/Message	Possible Cause	Troubleshooting
Guide Information Not Available	<p>Your receiver was not powered off at night to receive the nightly electronic program guide updates.</p> <p>Your receiver has not yet acquired signal needed to gain access to the electronic program guide.</p>	<ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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 account.	N/A
Video Pixels / Audio Pops	<p>Obstructions to the antenna's view of the southern sky, such as tree branches, severe rain, etc.</p> <p>Your receiver's signal is low.</p>	<ol style="list-style-type: none"> 1) Make sure nothing is blocking the antenna'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. 3) Check that the coax cable between your receiver and the antenna unit is connected properly.

4.11 Troubleshooting

SYMPTOM	POSSIBLE CAUSE	COURSE OF ACTION
Antenna unit does not scan for satellites.	No power to antenna unit.	Make sure antenna unit is connected to controller. Make sure controller is powered.
Antenna unit scans but no picture on TV.	Improper connections made.	Make sure antenna unit is connected to controller, and controller is plugged in. Make sure powered receiver is connected to controller and TV.
Antenna unit scans but does not find satellite.	Line of sight obstruction.	Move antenna unit to have a clear view of the southern sky. Press SCAN to start a new scan.
Picture on TV goes in and out.	Temporary obstruction of signal.	Heavy rain or snow may cause loss of signal. Reception will improve as weather clears. Make sure nothing is temporarily blocking view to the southern sky (even tree branches swaying in the wind may cause temporary interruptions of signal).

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Section 5 **BLOCK TIMES**

REPLACEMENT PROCEDURE	TIME IN MINUTES
Actuator Unit	30
LNB	30
Elevation Motor*	30
Azimuth Motor / Potentiometer*	30
Main Circuit Board / Tilt Board*	30

***NOTE:** See sections 6-8 for detailed instructions.

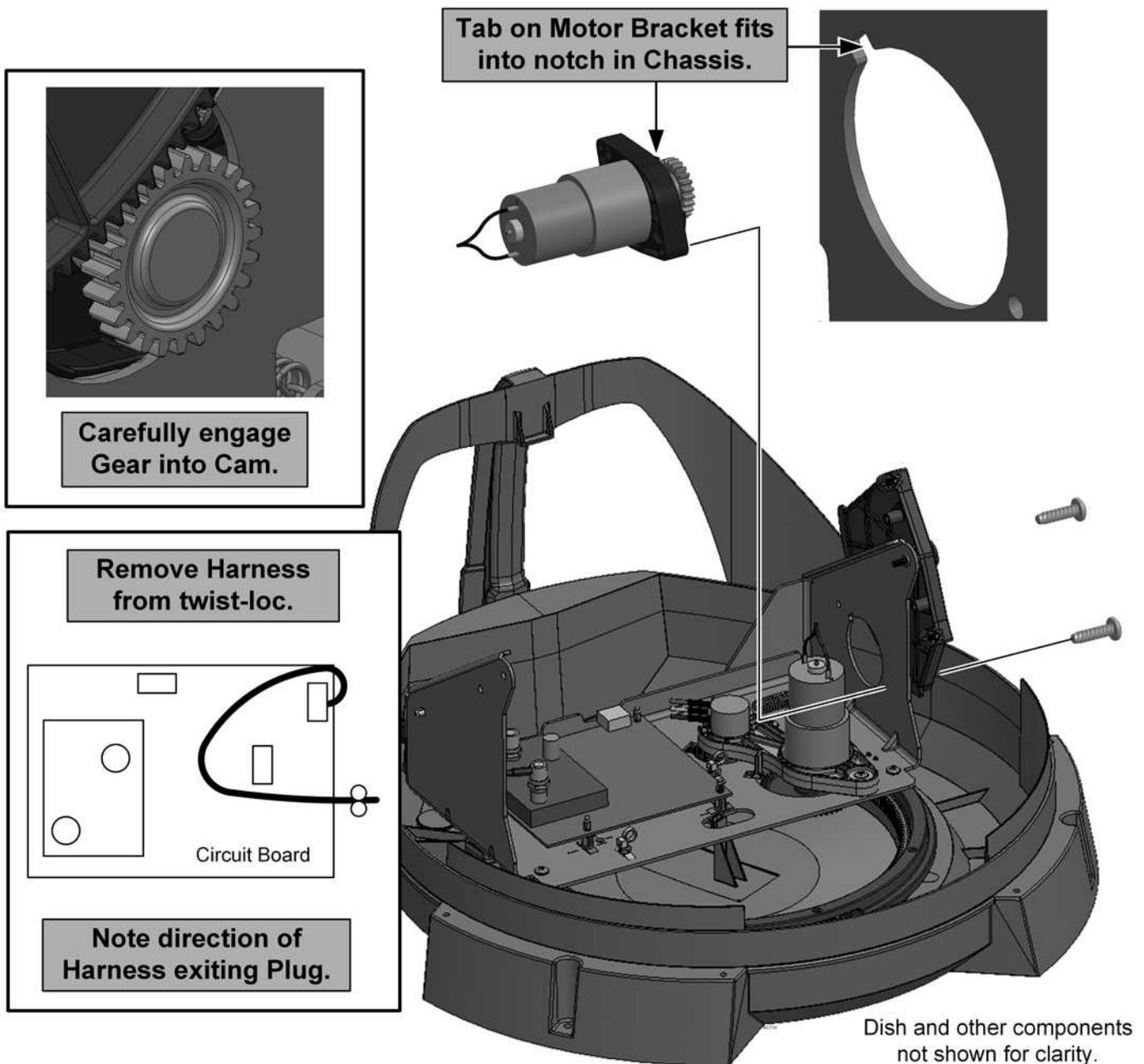


**You must call KING
before performing any warranty work.**

(952) 922-6889

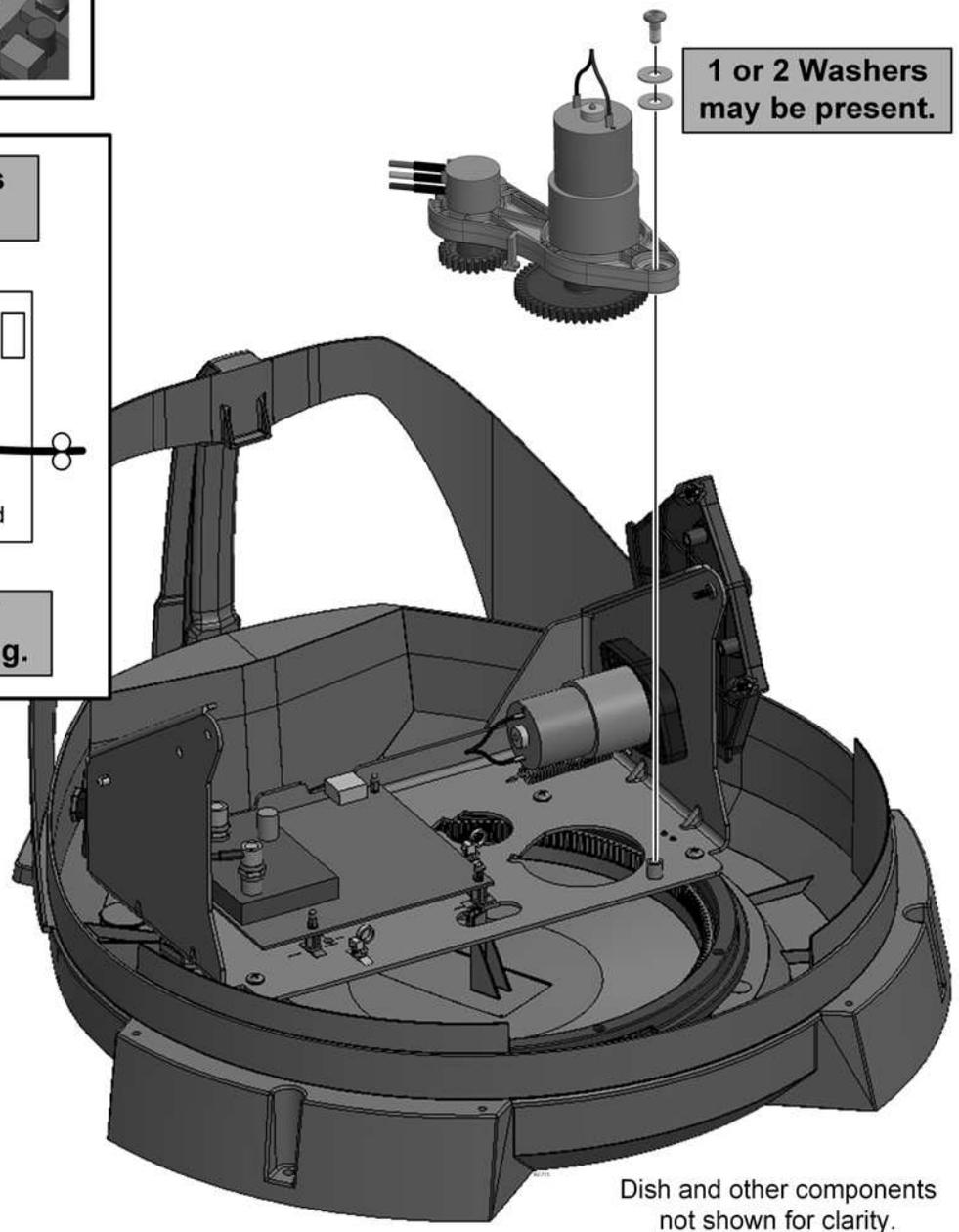
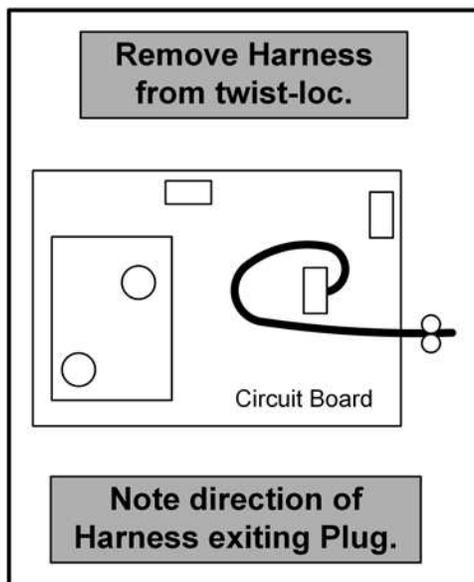
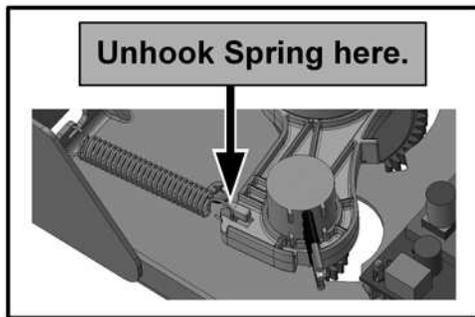
Section 6 REPLACE ELEVATION MOTOR

1. Remove Motor Harness from twist-loc and unplug from Circuit Board.
2. Remove (2) Motor Screws. Remove Motor from Chassis.
3. Insert new Motor into Chassis (engage teeth on Motor Gear **CAREFULLY** into teeth on Cam. Tab on Motor Bracket fits into notch in Chassis. Attach with (2) Screws.
4. Plug Motor Harness into Circuit Board and capture Harness in twist-loc.



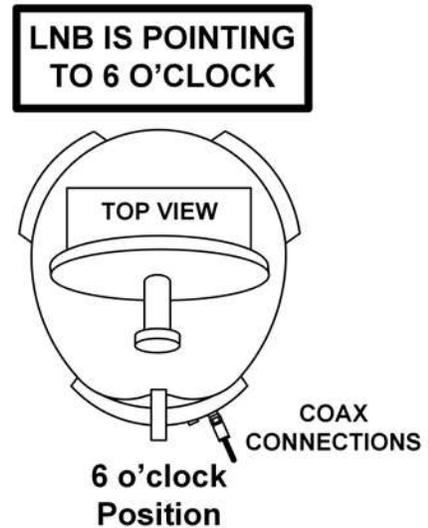
Section 7 REPLACE AZIMUTH MOTOR AND POT ASSEMBLY

1. Unhook Spring from Motor Bracket. Remove Motor Harness from twist-loc and unplug from Circuit Board.
2. Remove Screw and (1 or 2) Washers. Rotate and remove Motor/Pot Assembly from Chassis.

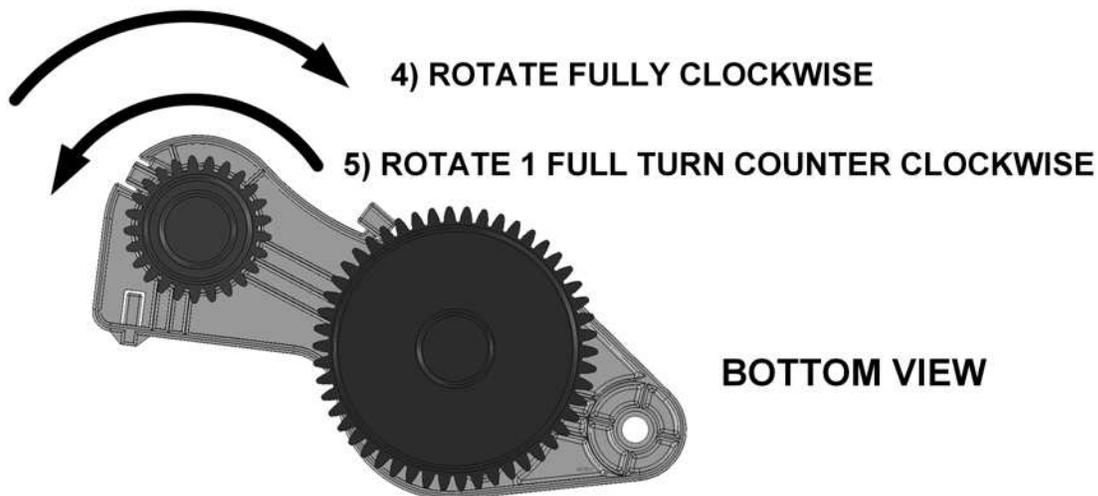


3. Rotate Chassis to the 6 o'clock position.

**DO NOT ROTATE CHASSIS
AFTER POSITIONING AT 6 O'CLOCK.**



4. Hold the new Motor/Pot Assembly upside down and rotate the Pot Gear clockwise until it reaches its limit.
5. Rotate the Pot Gear one full turn counter clockwise.

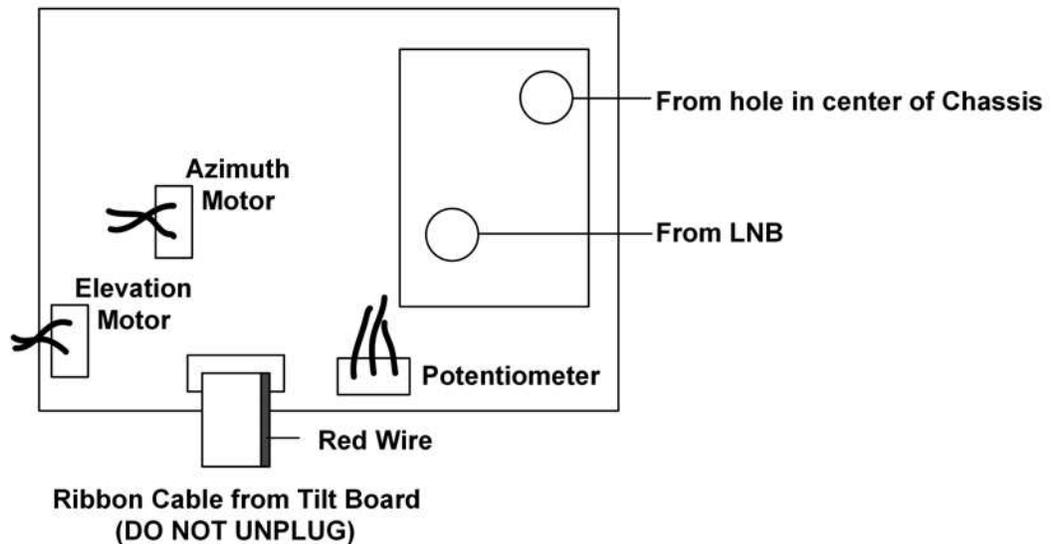


6. **Without rotating the Chassis or the Pot Gear**, carefully place the assembly onto the Chassis standoff, engaging Motor and Pot teeth into base teeth.
7. Fasten down with Screw and (2) Washers.
8. Hook Spring to Motor Bracket.

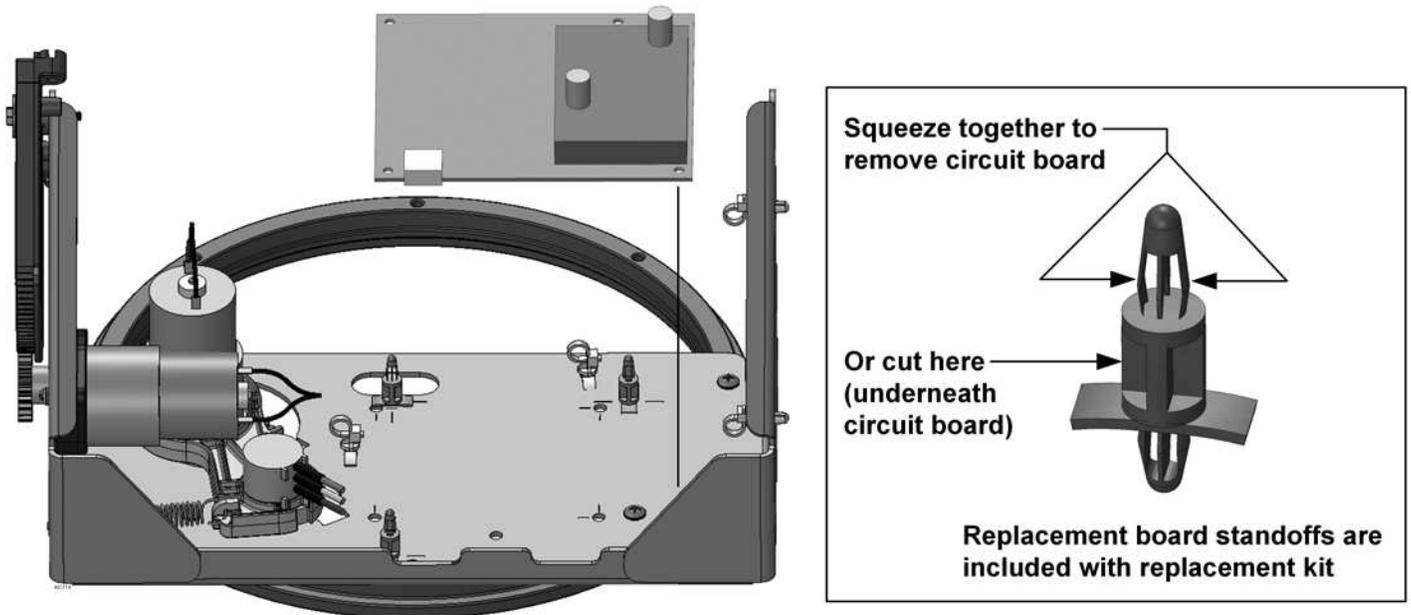
You can temporarily remove the elevation motor to allow dish rotation if you are having trouble accessing the circuit board (see Section 6, REPLACE ELEVATION MOTOR).

REMOVE MAIN BOARD

1. Unplug Harnesses (except for Ribbon Cable) and disconnect Coax Cables from Circuit Board. **LABEL ALL HARNESSSES AND CABLES TO INSURE PROPER RECONNECTION OR MATCH TO DIAGRAM BELOW WHEN RECONNECTING.**



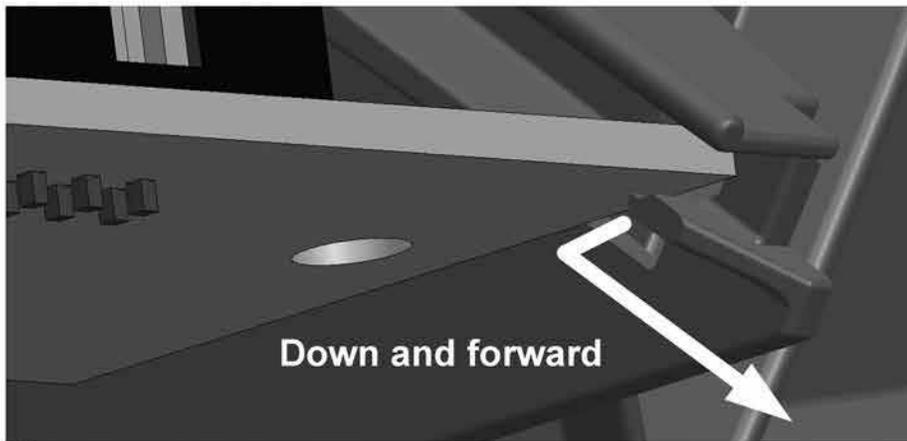
2. Remove Main Circuit Board using one of the two ways shown in box below.



Some parts not shown for clarity.

REMOVE TILT BOARD

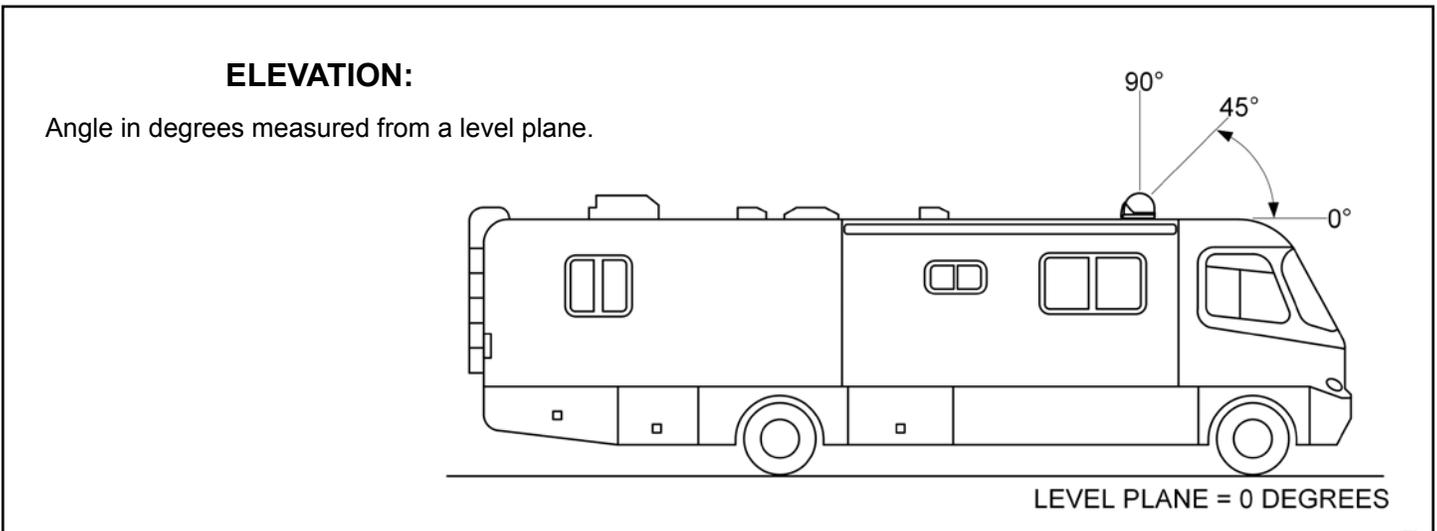
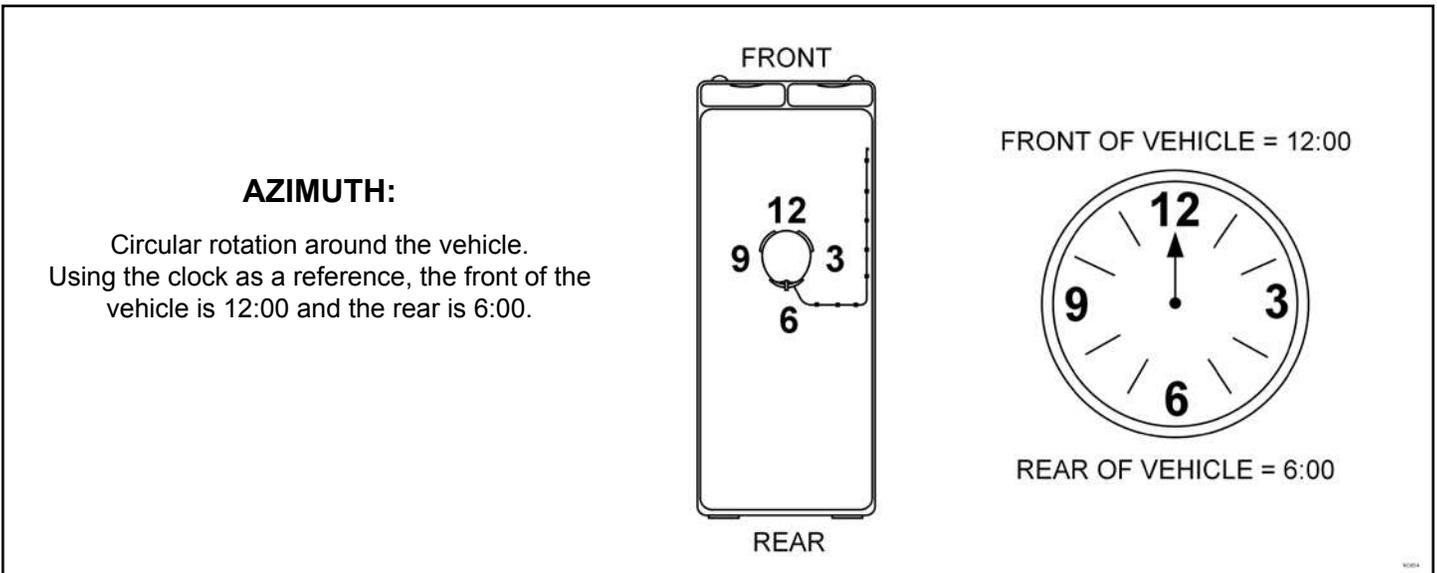
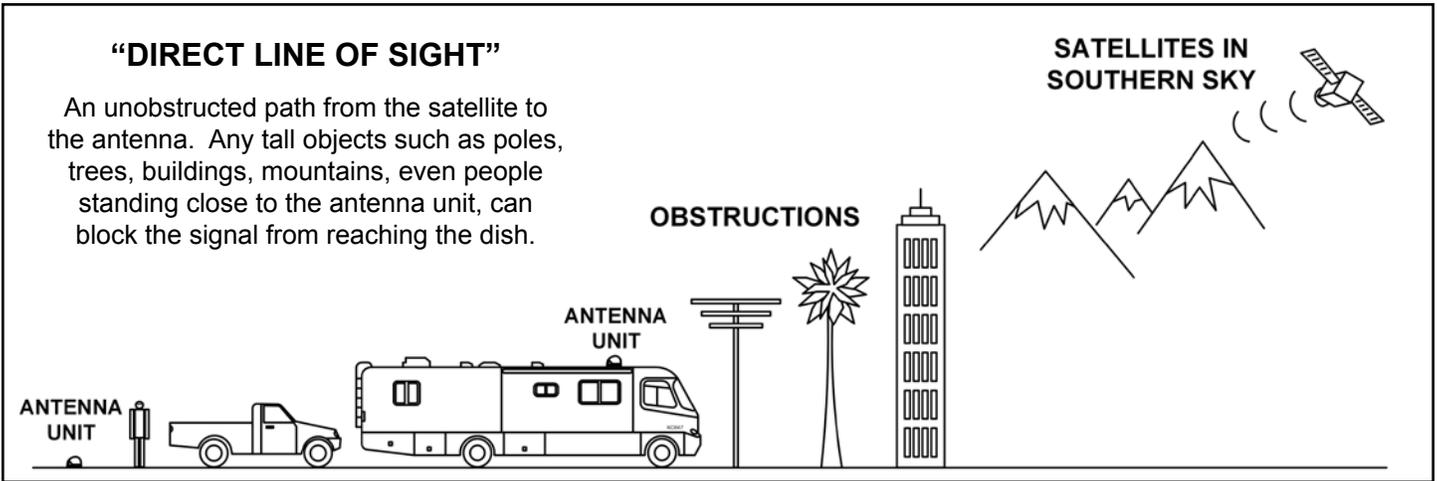
1. Cut Tie Strap and remove.
2. Flex Dish Fins outward and bring Tilt Board down and forward.



REPLACE BOARDS

1. Insert new Board Standoffs if needed, and snap new Main Circuit Board in place.
2. Install new Tilt Board: Spread fins and push Tilt Board in and up. Capture with new Tie Strap.
3. Plug all Cables back in and reconnect all Coax. **DO NOT OVER TIGHTEN COAX.**

SIGNAL STRENGTH: Intensity of signal received from the satellite.



WARRANTY CONSIDERATION FORM

Service Center Name	Customer Name*
Address	Unit Serial Number* / Model Series
	Date of Original Purchase or Installation*
Phone No.	Make, Model and Year of Vehicle
Name and Title of person working on unit	Customer I.D. Number

Service Order Number*
(RMA Number)

--	--	--	--	--	--

***REQUIRED**

Repair Date(s)	Total Labor Time (Hours) _____ @ Hourly Rate of _____	Return Shipping Charges (Ground Only)
----------------	--	--

Description of Failure and Work Performed _____

The following paperwork must be sent to KING for warranty reimbursement consideration:

- 1) Warranty Consideration Form with Service Order Number
- 2) Copy of Work Order
- 3) Proof of Purchase / Sales Receipt or Verification of In-Service Date

Note: If returning defective part, please include with paperwork. Warranty Labor Claim will not be processed until part is returned.



11200 Hampshire Avenue South, Bloomington, MN 55438
 PH 952.922.6889 || FAX 952.922.8424 || kingconnect.com

KC670



NOTES:

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DIRECTV is a registered trademark of DIRECTV L.L.C.
DISH and Tailgater are registered trademarks of DISH Network L.L.C.
KING is a registered trademark of Electronic Controlled Systems, Inc.
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