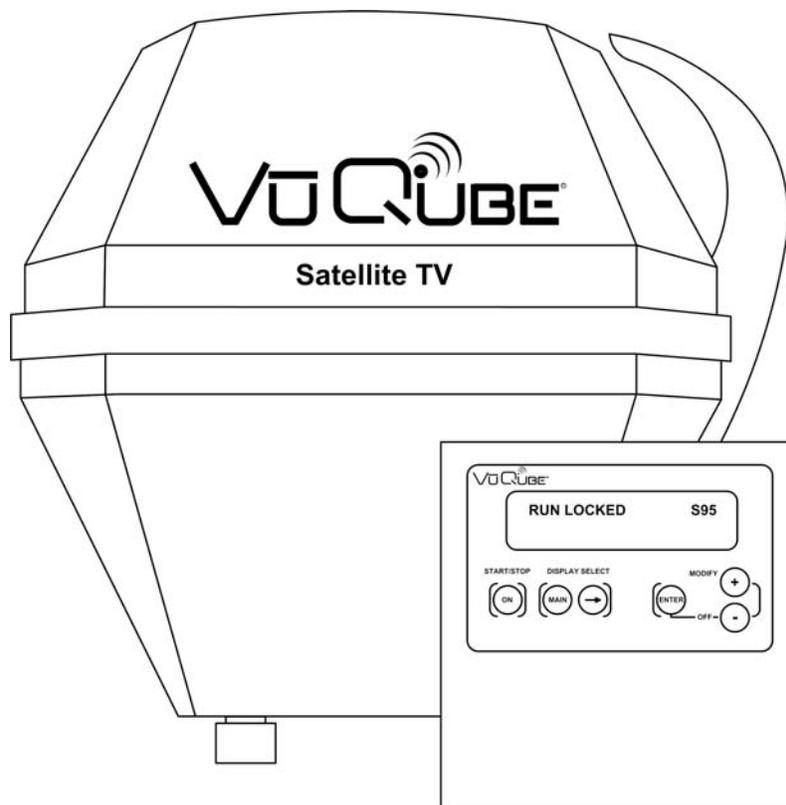




Gyro Stabilized In-Motion Satellite System Model VQ4000

Operating Instructions



Satellite Solutions for Mobile Markets

11200 Hampshire Avenue South, Bloomington, MN 55438-2453
Phone: (800) 982-9920 Fax: (952) 922-8424

www.kingcontrols.com

IMPORTANT!

The satellite TV market is expanding and changing. The information in this manual was accurate at the time of printing. If your VuQube does not operate as outlined in this manual please call King Controls at (800) 982-9920 or visit our website at www.kingcontrols.com.

Please read this entire manual before using the VuQube.

DISH NETWORK - EXPRESSVU: If you plan to use the VuQube with multiple satellite programming and would like to use the auto-switching feature, your receiver must be configured.

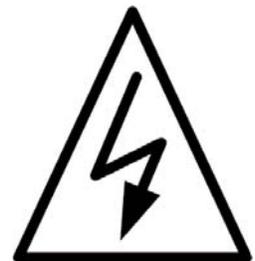
To configure the DISH receiver for automatic satellite switching, the antenna must be on the ground, dock or motionless platform with no movement (see pages 12-15).

TABLE OF CONTENTS

Section	Contents	Page
1.	INTRODUCTION.....	2
2.	DEFINITION OF TERMS.....	3
3.	VUQUBE SETUP.....	4-5
4.	OPERATION.....	6-9
5.	AUTOMATIC SATELLITE SWITCHING (DIRECTV®).....	10
6.	AUTOMATIC SATELLITE SWITCHING (DISH NETWORK™ - EXPRESSVU).....	12-15
7.	TROUBLESHOOTING.....	16-19
8.	SECURITY BRACKET.....	20
9.	MAINTENANCE.....	21
10.	LIMITED WARRANTY.....	22

ELECTRICAL HAZARD WARNING!

The coaxial cable that connects the antenna unit to the controller carries a 24 volt electrical current. Exercise extreme caution when handling this cable. Do not cut, break, or splice this line. Do not insert or connect any devices such as splitters or any other device for any reason. This line is not compatible with any other equipment. Damage will occur to any device other than the antenna unit if connected to the antenna port on the controller.



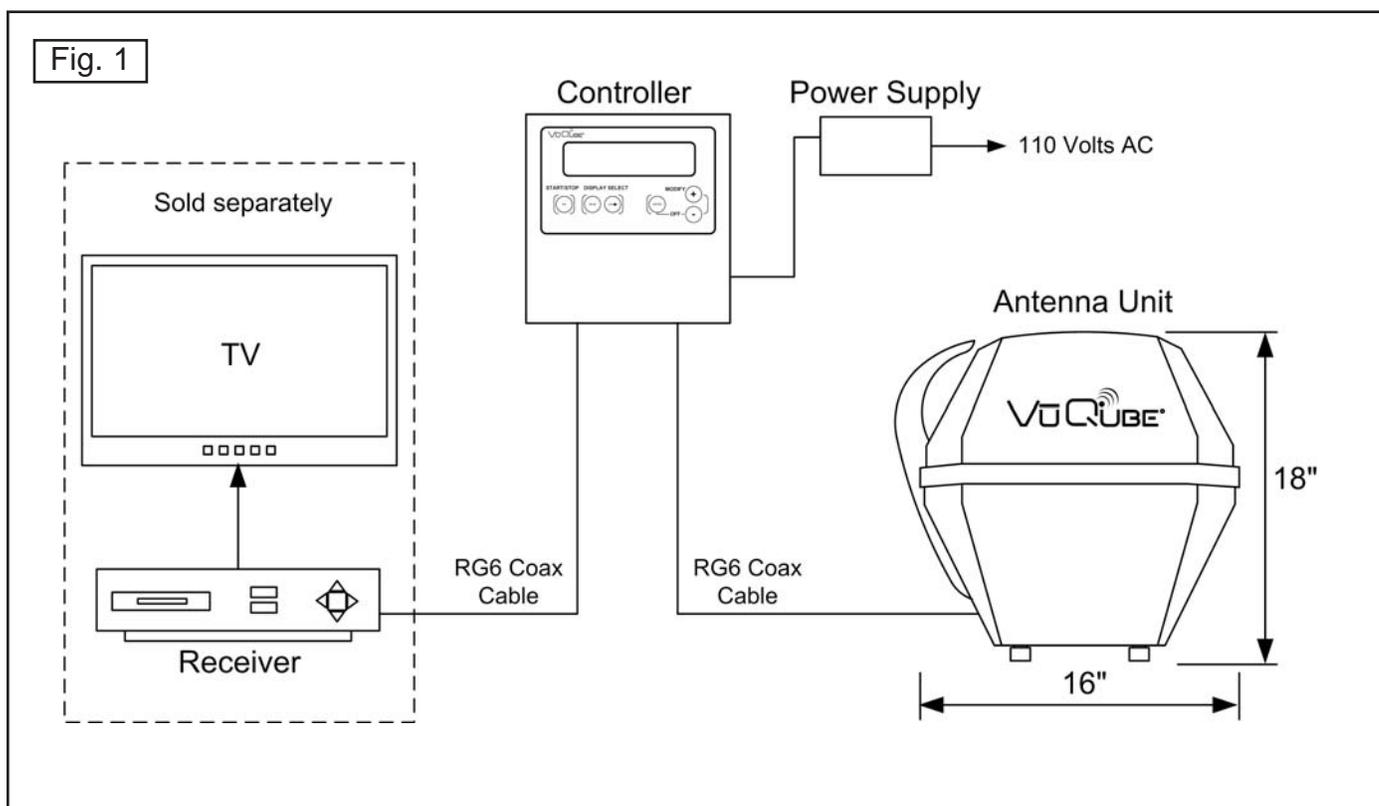
The VuQube In-Motion Satellite System includes 3 main components (**Fig. 1**).

Antenna Unit	Placed in direct line of sight to the southern sky. The dish is covered by an enclosure for easy transport and protection from the elements.
Controller	Decodes the satellite signal so the VuQube locks onto and tracks the correct satellite(s). Also used to activate and monitor the system, and to access programming and diagnostic information.
Power Supply	Supplies proper operating voltage to the VuQube.

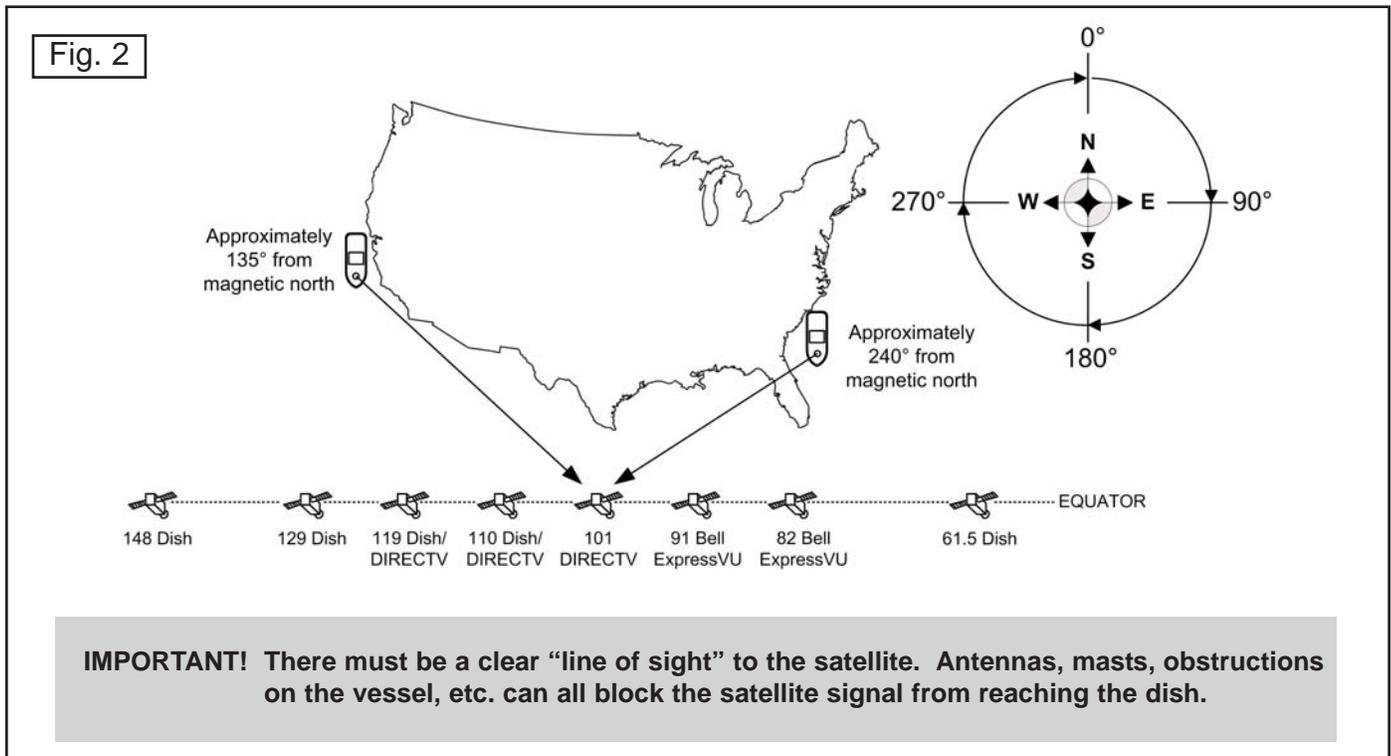
IMPORTANT! The VuQube is intended for at dock or calm water conditions.

Note: A TV, satellite receiver and program subscription are also required for satellite TV viewing (sold separately).

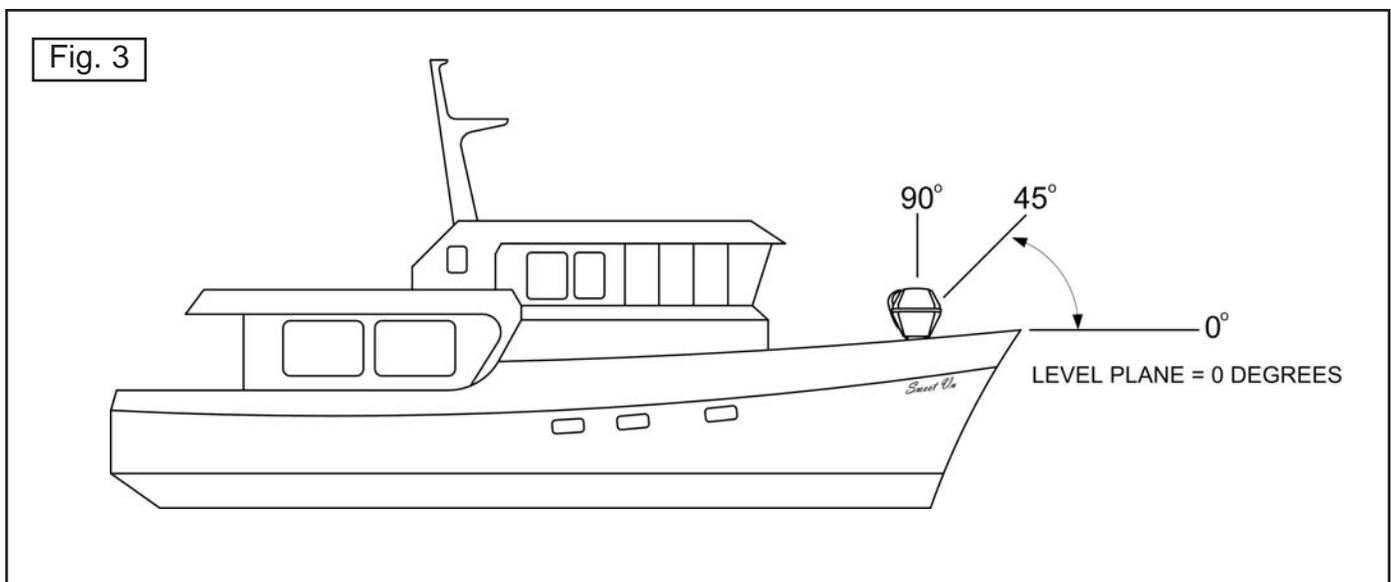
You must have an HD Receiver, HDTV Monitor (TV), the proper HD cables (component video or HDMI) and the appropriate programming subscription in order to view HD programming (sold separately).



AZIMUTH: Angle in degrees measured clockwise from Magnetic North (0°) (Fig. 2).

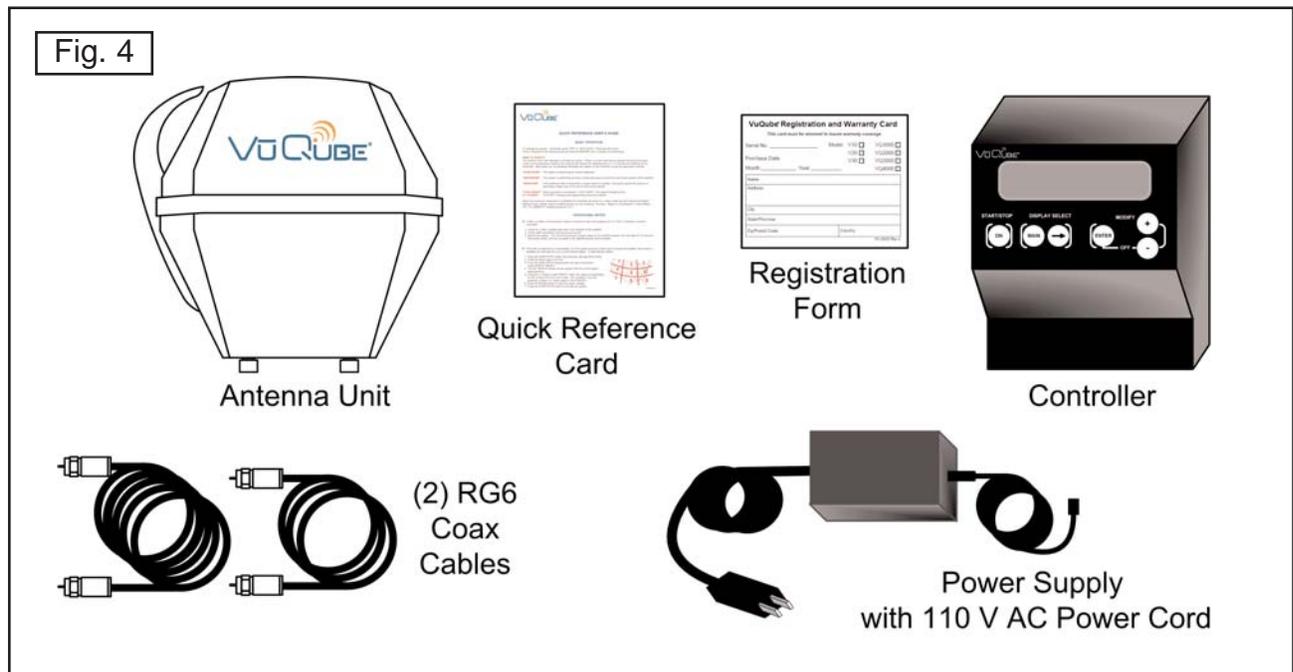


ELEVATION: Angle in degrees measured from a level plane (Fig. 3).



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

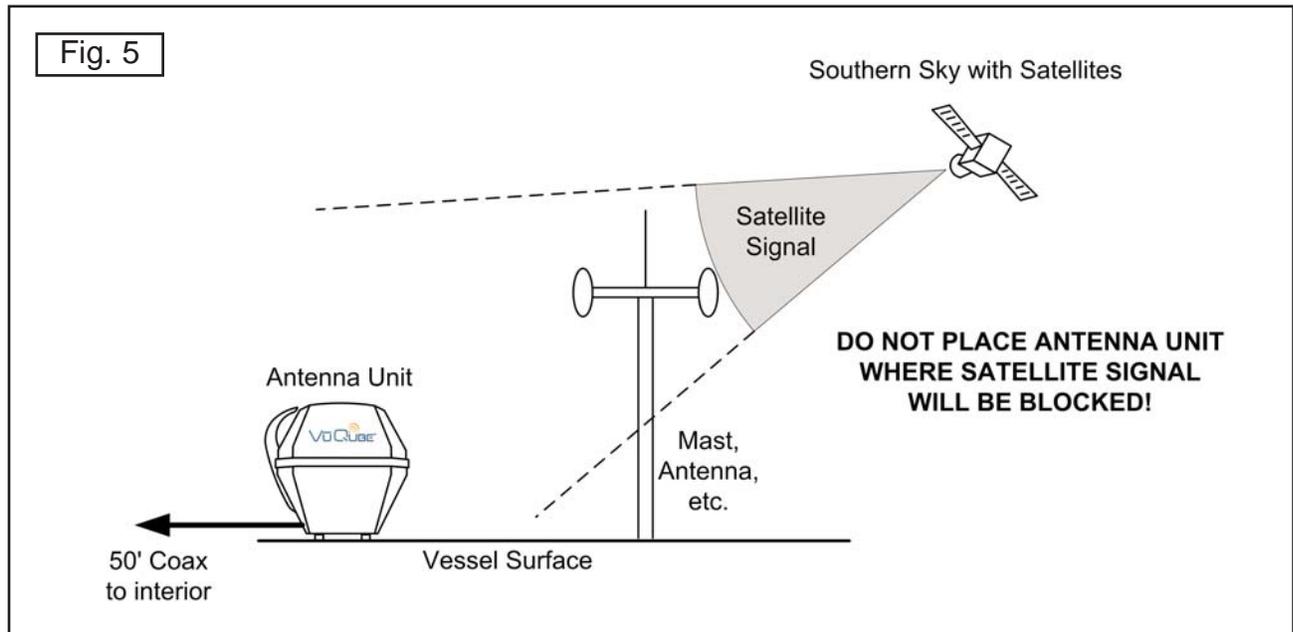
1. Unpack and identify all components (Fig. 4).



2. Place the antenna unit in an area ***with a clear view to the southern sky*** (Fig. 5).

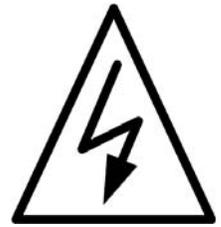
The antenna unit should be as far as possible from objects like masts, antennas, etc. that can block the satellite signal.

The coax from the antenna unit needs to enter the cabin to connect to the internal components. There must be no sharp bends in the coax.



ELECTRICAL HAZARD WARNING!

The coax cable that connects the antenna unit to the controller carries a 24 volt electrical current. Exercise extreme caution when handling this cable. Do not cut, break, or splice this line. Do not insert or connect any devices such as splitters or any other device for any reason. This line is not compatible with any other equipment. Damage will occur to any device other than the antenna unit if connected to the antenna port on the controller.

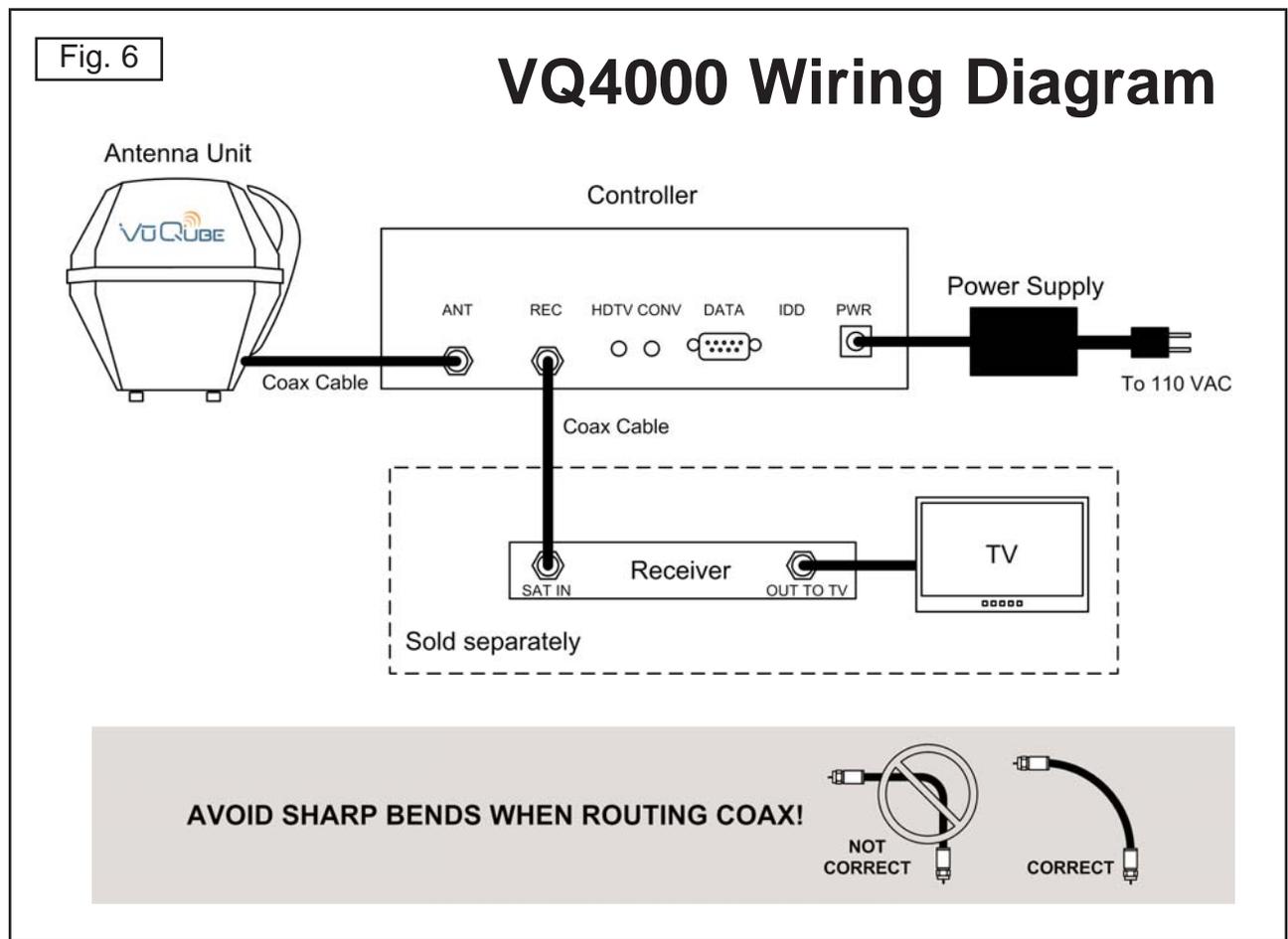


IMPORTANT! Coax connections should be snug. HAND TIGHTEN ONLY.

CONNECT POWER SUPPLY LAST. When connecting the power supply cable to the controller, push in the power supply cable end until it is flush against the back of the controller.

Note: When the power supply is connected, the controller should turn on for 3 seconds and then turn off. If the controller stays on, Press the ENTER and “-” buttons simultaneously to turn unit off.

3. Make connections as shown (Fig 6). **ALWAYS CONNECT THE POWER SUPPLY LAST.**



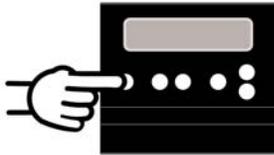
SECTION 4 OPERATION

IMPORTANT! There must be a clear “line of sight” to the satellite (See Fig. 2, Page 3). Masts, antennas, obstructions on the vessel, etc. can all block the satellite signal from reaching the dish.

Note: This example is for the DTV 101 satellite in Region 2-North Central. The information on your controller will vary depending on the satellite and region you have chosen.

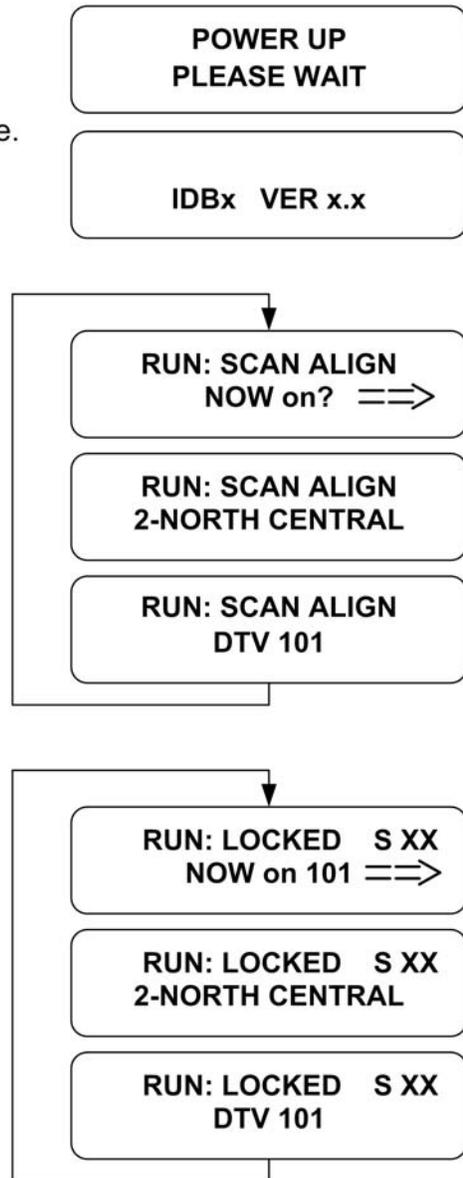
1. Turn on TV and satellite receiver. “Searching for Satellite Signal” or similar should appear on TV.

2. Press  Unit powers up, performs a self-diagnostic and loads software.



Unit begins searching for the selected satellite.

Unit has locked onto the selected satellite.



Note: The VuQube must remain powered on to maintain a signal.

To turn the VuQube off, simultaneously press ENTER and “-”.

AUTOMATIC SATELLITE SWITCHING

DIRECTV: Before using the automatic switching feature, you must configure the VuQube and your receiver for your desired option. For switching options see page 10

Dish Network - ExpressVu: Before using the automatic switching feature, you must configure the VuQube and your receiver for your desired option. For switching options see page 12.

1. Simply choose your desired channel using the receiver's remote control. The VuQube will automatically switch to the appropriate satellite.

Dish Network HD: If you are unable to receive all of your HD programming, you will need to switch satellite trios. See page 15, **Dish Network HDTV: Dish Network 1000 and 1000a: Changing the Satellite Trio** for details.

Note: For better performance when using the automatic satellite switching feature, change channels by selecting your program from the channel guide rather than channel surfing.

It is common for the picture to pixel or display an error message when the antenna is switching between satellites, or the signal has been temporarily blocked. PLEASE BE PATIENT. THE PICTURE WILL RETURN.

If an error message appears for an extended period, selecting CANCEL may help clear the message more quickly.

SET SATELLITE SERVICE

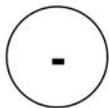
SATELLITE LIBRARY	
DTV 101	DIRECTV at 101
DTV 101/ 110 hd	DIRECTV HDTV at 101 and 110
DTV 101/ 119	DIRECTV HDTV at 101 and 119
Sat 110	Dish Network at 110
Sat 119	Dish Network at 119
DISH 61	Dish Network at 61
DISH 129	Dish Network at 129
DISH 148	Dish Network at 148
DISH 110/119	Dish Network at 110 and 119
DISH 1000	Dish Network HDTV at 110, 119, and 129
DISH 1000a	Dish Network HDTV at 61, 110, and 119
EXPVU 82	Bell ExpressVu at 82
EXPVU 91	Bell ExpressVu at 91
BEV 82/91	Bell ExpressVu at 82 and 91



Unit goes into SET SATELLITE menu.



or



Use the plus and minus buttons to display your selected satellite on the controller.



Sets satellite in memory.
Unit moves to new selected satellite.



SET REGION (OPTIONAL)

Note: To reduce satellite acquisition time, you can set your current region.

1. Press  Unit goes into IDLE/HOLD mode.

IDLE/HOLD SXX
NOW on 101 ==>

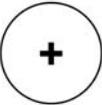
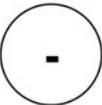


2. Press  Unit goes into USER SETUP menu.

USER SETUP ==>
Rev xxxx sn xxxxx

3. Press  Unit goes into SET REGION menu.

SET REGION
■■■■■■■■

4. Press  Find your location on the map below and determine which region you are in. Use the plus and minus buttons to display your region on the controller.
or


Display your region on the controller.

5. Press  Sets REGION into memory.

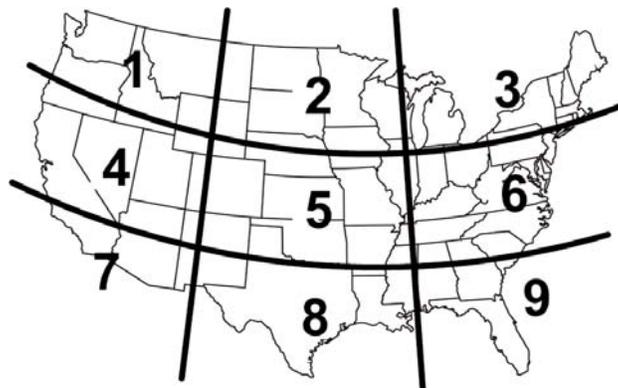
IDLE/HOLD SXX
NOW on 101 ==>

6. Press  Unit searches based on new REGION.

RUN: SCAN ALIGN
DTV 101

REGION OPTIONS:

- 1 NORTH WEST
- 2 NORTH CENTRAL
- 3 NORTH EAST
- 4 CENTRAL WEST
- 5 MIDDLE CENTRAL
- 6 CENTRAL EAST
- 7 SOUTH WEST
- 8 SOUTH CENTRAL
- 9 SOUTH EAST
- 0 ALL REGIONS
- 0 RECALIBRATE



AUTOMATIC SATELLITE SWITCHING

DIRECTV

DIRECTV 101 SATELLITE ONLY

To receive programming from the DIRECTV 101 satellite only, choose the DTV 101 option (see procedure on page 8), and make sure your receiver is set for round dish-1 satellite (do this through the receiver's satellite set-up menu screens).

101/119 AUTOMATIC SATELLITE SWITCHING

To automatically switch between the 101 and 119 satellites for DIRECTV, choose the DTV 101/119 option (see procedure on page 8), and make sure your receiver is set for oval dish-2 satellites (do this through the receiver's satellite set-up menu screens).



This page intentionally left blank.

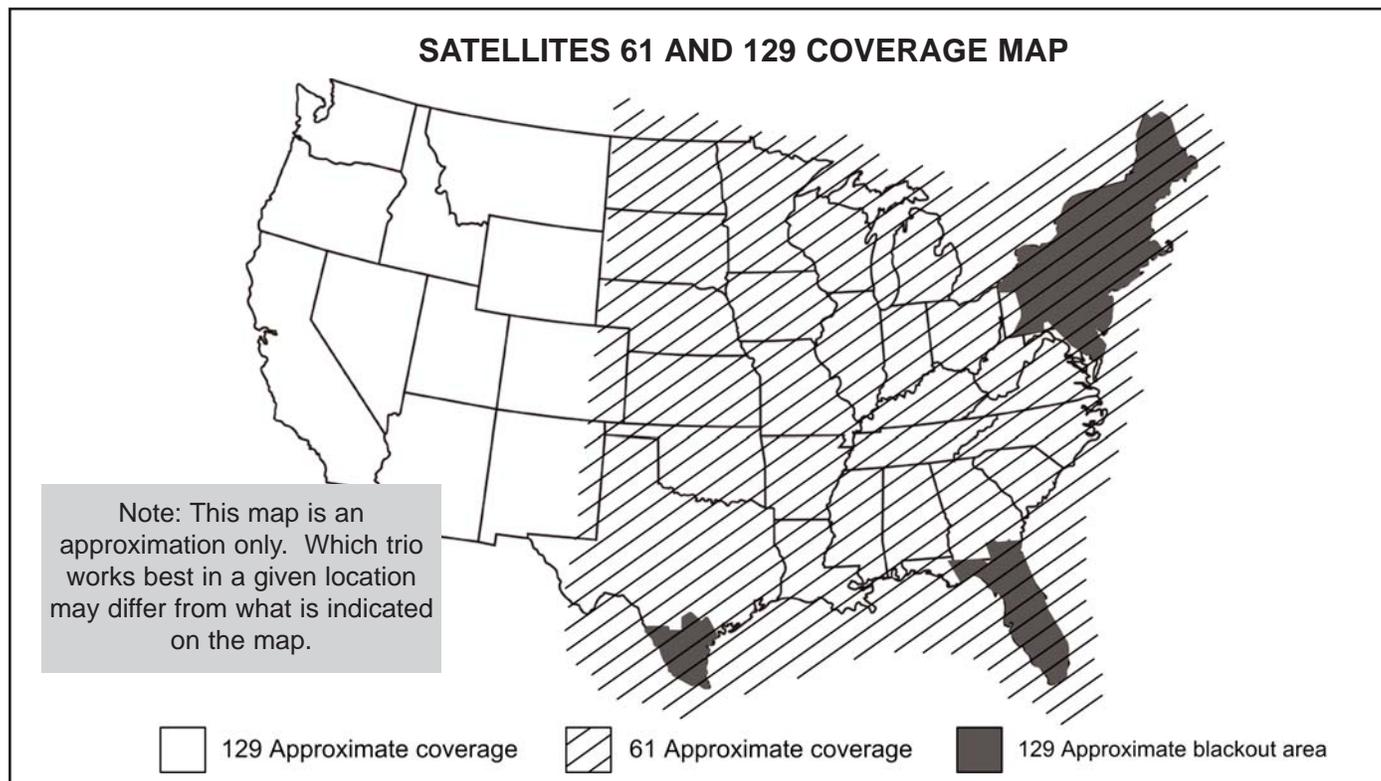
AUTOMATIC SATELLITE SWITCHING**Dish Network - ExpressVu****DISH 500 FOR DISH NETWORK**

The VuQube will automatically switch between the 110 and 119 satellites for Dish Network by using the receiver's remote control, after the receiver has been properly configured. Follow the instructions on pages 13-15.

DISH 1000/1000a FOR DISH NETWORK HDTV

Dish Network HD programming is broadcast from 4 satellites (61,110,119,129). The 61 and 129 satellites broadcast identical programming. The 61 is generally stronger in the eastern U.S. and the 129 in the western U.S. The map below shows the approximate coverage for each satellite.

Your VuQube antenna can be easily configured to work with two different satellite trios (DISH 1000a: 61,110,119 or DISH 1000: 110,119,129). By choosing the appropriate trio that includes either the 61 or the 129 satellite based on where you are, you can receive all of your desired programming. Follow the instructions on pages 13-15.

**BELL EXPRESSVU HD** (May not be available in all areas due to service provider limitations.)

The VuQube will automatically switch between the 82 and 91 satellites for Bell ExpressVu by using the receiver's remote control, after the receiver has been properly configured. Follow the instructions on pages 13-15.

SATELLITE RECEIVER CONFIGURATION

IMPORTANT! The antenna must be on the ground, dock or motionless platform with no movement in order to configure the DISH HD receiver.

For automatic satellite switching, King Controls recommends using a Dish Network model 311 receiver for Dish 500, and a Dish Network model VIP211 or a VIP211k HDTV receiver for Dish 1000/1000a. Do not use dual tuner receivers or recorders.

If you do not have a clear view of the satellites, the switch will not load.

Note: The SW21 and SW64 switches are a receiver software configuration that is loaded into the receiver after running a check switch test with the dish locked on and configured for the appropriate service.

This one time procedure will not need to be repeated after successful installation, unless a) check switch test is run again while connected to a home dish system, b) check switch is run when a receiver is not connected, or c) you travel outside the coverage area of the pre-set satellite trio (Dish 1000/1000a only).

1. Turn on the the TV, satellite receiver and VuQube.



2. Press  Unit goes into SET SATELLITE menu.

SET SATELLITE
■■■■■■■■

3. Press  or  as needed to display your desired option.

DISH 500

SET SATELLITE
DISH 110/119

DISH 1000

SET SATELLITE
DISH 1000

DISH 1000a

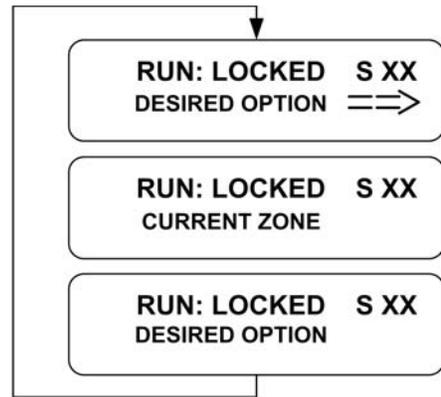
SET SATELLITE
DISH 1000a

BELL EXPRESSVU 82/91

SET SATELLITE
BEV 82/91

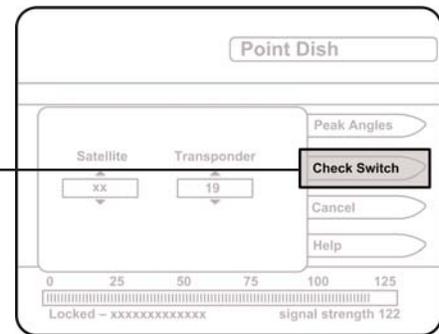
4. Press 

Wait for dish to lock onto satellites, and controller to display:

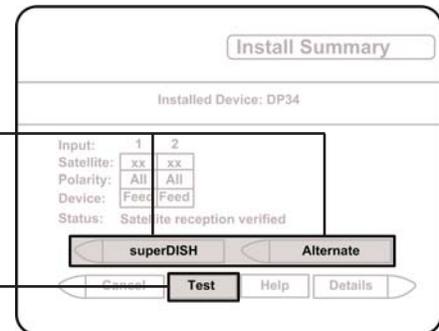


5. On the receiver remote, press menu, 6, 1, 1.

6. Highlight **Check Switch** and press **Select**.



7. Make sure Superdish and Alternate boxes are **NOT** selected.

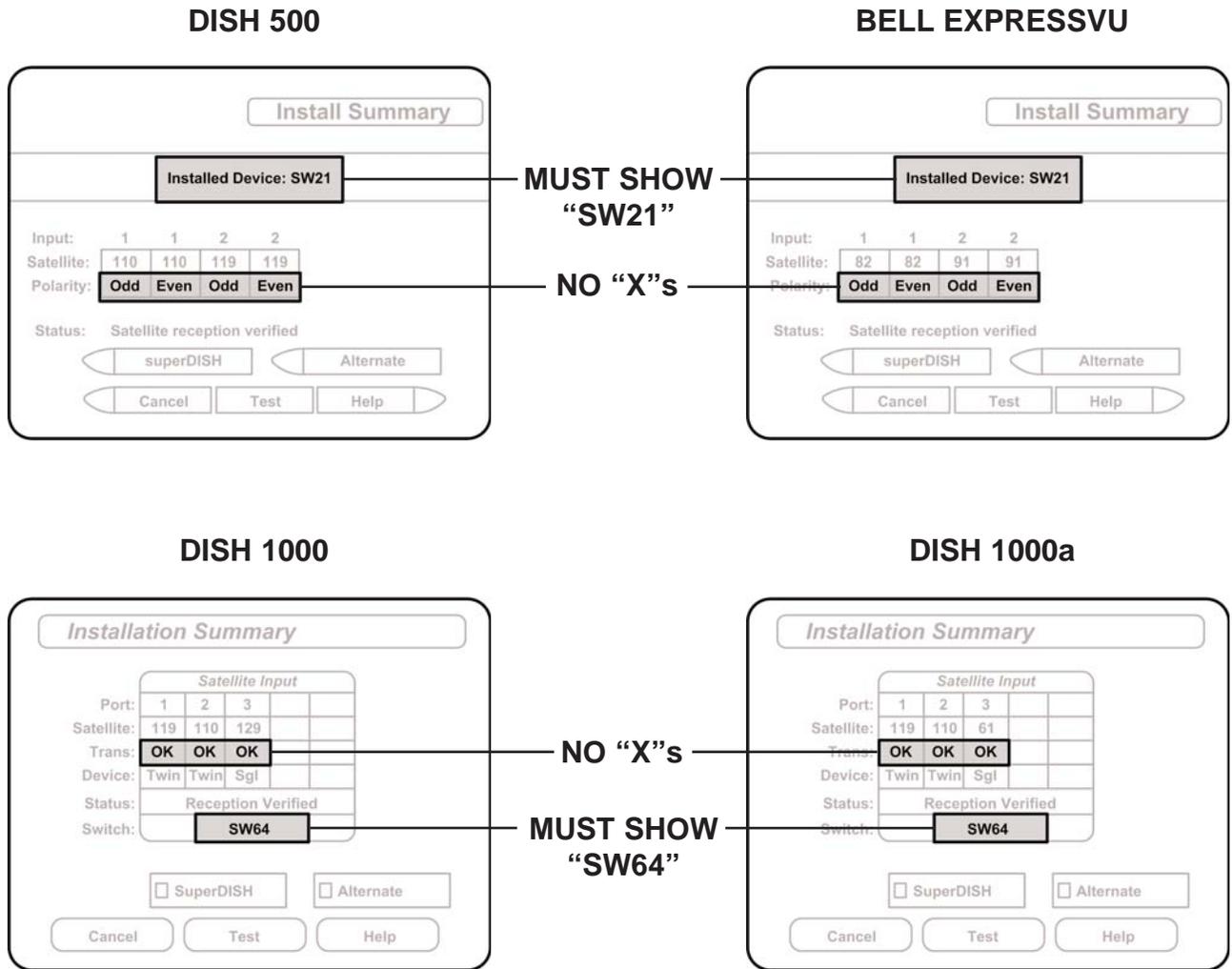


8. Highlight Test and press Select.

Screen graphics may vary.

The unit will perform a check switch test, and the dish will periodically move back and forth. (This process will take several minutes.)

9. When test is complete, a screen similar to one of the following should appear:



If indicated results are not obtained, go back to Step 5 and run test again. Contact King Controls if the check switch fails to load after 4 attempts.

10. Save the settings, exit to the main menu screen and wait for your programming to download.
11. **DISH 1000/1000a ONLY:** Verify your saved settings show your desired satellite trio (110, 119, 129 or 110, 119, 61).

You can now use the automatic satellite switching feature of your VuQube.

Dish Network HDTV: Dish Network 1000 and 1000a: Changing the Satellite Trio

IMPORTANT! Perform the procedure below only if you are unable to receive all of your HD programming in a particular area of the country.

If you are unable to receive all of your HD programming, you may have traveled outside the coverage area of your chosen trio. Reconfigure your receiver starting on page 13, using the other satellite trio.

SYMPTOM	POSSIBLE SOLUTION
Controller does not power up.	<p>Check: controller is connected to power supply.</p> <p>power supply is plugged into 110 VAC outlet.</p>
<p>Controller remains in one of the following conditions:</p> <p>POWER TRIP</p> <p>ANT COM ERROR?</p> <p>TUNER COM ERROR?</p>	<p>Unplug controller from power supply for 10 seconds, then plug back in.</p> <p>Check coax cable connection between controller and antenna unit.</p> <p>Verify voltage on coax at antenna unit is 24 volts.</p> <p>Inspect all coax cables for kinks and verify connections are snug but not overly tight.</p>
<p>Controller displays AZ FAULT.</p> <p>Dish cannot rotate</p>	<p>Unplug controller from power supply for 10 seconds, then plug back in.</p> <p>Perform OPTION 21 RE-INITIALIZE and 0-RECALIBRATE (pages 18-19).</p>
<p>Display reads EL FAULT.</p>	<p>Disconnect power supply for 15 seconds, then reconnect.</p> <p>Restart system. If problem persists, perform OPTION 21 RE-INITIALIZE and 0-RECALIBRATE (pages 18-19).</p>
<p>Only getting signal on 1/2 of transponders.</p>	<p>Kinked or sharply bent coax cable.</p> <p>Verify coax cables are properly terminated with SNAP-N-SEAL® connectors only.</p> <p>Verify receiver is operating properly.</p> <p>Verify LNB type is set correctly.</p>

SYMPTOM	POSSIBLE SOLUTION
<p>Unit never locks on or locks on and drifts off of satellite.</p>	<p>Atmospheric moisture. Unit will lock on as weather improves.</p> <p>Check for obstruction in sky in direction of satellite. Select another satellite and verify unit locks on.</p> <p>Verify coax cables are properly terminated with SNAP-N-SEAL® connectors only.</p> <p>Perform OPTION 21 RE-INITIALIZE and 0-RECALIBRATE (pages 18-19).</p> <p>Inspect all coax cables for kinks and verify connections are snug but not overly tight.</p> <p>Perform Temperature Calibration (CALL KING CONTROLS FIRST).</p>
<p>Can't get SW21 or SW 64 switch to load properly.</p>	<p>Check for line of sight obstruction.</p> <p>Check for low signal strength.</p> <p>Current location might be out of service area. Select alternate trio of satellites (SW64) and try again.</p> <p>Atmospheric moisture. Wait for weather to improve.</p>

OPTION 21 RE-INITIALIZE and 0 RECALIBRATE

1. Press **MAIN** as needed to enter DEALER SETUP menu.



DEALER SETUP ==>
CODE 0

2. Press **+** as needed to scroll up to CODE 13.

Press **ENTER**

DEALER SETUP ==>
CODE 13

3. Press **→** as needed to enter SET OPTION menu.

SET OPTION
OPTION 0

4. Press **-** as needed to scroll down to OPTION 21.

Press **ENTER** to re-initialize software.

SET OPTION
OPTION 21

LOADING
PLEASE WAIT

5. Wait until display shows OPTION 0 (may take up to 30 seconds).

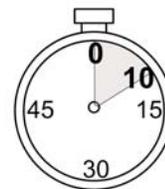
Press **ENTER** and **-** simultaneously to shut system off.

SET OPTION
OPTION 0

off

6. Disconnect power (110 volt power supply) from tuner for 10 seconds, then reconnect.

WAIT 10 SECONDS!



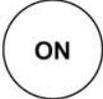
7. Wait until controller shows "off" then press **ON** to start system.

off

8. Wait for system to load.

POWER UP
PLEASE WAIT

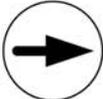
LOADING
PLEASE WAIT

When display shows RUN: SCAN ALIGN,
press  to enter IDLE/HOLD mode.

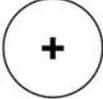
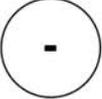
IDLE/HOLD SXX
NOW on ? ==>

9. Press  to enter USER SETUP menu.

USER SETUP ==>
Rev xxxx sn xxxxx

10. Press  to enter SET REGION menu.

SET REGION
■■■■■■■■

11. Press  or  as needed to display
0-RECALIBRATE.

SET REGION
0-RECALIBRATE

12. Press  System recalibrates gyros.

RUN: SCAN ALIGN
0-RECALIBRATE

13. Press  to exit IDLE/HOLD mode.

RUN: SCAN ALIGN

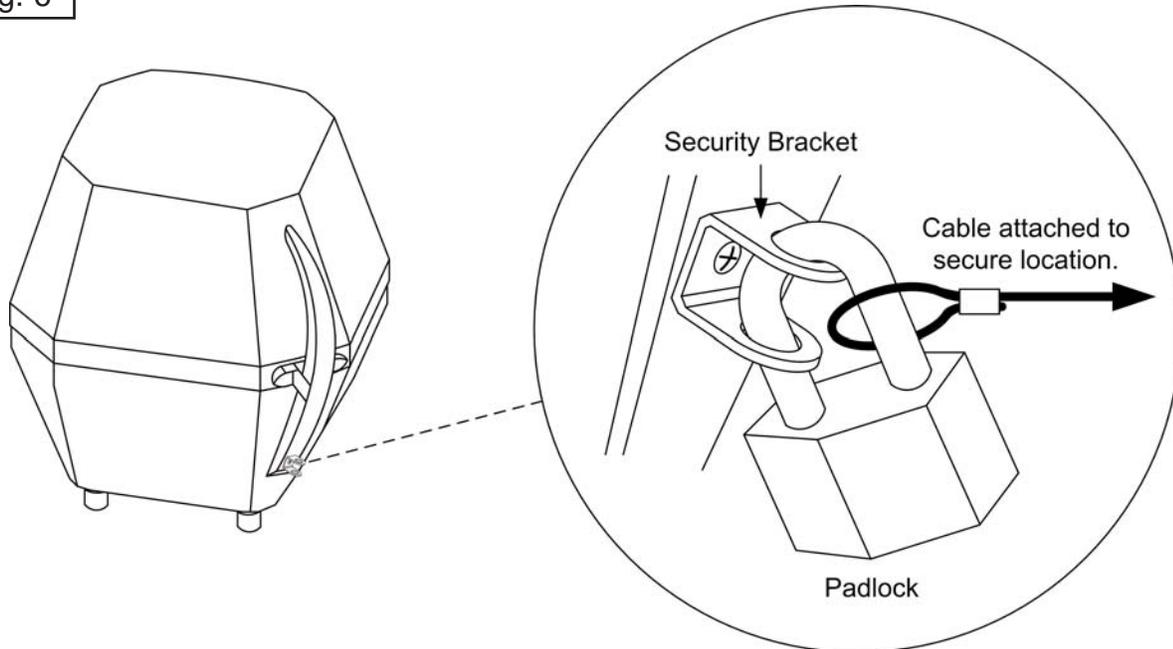
System will continue to run during recalibration
process. Recalibration is complete when
0-RECALIBRATE no longer scrolls across bottom
of display with search information. May take up to
10 minutes.

14. System continues to run after recalibration is complete.

RUN: SCAN ALIGN
DTV 101

The VuQube can be secured to an object using a padlock and cable (**Fig. 6**).

Fig. 6



The VuQube Satellite System has been designed to be maintenance and trouble free.

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

If you plan on not using your VuQube 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@vuqube.com

Rain Fade

Rain or dew on the enclosure 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 enclosure surface.

To minimize this issue and eliminate the effects of water on the enclosure, apply King Controls **Dome Magic**® rain fade solution to the enclosure. This will prevent water from sticking to the enclosure surface and blocking the signal. For additional details on **Dome Magic**® rain fade solution please contact your authorized VuQube dealer or call King Controls at (800) 982-9920.



Single Application Packet #1830-SP



Spray Can #1830

Every VuQube Satellite System is thoroughly inspected and tested before leaving the factory. It is covered by a one year parts 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. Only King Controls may 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 Ave. S. Bloomington, MN 55438-2453.**

If inspection shows the trouble is caused by defective workmanship or material, King Controls will repair the unit 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.
- 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.

Notes:

Notes:



11200 Hampshire Avenue South, Bloomington, MN 55438-2453
Phone: (800) 982-9920 Fax: (952) 922-8424

www.kingcontrols.com

