King-Dome

Troubleshooting Guide
9702 Series

KING CONTROLS®

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!: There are two separate ranges of serial numbers each with its own specific information.

Section 3 covers basic information common to all serial numbers unless noted.
Section 4 covers serial numbers 269999 and lower.
Section 5 covers serial numbers 270000 and higher.
Section 6 covers reference information common to all serial numbers unless noted.

Note: For more detailed installation information, please refer to the 9702/9702-LP Installation and Operating Instruction Manual available on our website at www.kingcontrols.com.

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Dish Network™ is an official trademark of Echostar Communications Corporation.
Bell ExpressVu is an official trademark of Bell Canada.
DVB® is a trademark of the DVB Digital Video Broadcast Project (1991-1996)

SECTION 1 INTRODUCTION

The King Controls 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 Controls 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-Dome 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-Dome technician will create a call log to aid in properly documenting the warranty claim.

IMPORTANT!

For warranty reimbursement, you must call King Controls for a Service Order Number *BEFORE* performing any work: (800) 982-9920.

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

SECTION 2 WARRANTY INFORMATION

Every King-Dome Satellite System is covered by a **TWO YEAR PARTS AND ONE YEAR LABOR** limited warranty from the date of original purchase. (Upgrade kits are one year parts only.)

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 Controls to do such repairs.
- Repairs are required because of normal wear and tear.
- Alterations have been made to the product.

PROCESSING A WARRANTY CLAIM

Note: Only King Controls 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 Controls to get a Service Order Number (800) 982-9920.
   TECHNICIAN MUST NOT PROCEED WITHOUT A SERVICE ORDER NUMBER.

   - A King-Dome 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 Controls:

   - 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) Technician must have the King-Dome Diagnostic Keypad #1844.

2) For units in service longer than one year, the customer is responsible for labor time.

3) Installation parts (coax, power and data cables, etc.) are not covered.

4) Replacement parts (including domes) are sent directly from King Controls. **DO NOT USE NEW PRODUCT FOR WARRANTY REPLACEMENT WITHOUT WRITTEN AUTHORIZATION FROM KING CONTROLS.**

5) Technician must call King Controls before performing any work for which warranty labor reimbursement will be submitted to King Controls. A King-Dome 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.

6) 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 Controls.

7) King Controls shall reimburse the servicing dealer for warranty work at their published labor rates.

8) Enclose paperwork with defective part. Clearly mark the Service Order Number on outside of box.

SECTION 3

ALL SERIAL NUMBERS

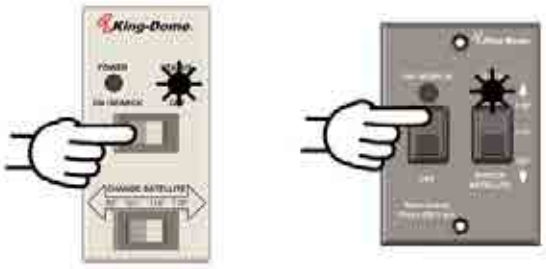
BASIC OPERATION
All Serial Numbers

1. Turn on TV and Receiver. “Searching for Satellite” or similar will appear on TV screen.

2. On King Dome controller, press and hold ON/SEARCH for **3 FULL SECONDS**. Power light turns steady GREEN.

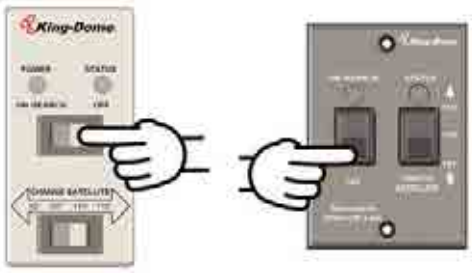
	STATUS LIGHT	SYSTEM STATUS
a)	flashes a variety of colors for about one minute	unit performs self-diagnostic
b)	RED-flashing	search in progress
c)	GREEN-flashing (may start flashing RED again)	potential satellite found
d)	GREEN-steady	satellite found

Hand Held Controller **Wall Mount Controller**



3. Can you view your desired programming?

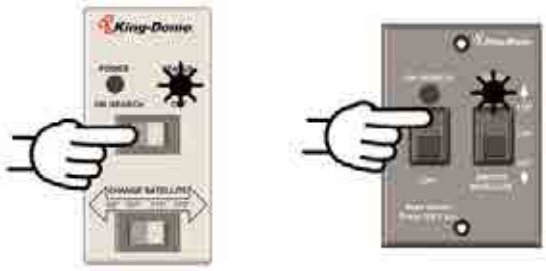
Note: Receiver may require 2 minutes to download program information.



YES: Turn King-Dome off and enjoy.

IMPORTANT! Do not turn off the controller until you have found your desired satellite and programming.

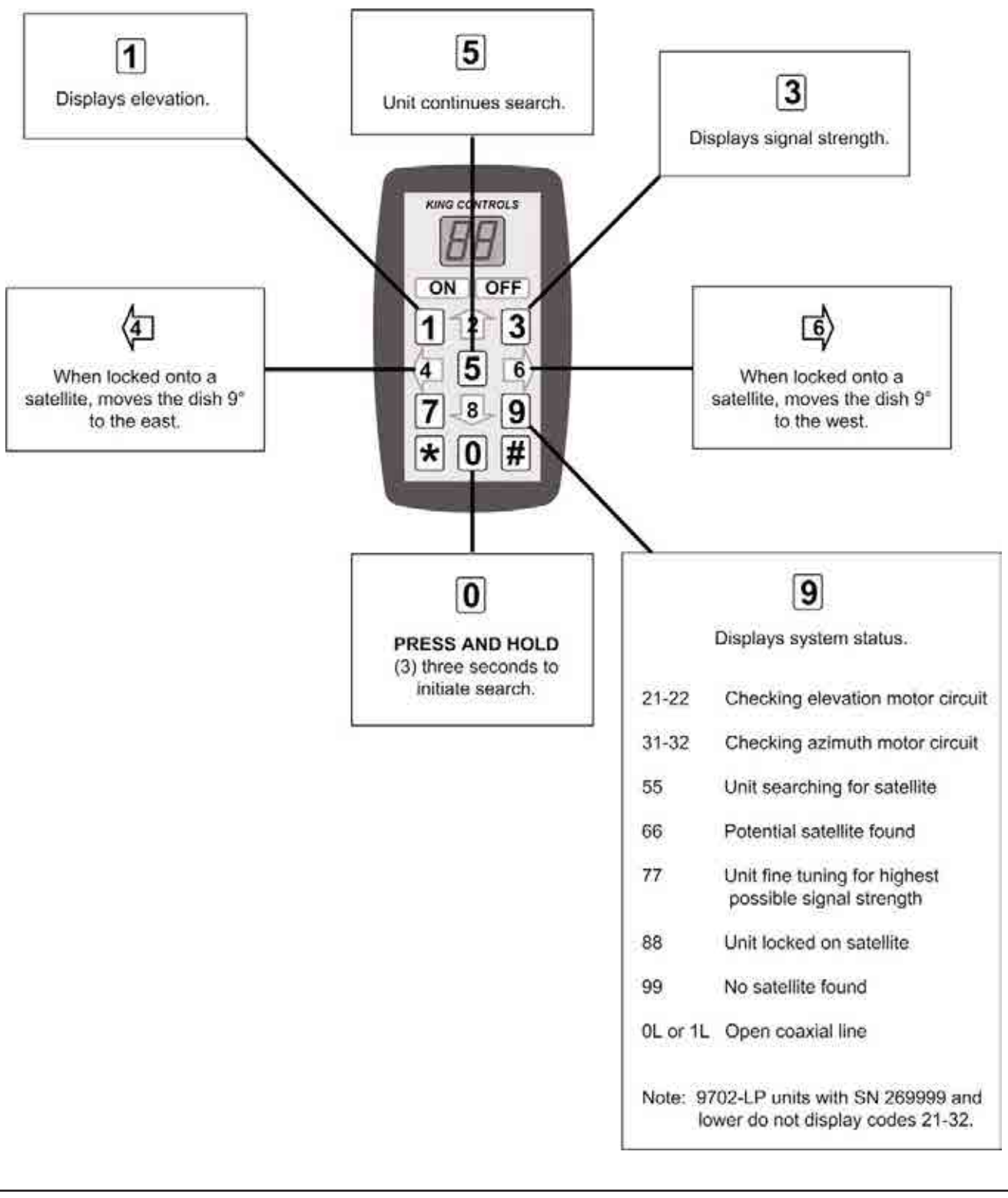
NO: Press the ON/SEARCH button for one second to continue search. Repeat step until you are locked onto the correct satellite.



KEYPAD FUNCTIONS

All Serial Numbers

To use the Keypad with the 9702 & 9702-LP Automatic, simply unplug the existing controller and plug in the Keypad.



DISPLAY CODES

All Serial Numbers

ENTER CODE	INFORMATION DISPLAYED	
* 80 #	Elevation zone	(1-16)
* 82 #	Mode	45 = 15” automatic 55 = 15” manual 65 = 12” automatic 75 = 12” manual
* 98 #	Software revision	

PROGRAMMING CODES

All Serial Numbers

ENTER CODE	PROGRAMMING
* 01 # thru * 16 #	Programs Elevation zone (see Zone Maps in Reference Section).

TROUBLESHOOTING BLOCK TIMES

All Serial Numbers

Note: See www.kingcontrols.com for detailed instructions.

9702 AUTOMATIC	Time in Minutes
Circuit Board and LNB Kit	45
Elevation Motor Assembly	45
Internal Main LNB Coax	30
9702-LP AUTOMATIC	
Level, Circuit Board, LNB Kit	45
Elevation Motor Assembly	45

You must call King Controls before performing any warranty work.

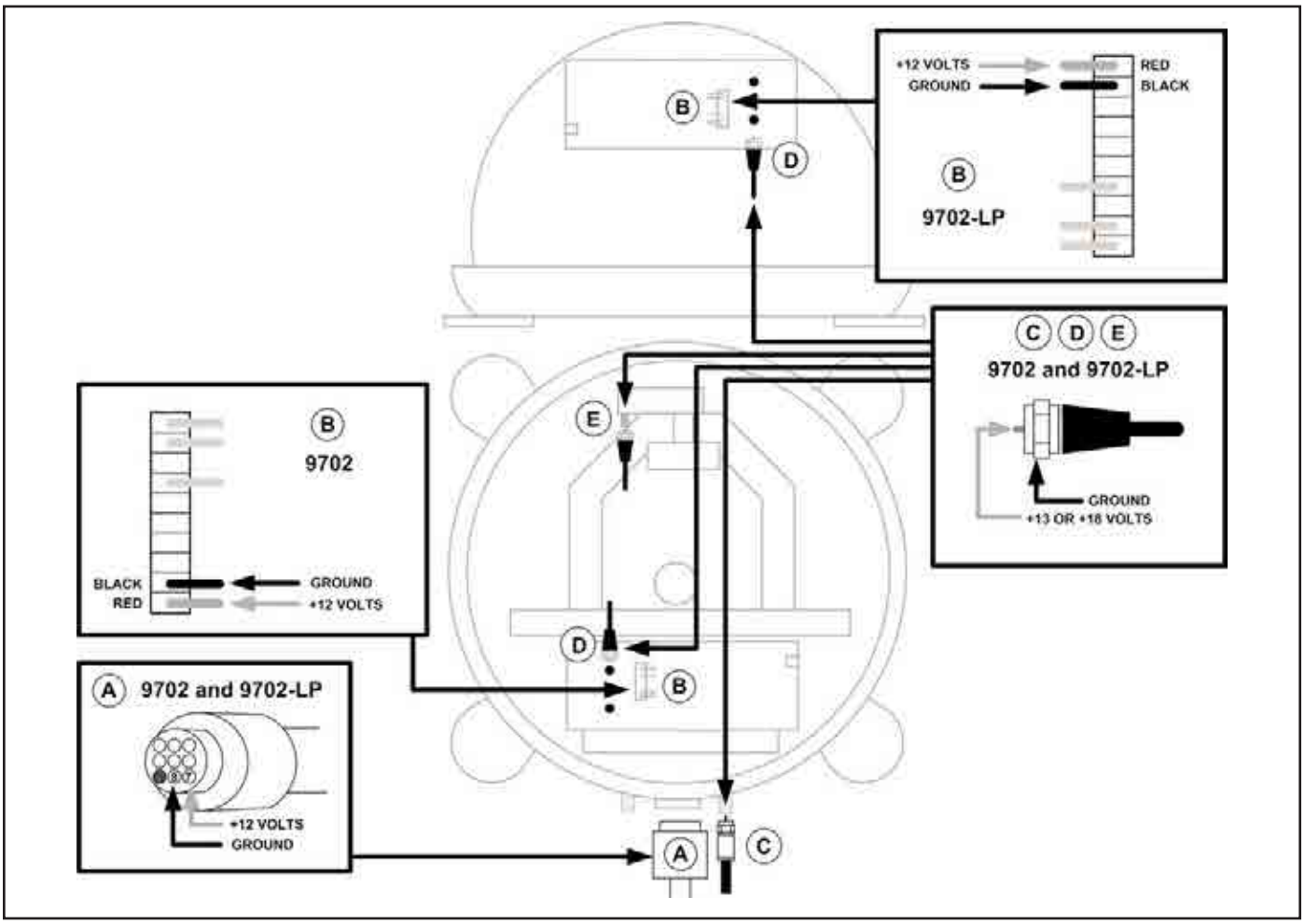
(800) 982-9920

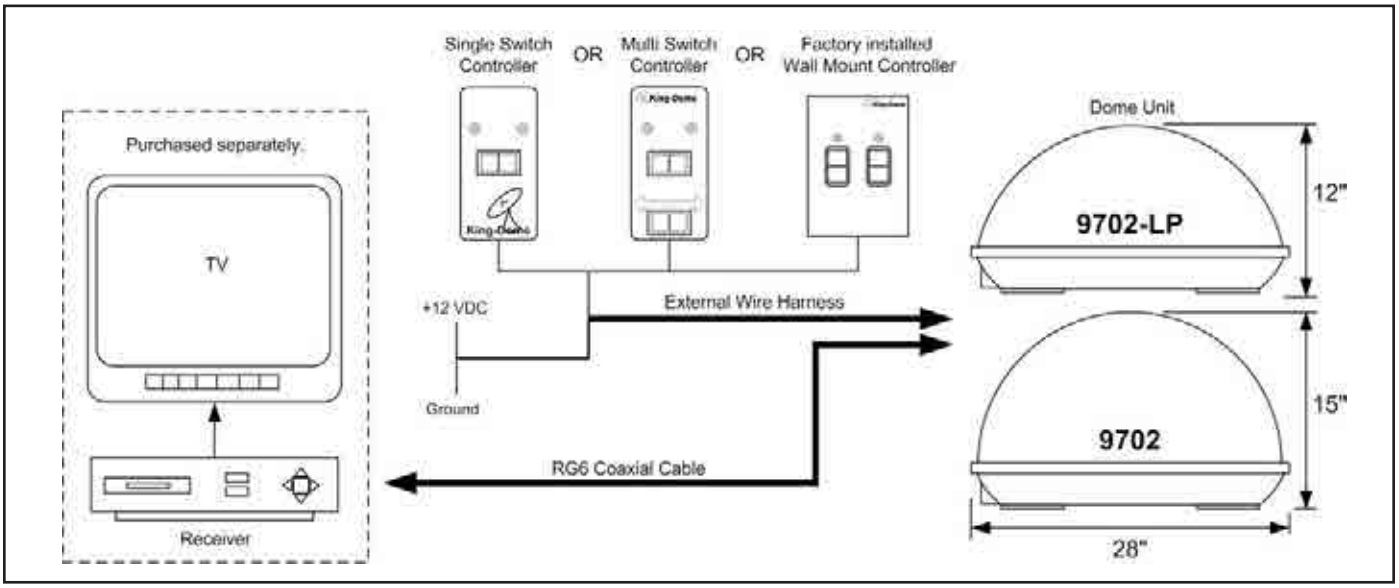
SECTION 4

SERIAL # 269999 AND LOWER

9702, 9702-LP WIRING DIAGRAMS FOR FLOWCHARTS

Serial Number 269999 and lower





9702 KEYPAD FLOWCHART

Serial Number 269999 and lower

IMPORTANT!
Before performing any warranty work, you must call King Controls for a Service Order Number.

Note: Non-warrantable issues are indicated by, but not limited to, grey boxes in flowcharts.

Call King Controls for a Service Order Number before starting this flowchart.

Turn on TV and Receiver. Make sure receiver is properly set to work with King-Dome.

Turn on Keypad (press ON).

Does the Keypad turn on?

NO → No power to Dome Unit or Keypad cannot communicate with Dome Unit.

YES

Are there 12 volts on the power harness at the base of the dome? (A)

NO → External Power Harness problem. Not warrantable by King Controls. Call King Controls. **CODE 243**

YES

Are there 12 volts at the circuit board? (B)

NO → Check power harness connections. Are there 12 volts at the circuit board now? (B)

NO → Call King Controls. **CODE 242**

YES

Does the Keypad turn on using "Direct to Circuit Board" cable?

YES → Call King Controls. **CODE 241**

NO → Call King Controls. **CODE 240**

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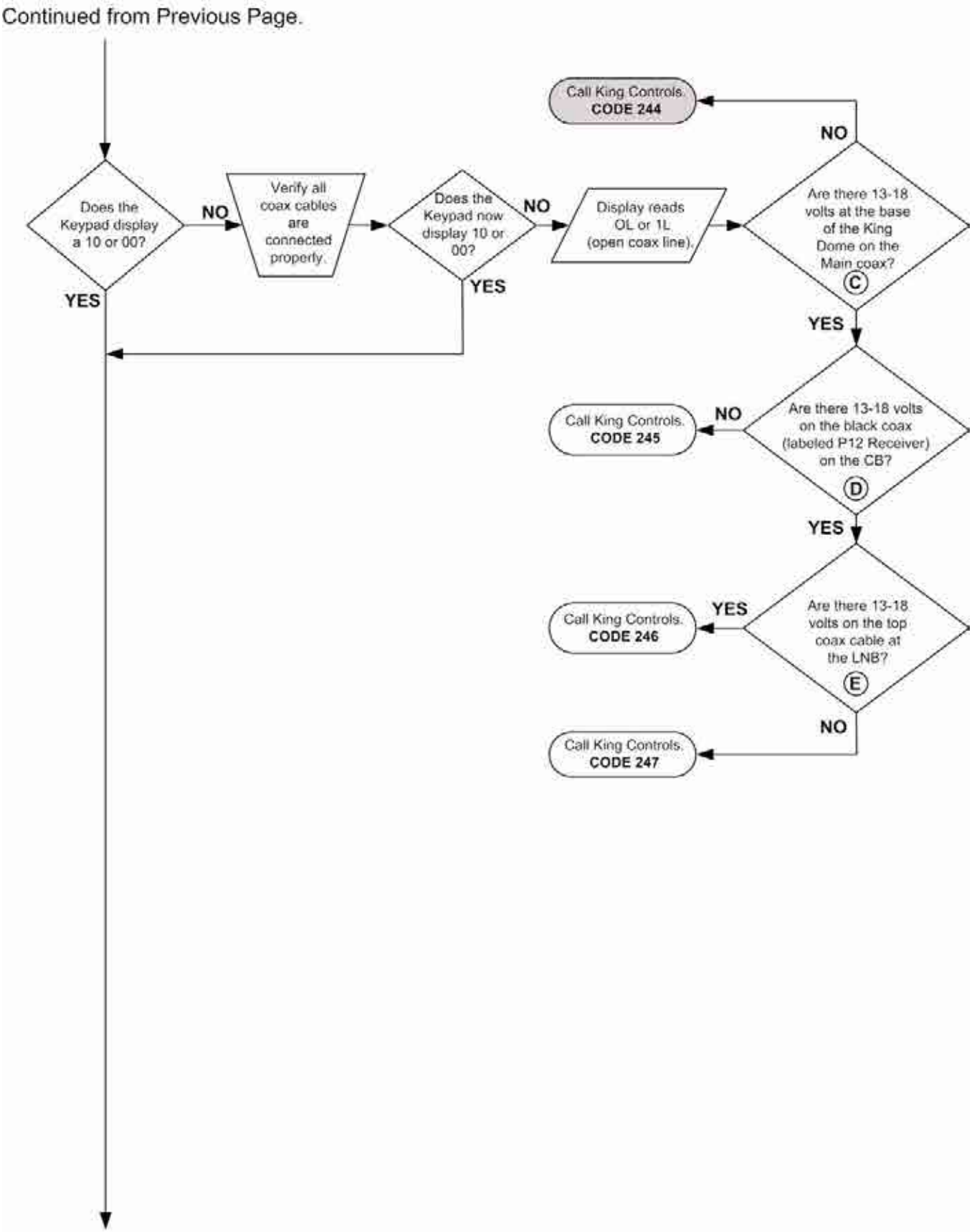

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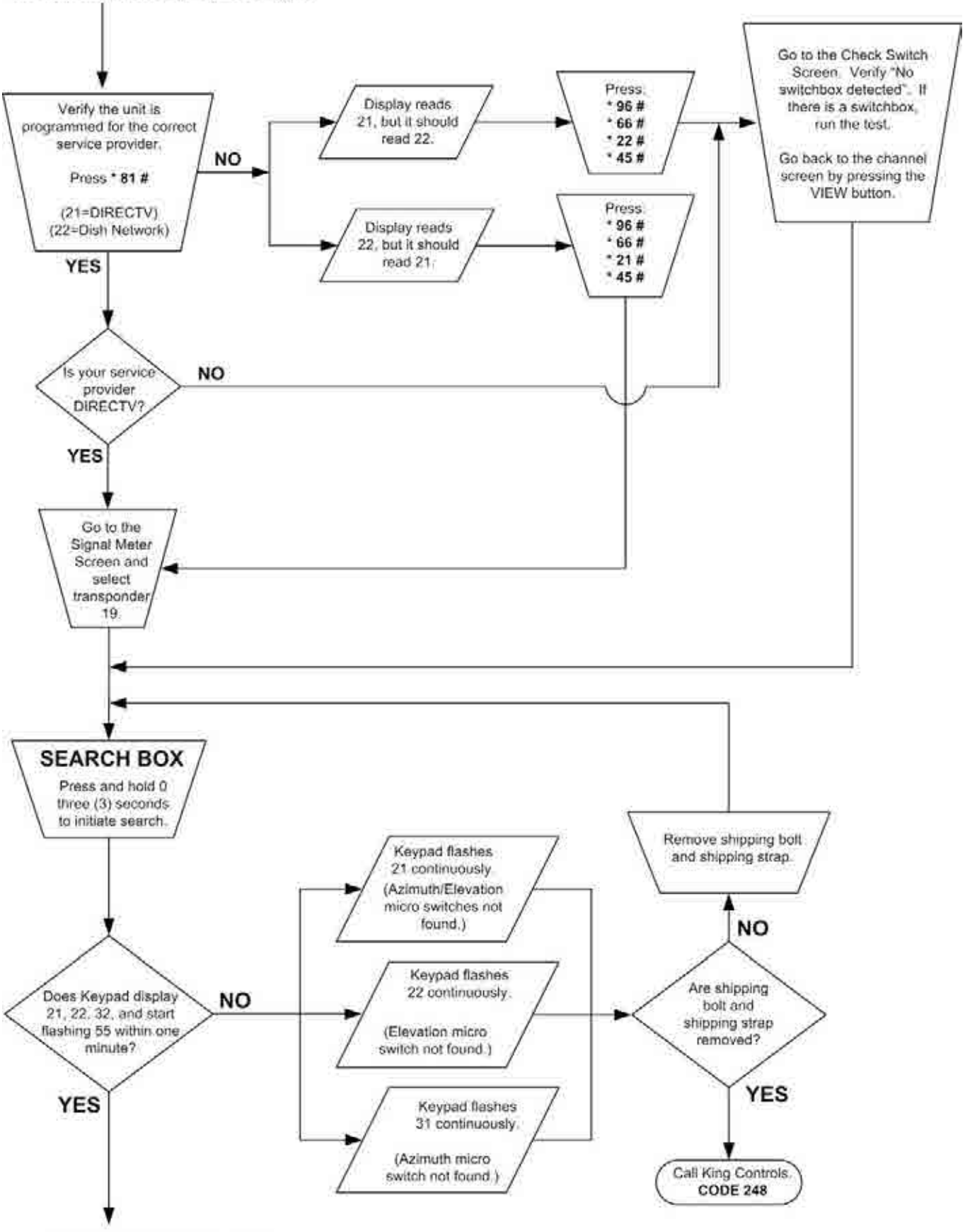

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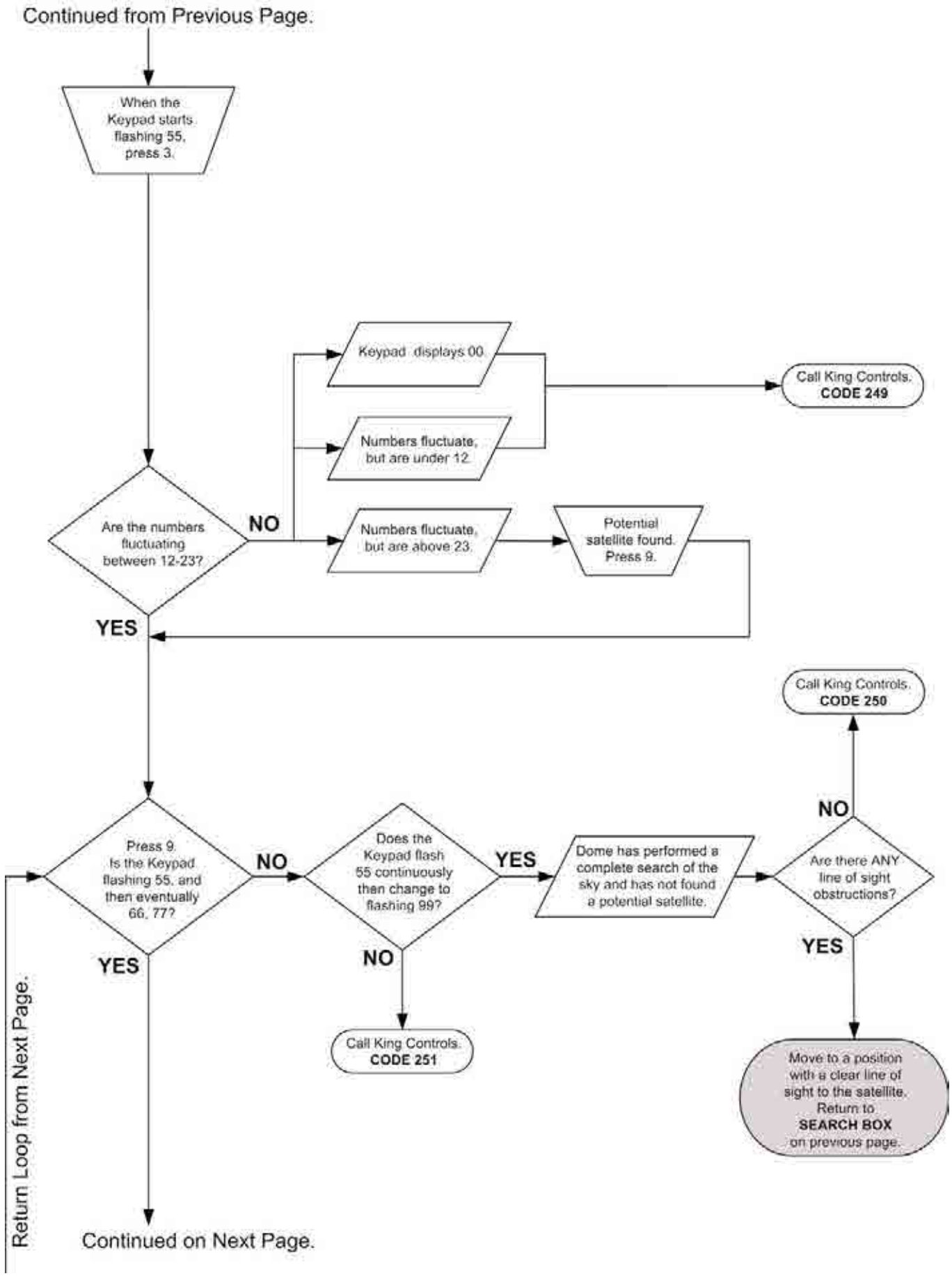
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When the Keypad starts flashing 55, press 3.
Keypad displays 00.
Numbers fluctuate, but are under 12.
Call King Controls. CODE 249
Are the numbers fluctuating between 12-23?
NO
Numbers fluctuate, but are above 23.
Potential satellite found. Press 9.
YES
Call King Controls. CODE 250
NO
Press 9. Is the Keypad flashing 55, and then eventually 66, 77?
NO
Does the Keypad flash 55 continuously then change to flashing 99?
YES
Dome has performed a complete search of the sky and has not found a potential satellite.
Are there ANY line of sight obstructions?
YES
YES
NO
Call King Controls. CODE 251
Move to a position with a clear line of sight to the satellite. Return to SEARCH BOX on previous page.
Return Loop from Next Page.
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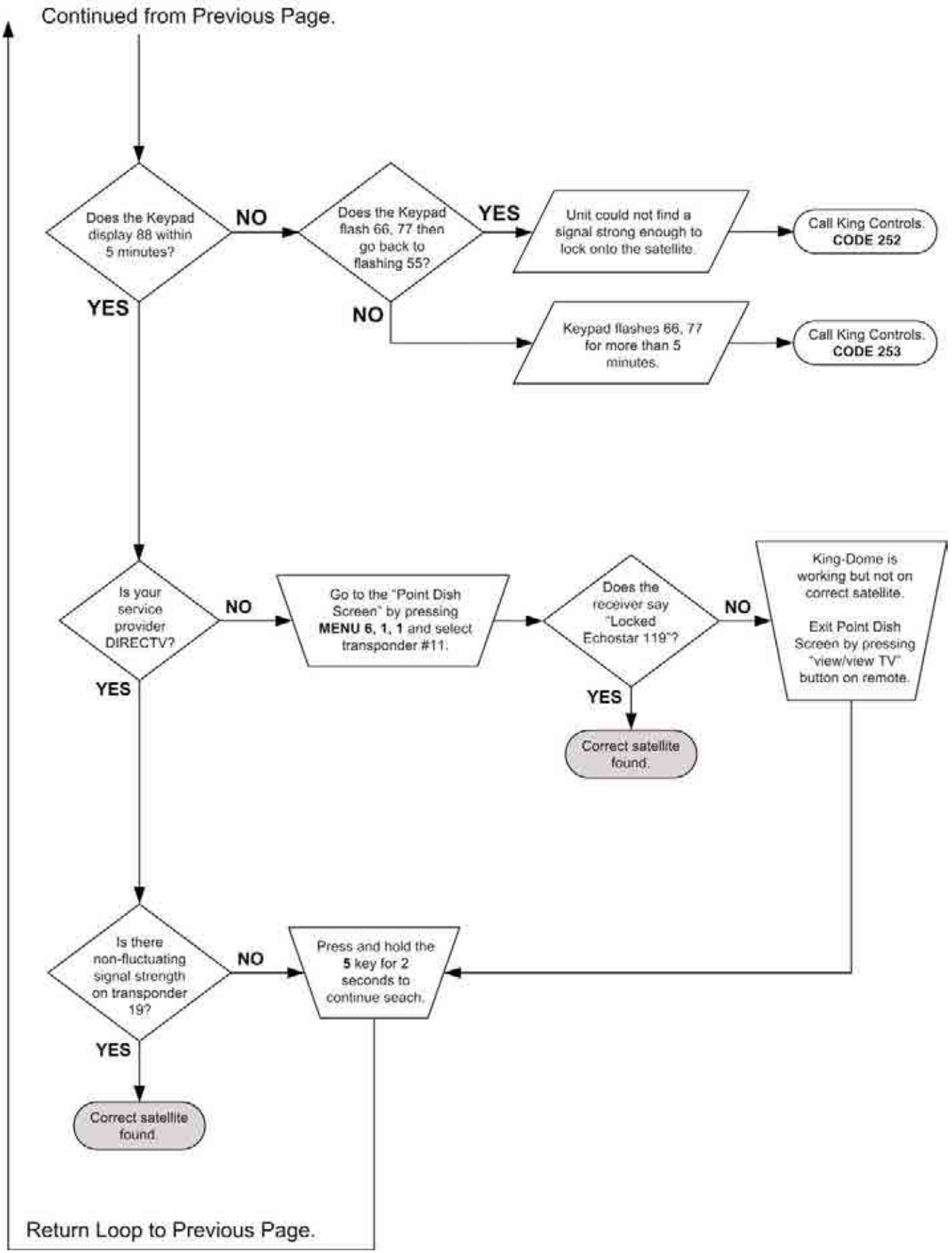
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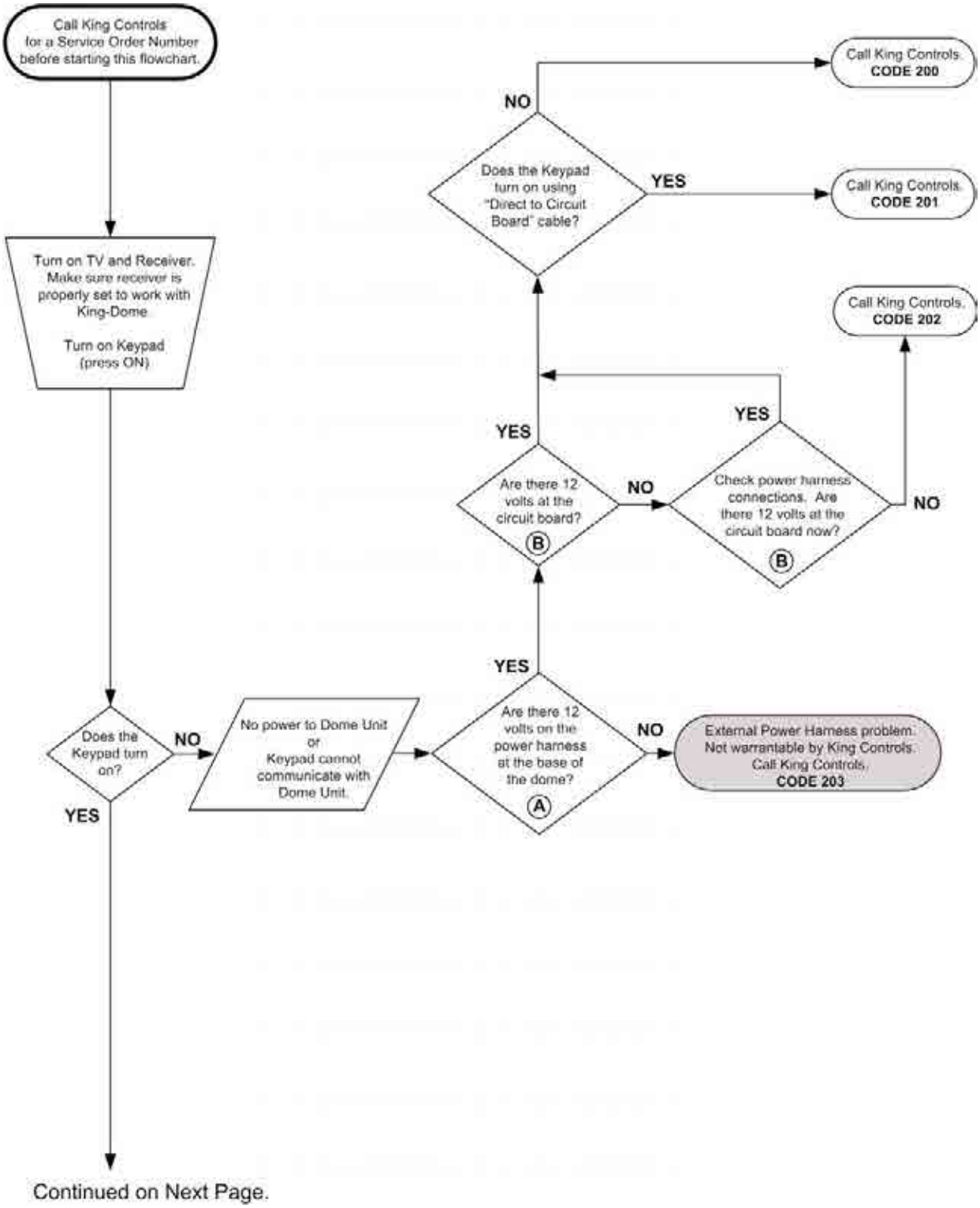
Does the Keypad display 88 within 5 minutes?
NO
Does the Keypad flash 66, 77 then go back to flashing 55?
YES
Unit could not find a signal strong enough to lock onto the satellite.
Call King Controls. CODE 252
YES
NO
Keypad flashes 66, 77 for more than 5 minutes.
Call King Controls. CODE 253
Is your service provider DIRECTV?
NO
Go to the "Point Dish Screen" by pressing MENU 6, 1, 1 and select transponder #11.
Does the receiver say "Locked Echostar 119"?
NO
King-Dome is working but not on correct satellite.
Exit Point Dish Screen by pressing "view/view TV" button on remote.
YES
Correct satellite found.
YES
Is there non-fluctuating signal strength on transponder 19?
NO
Press and hold the 5 key for 2 seconds to continue seach.
YES
Correct satellite found.
Return Loop to Previous Page.

9702-LP KEYPAD FLOWCHART

Serial Number 269999 and lower

IMPORTANT!
Before performing any warranty work, you must call King Controls for a Service Order Number.

Note: Non-warrantable issues are indicated by, but not limited to, grey boxes in flowcharts.



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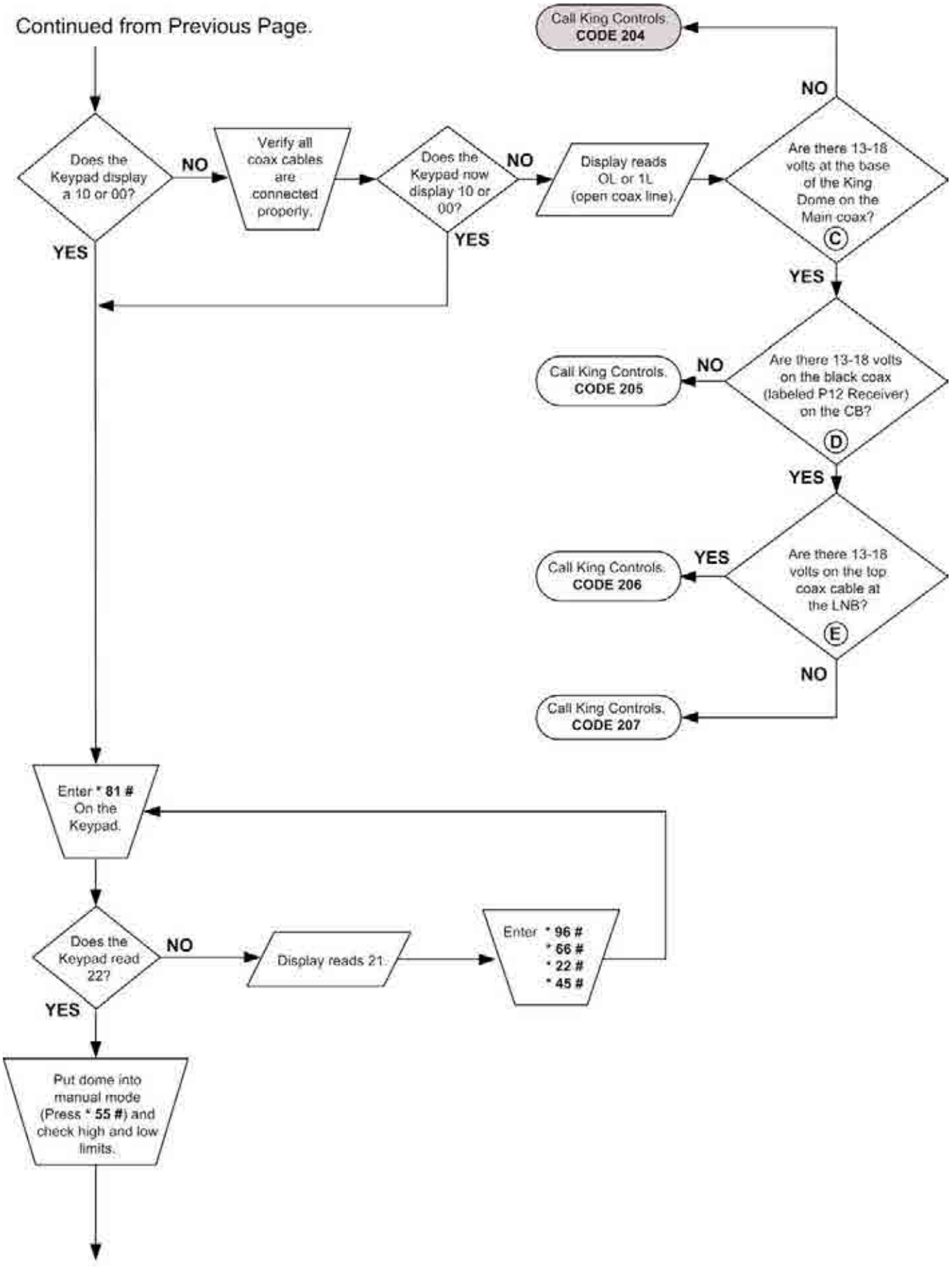

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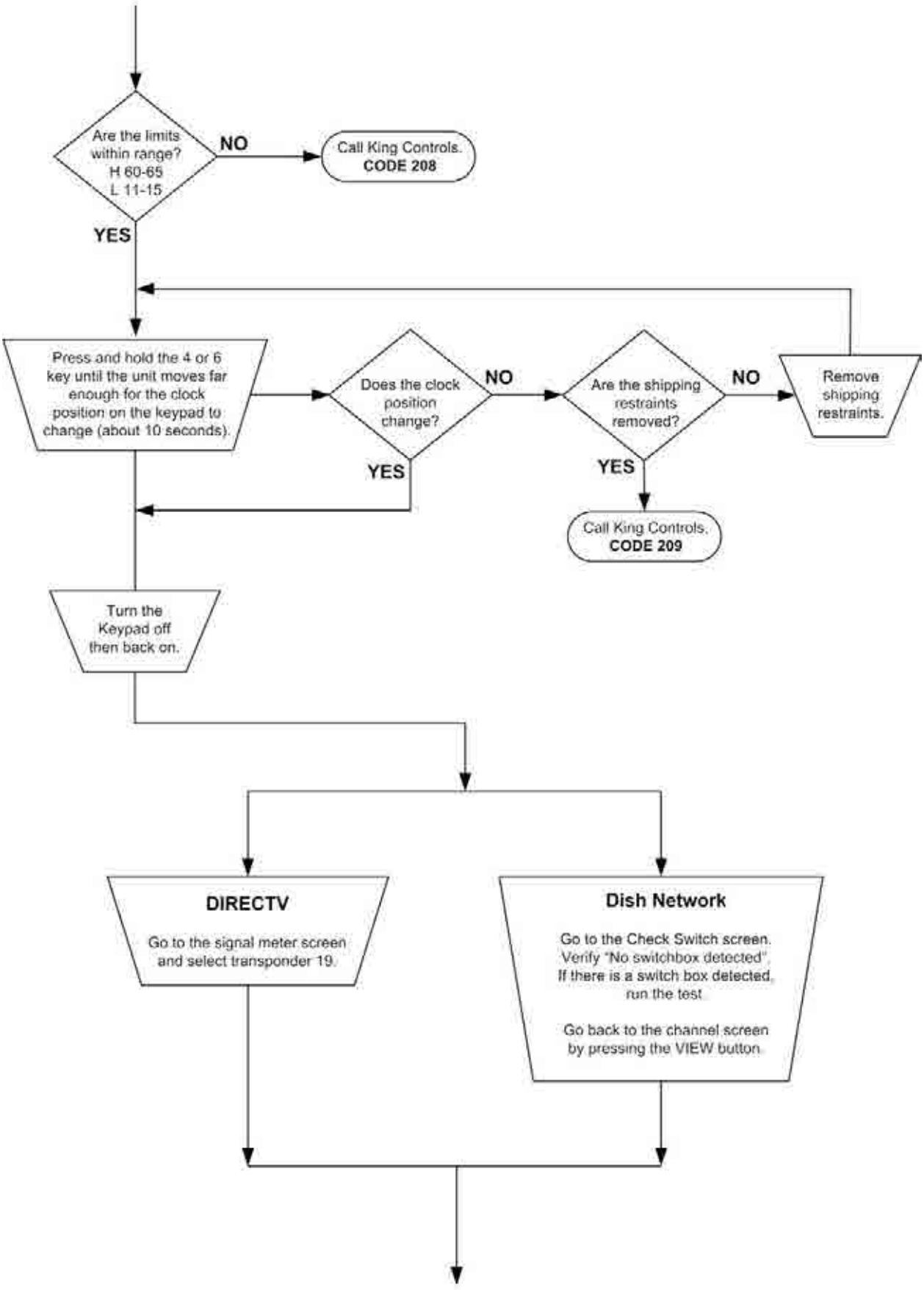

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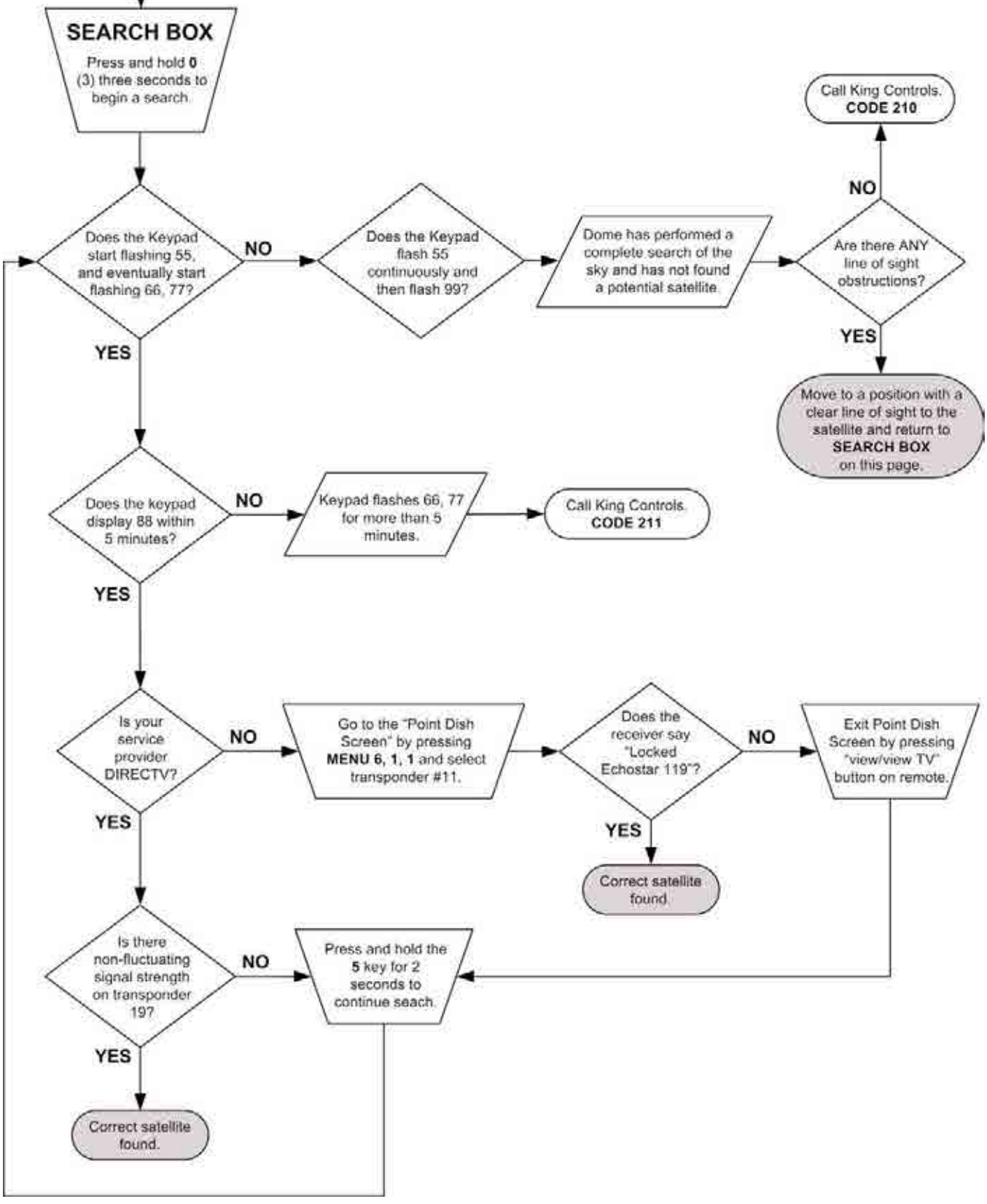
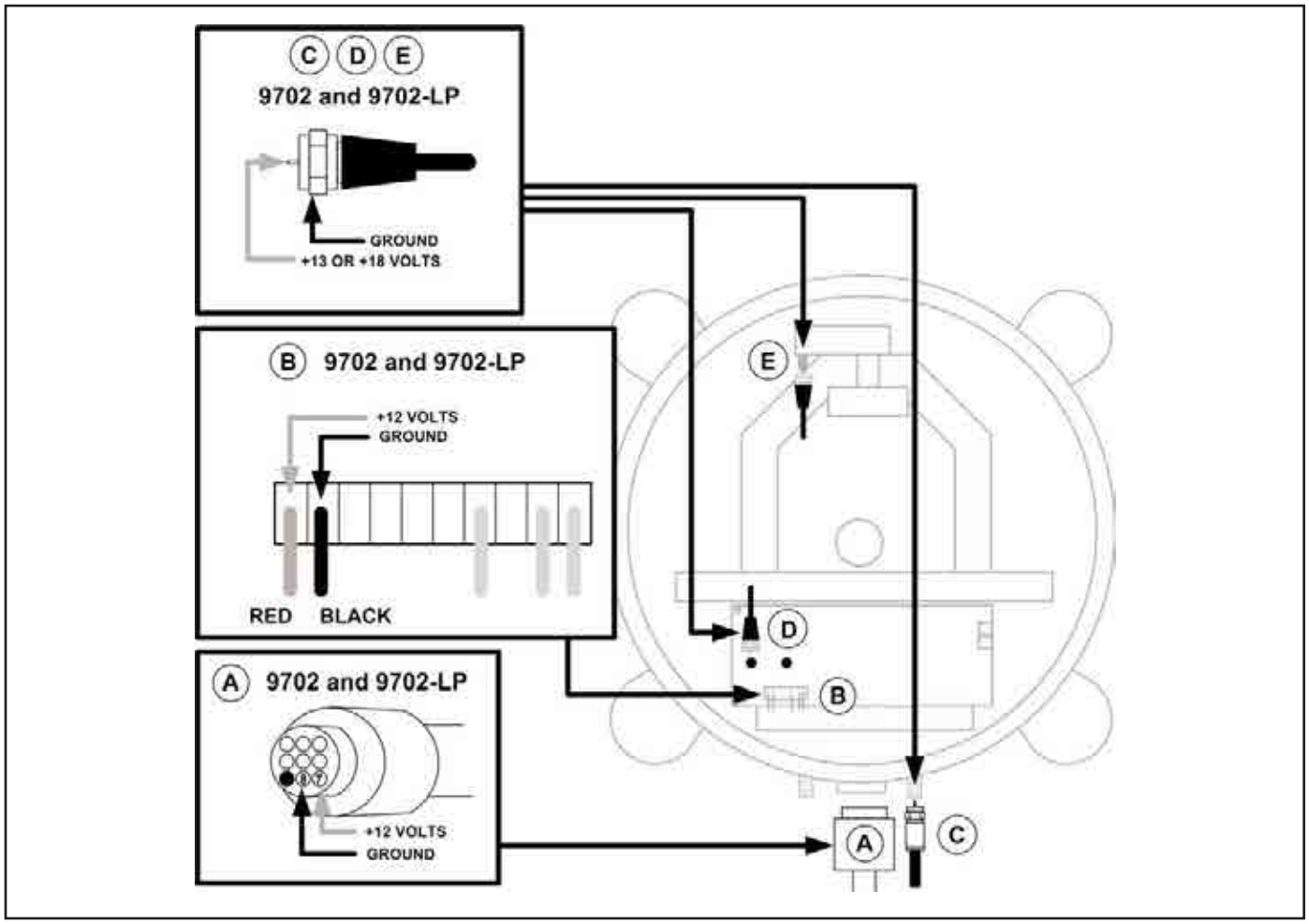


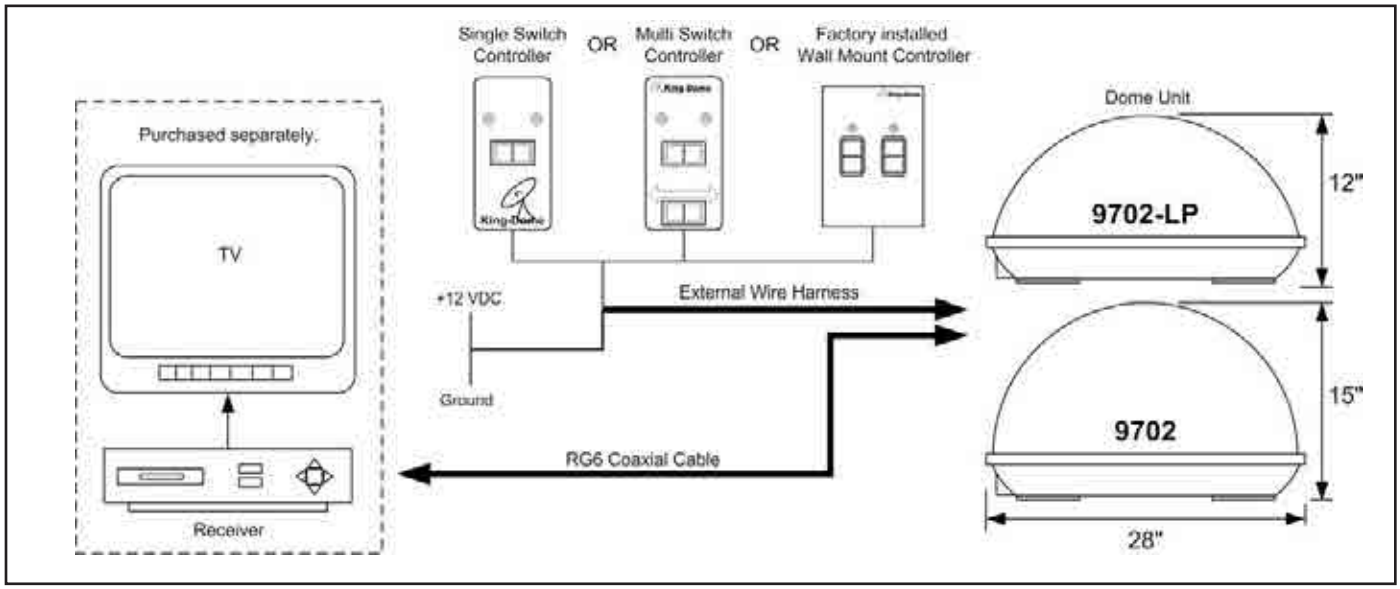
SECTION 5

SERIAL # 270000 AND HIGHER

9702, 9702-LP WIRING DIAGRAMS FOR FLOWCHART

Serial Number 270000 and higher



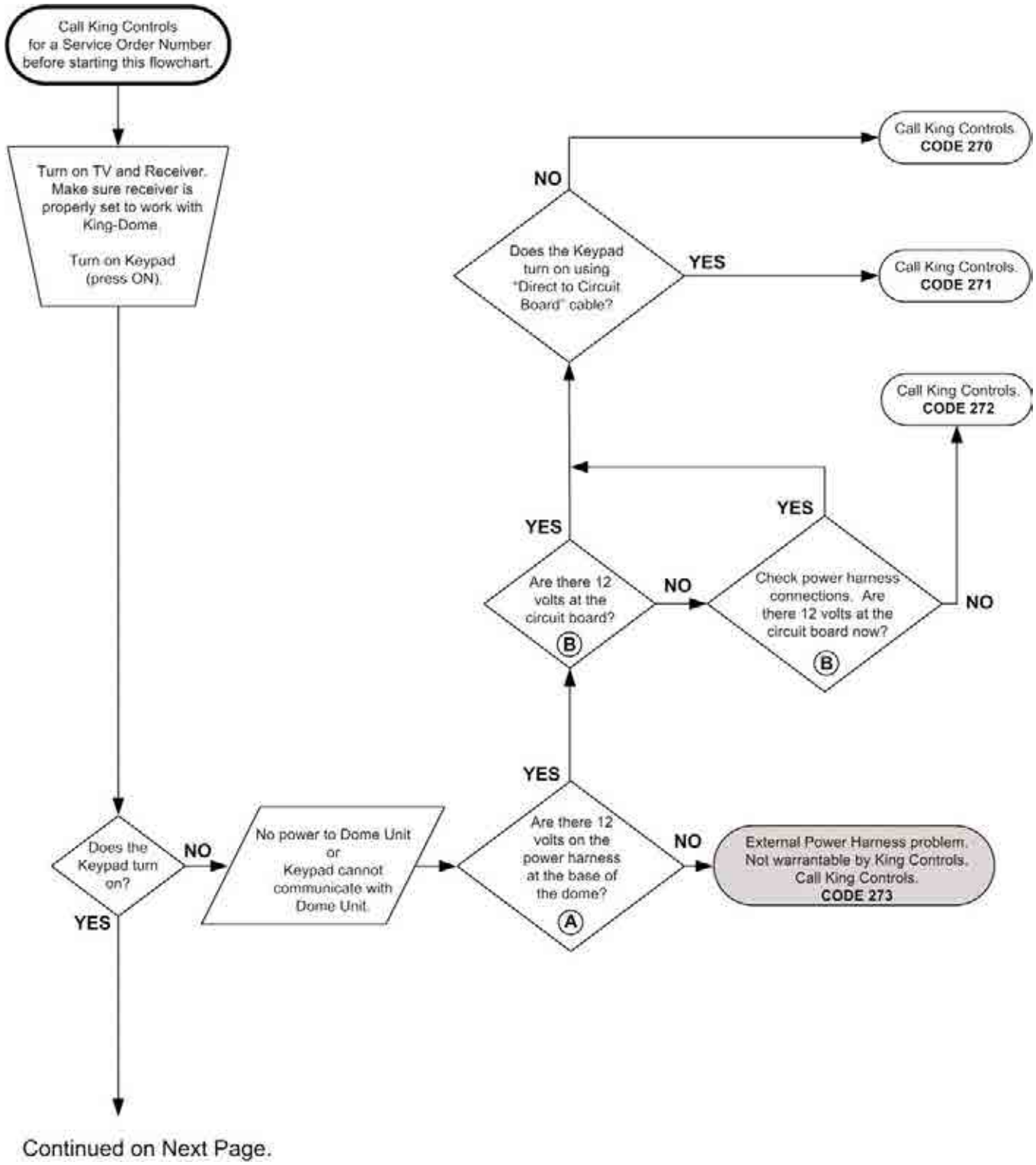


9702, 9702-LP KEYPAD FLOWCHART

Serial Number 270000 and higher

IMPORTANT!
Before performing any warranty work, you must call King Controls for a Service Order Number.

Note: Non-warrantable issues are indicated by, but not limited to, grey boxes in flowcharts.



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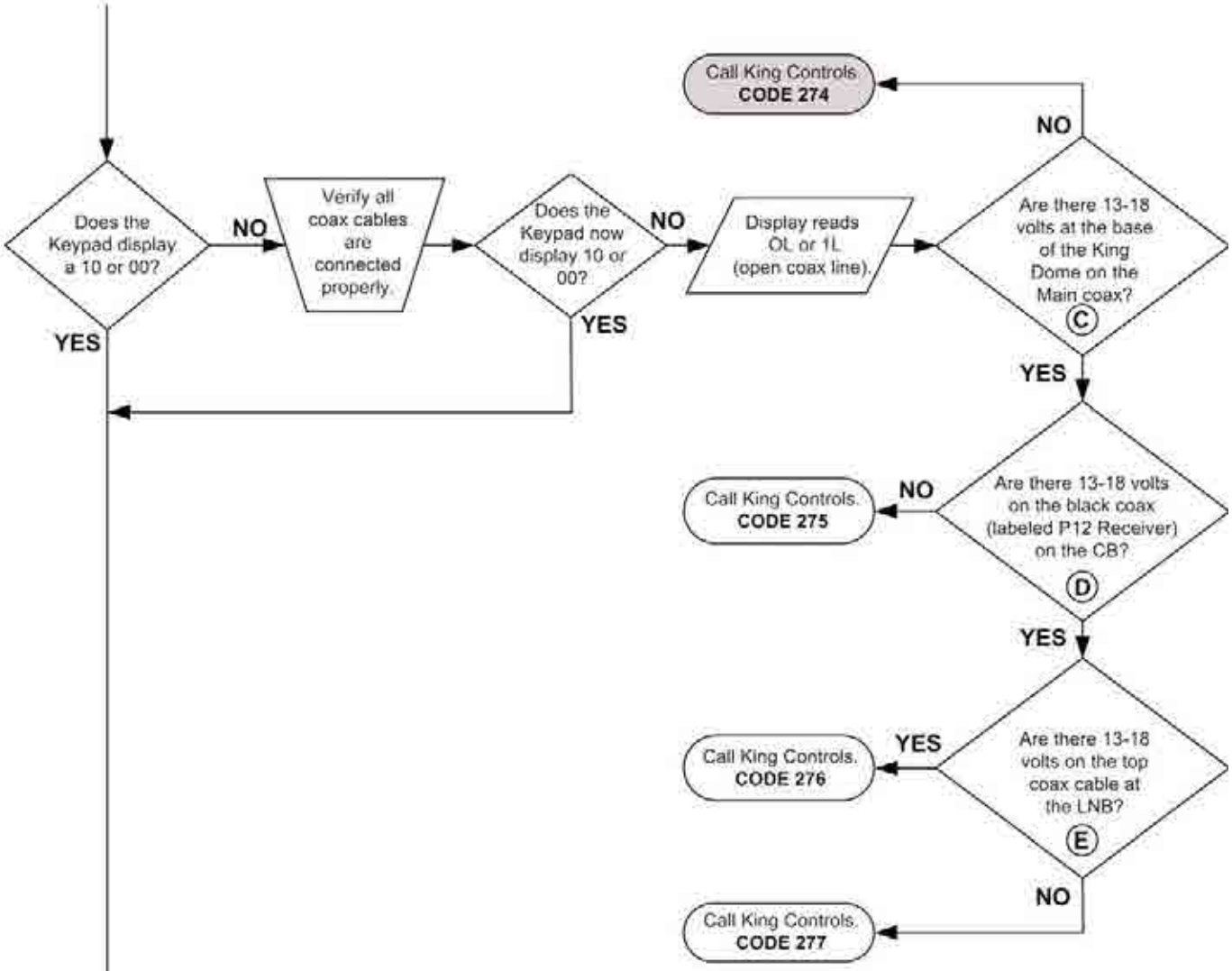

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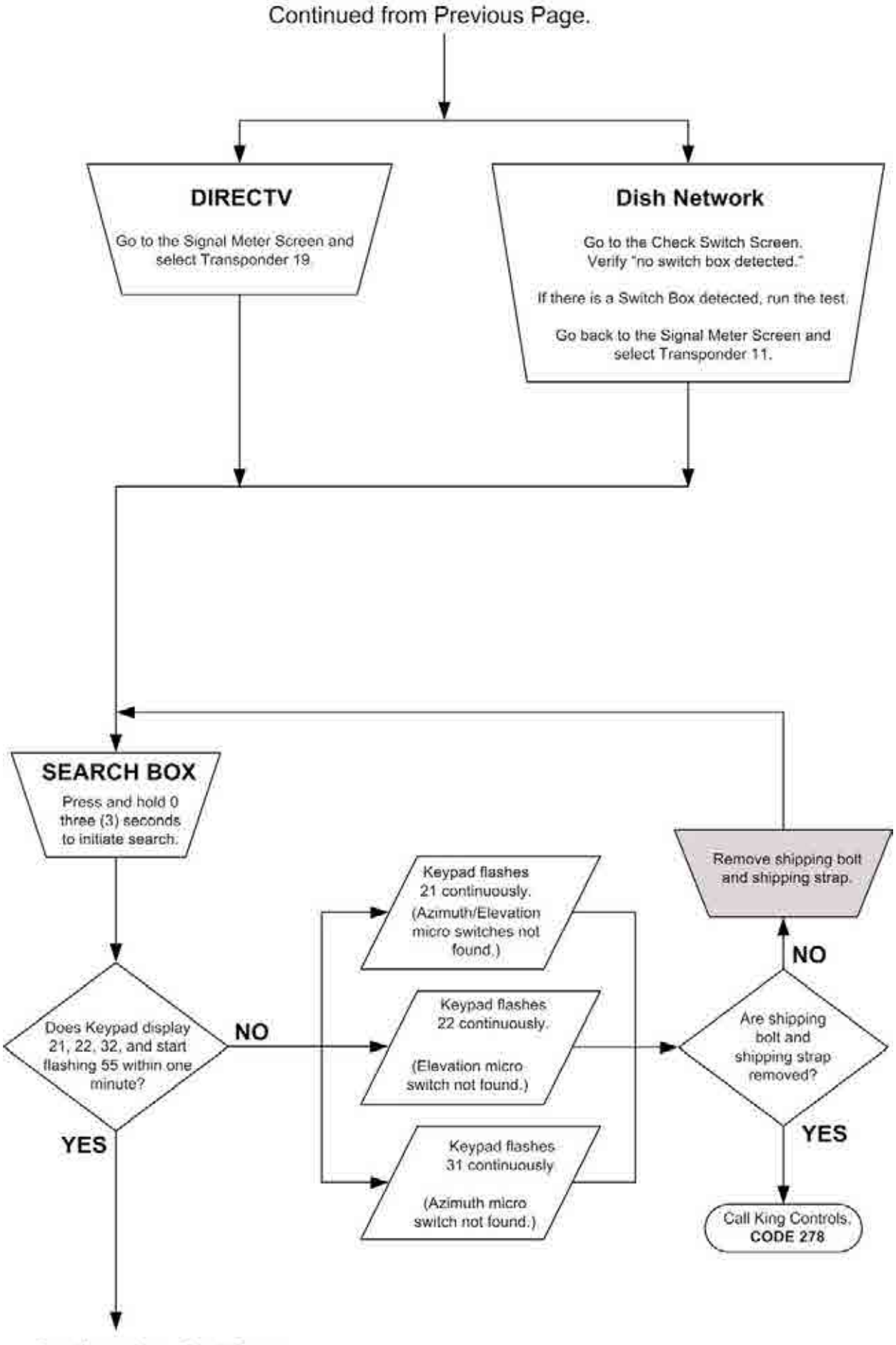

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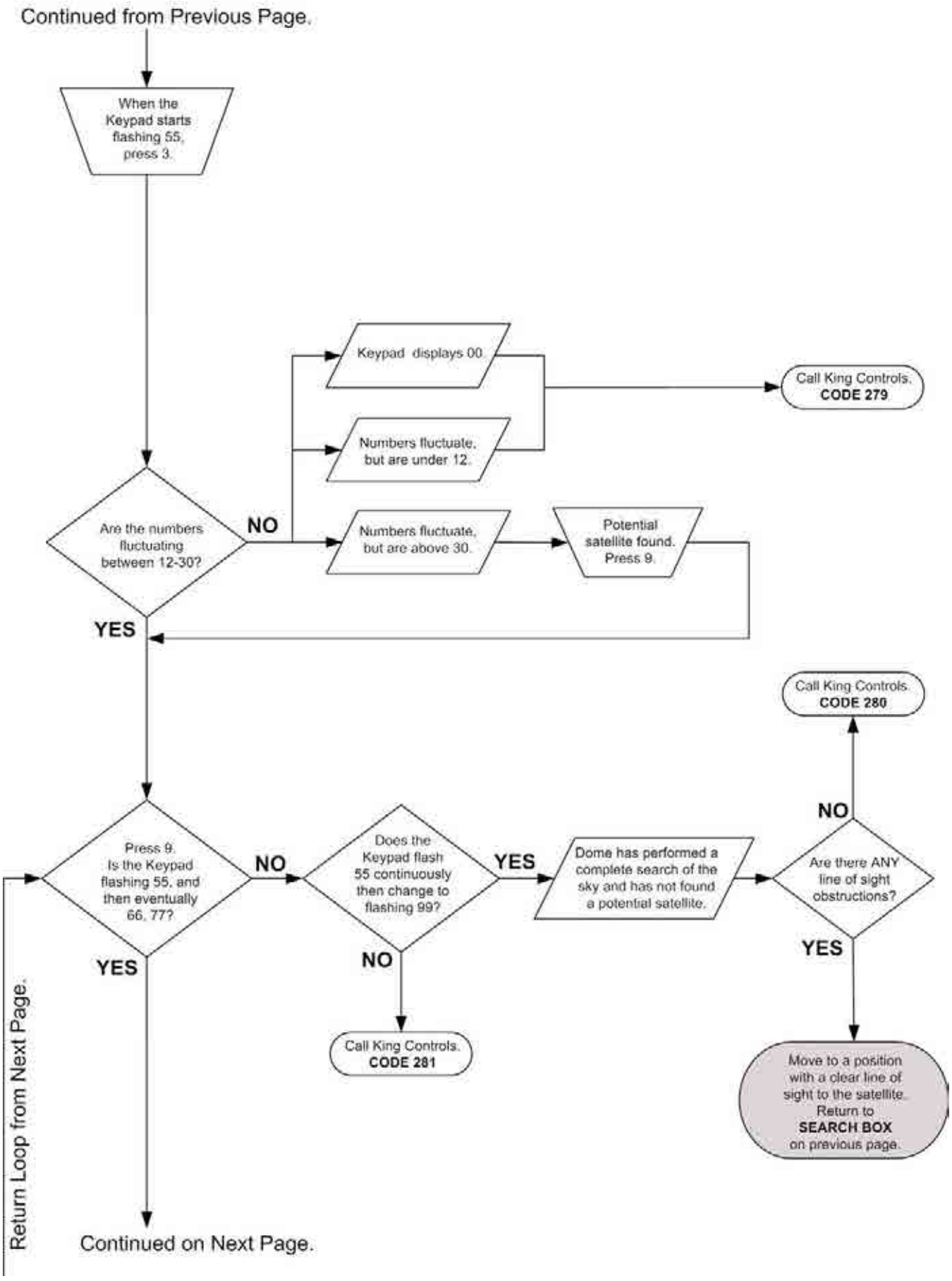
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When the Keypad starts flashing 55, press 3.
Keypad displays 00.
Call King Controls. CODE 279
Numbers fluctuate, but are under 12.
Are the numbers fluctuating between 12-30?
NO
Numbers fluctuate, but are above 30.
Potential satellite found. Press 9.
YES
Call King Controls. CODE 280
NO
Press 9. Is the Keypad flashing 55, and then eventually 66, 77?
NO
Does the Keypad flash 55 continuously then change to flashing 99?
YES
Dome has performed a complete search of the sky and has not found a potential satellite.
Are there ANY line of sight obstructions?
YES
YES
NO
Call King Controls. CODE 281
Move to a position with a clear line of sight to the satellite. Return to SEARCH BOX on previous page.
Return Loop from Next Page.
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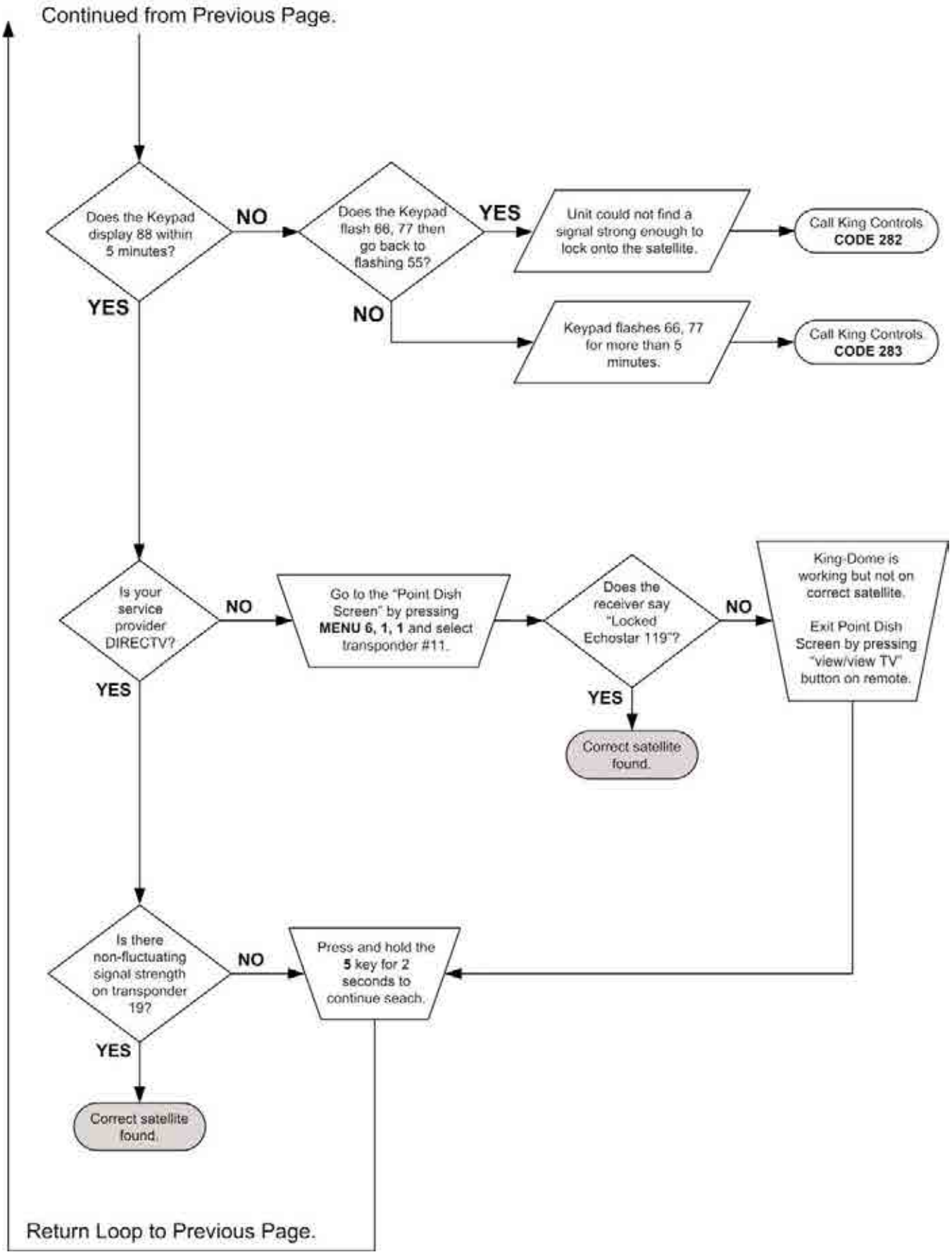
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Does the Keypad display 88 within 5 minutes?
NO
Does the Keypad flash 66, 77 then go back to flashing 55?
YES
Unit could not find a signal strong enough to lock onto the satellite.
Call King Controls CODE 282
YES
NO
Keypad flashes 66, 77 for more than 5 minutes.
Call King Controls CODE 283
Is your service provider DIRECTV?
NO
Go to the "Point Dish Screen" by pressing MENU 6, 1, 1 and select transponder #11.
Does the receiver say "Locked Echostar 119"?
NO
King-Dome is working but not on correct satellite.
Exit Point Dish Screen by pressing "view/view TV" button on remote.
YES
Correct satellite found.
YES
Is there non-fluctuating signal strength on transponder 19?
NO
Press and hold the 5 key for 2 seconds to continue seach.
YES
Correct satellite found.
Return Loop to Previous Page.

SECTION 6 **REFERENCE**

RETURN SHIPPING

All Serial Numbers

IMPORTANT! When returning a unit, you must package it in the box from the replacement unit. Use all included internal packaging, and be sure to attach outer feet removed from new unit.

If you are returning a unit and do not have a King Controls box, call King Controls for a return shipping box and kit (800 982-9920).

1. Turn rotating bracket to align shipping bolt hole(s) with hole(s) in base. (Some units may only have one shipping bolt.)

2. Insert shipping bolt(s) thru washer(s) and base and FINGER TIGHTEN into rotating bracket.

3. Lower dish arm. (Gently push on dish and arm simultaneously. Lower until arm is just about to touch mechanical stop.)

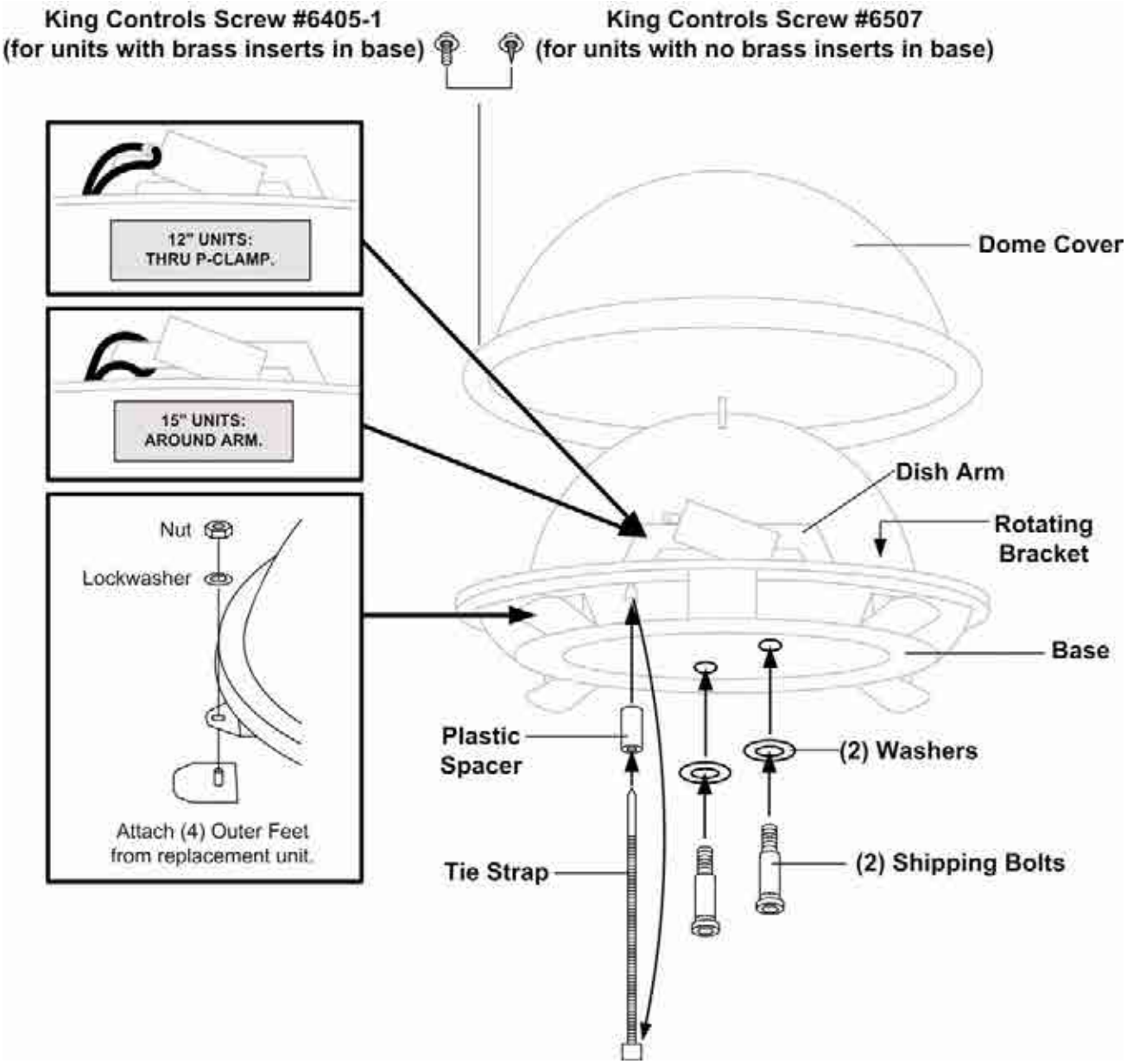
4. Insert tie strap thru plastic spacer and base, loop around dish arm for 15” models or through P-clamp for 12” (LP) models, and back through base.

5. Terminate tie strap. (DO NOT OVER TIGHTEN TIE STRAP.)

6. Attach (4) outer feet from replacement unit with lock washers and nuts.

7. Fasten dome cover to base. **MAKE SURE YOU ARE USING CORRECT SCREW TYPE.** Tighten screws until washers deform slightly.

Return Shipping Diagram

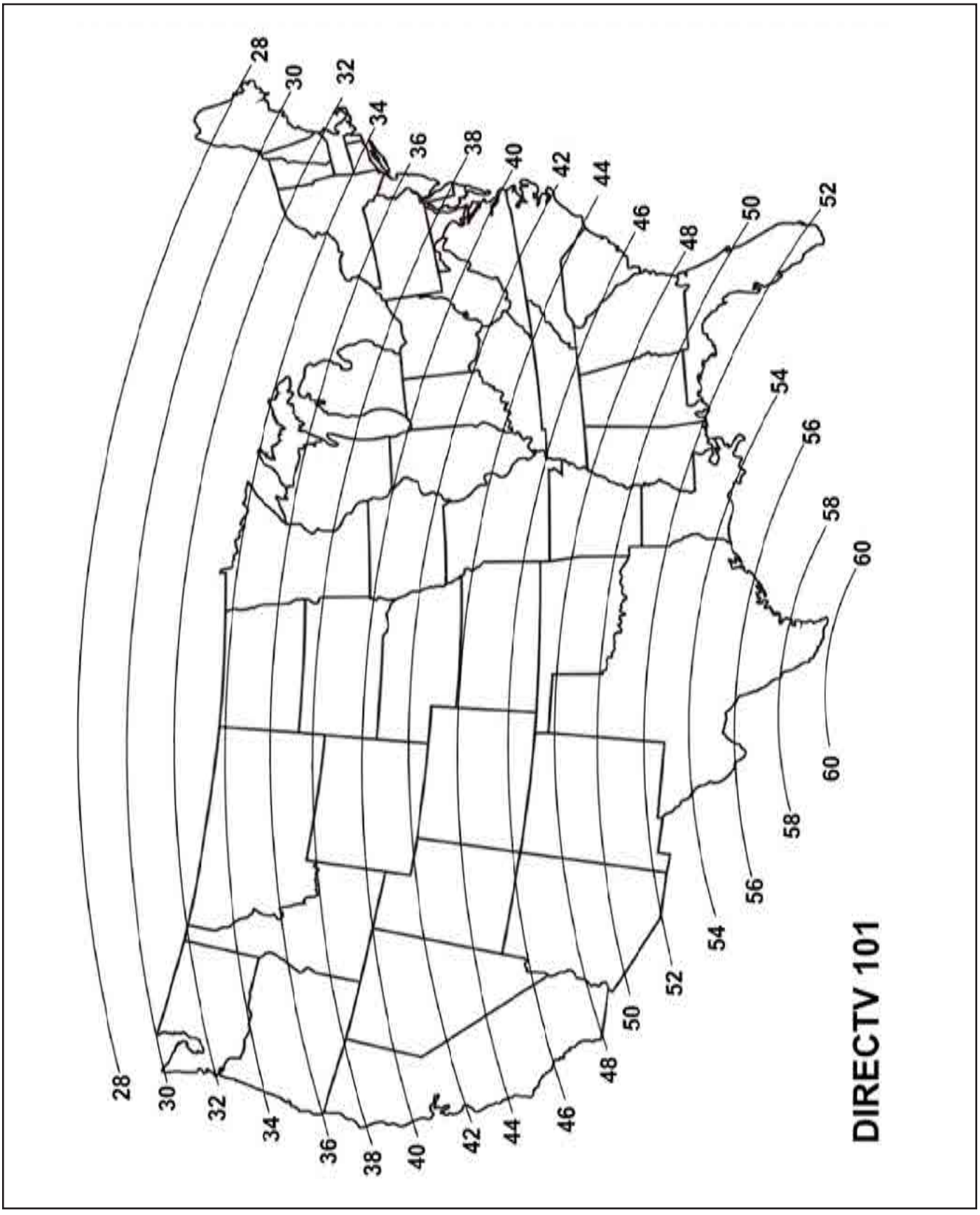


IMPORTANT! DO NOT OVER TIGHTEN SHIPPING BOLTS. FINGER TIGHTEN ONLY.

Note: Some units may have only one shipping bolt.

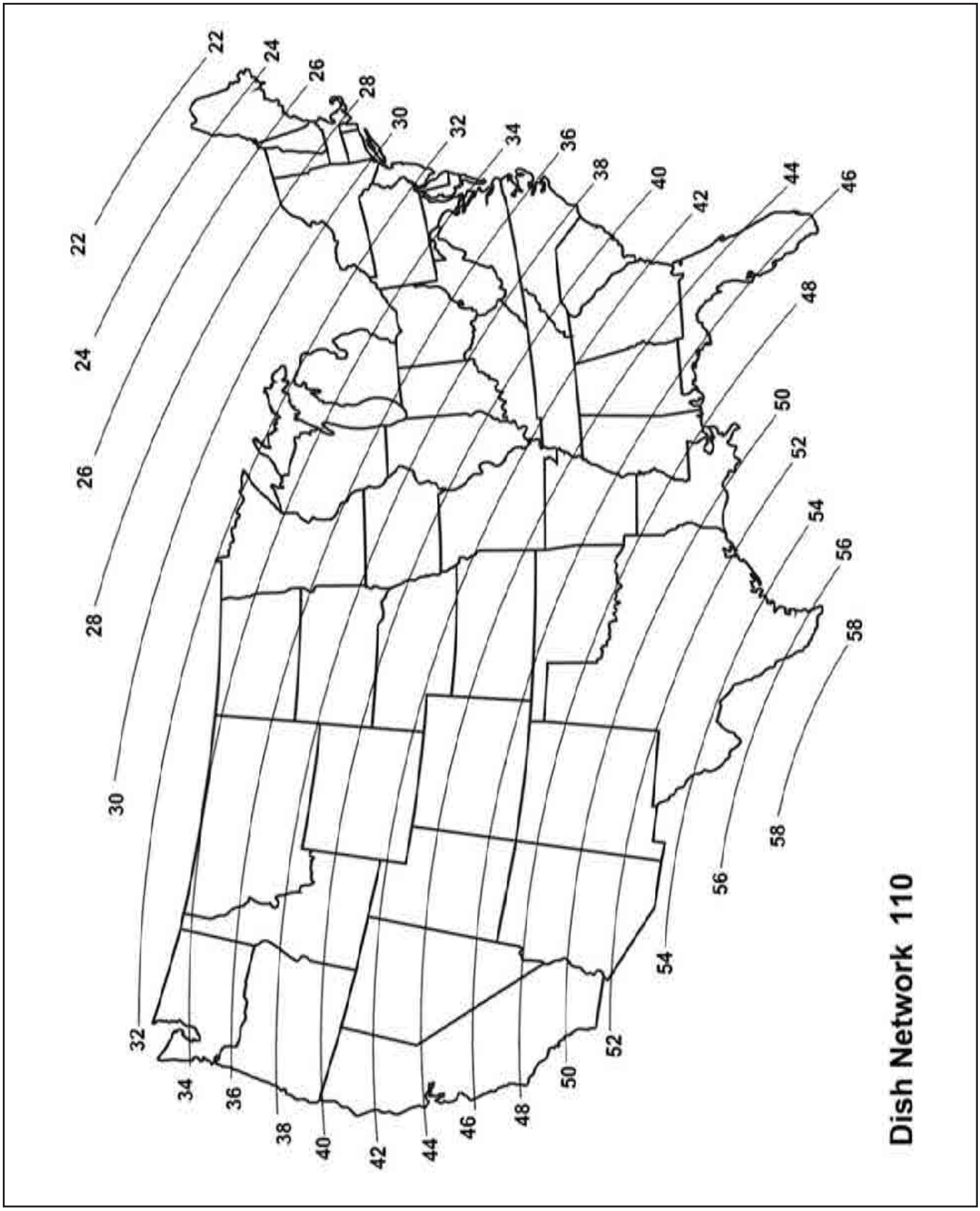
ELEVATION MAP FOR DIRECTV 101

All Serial Numbers



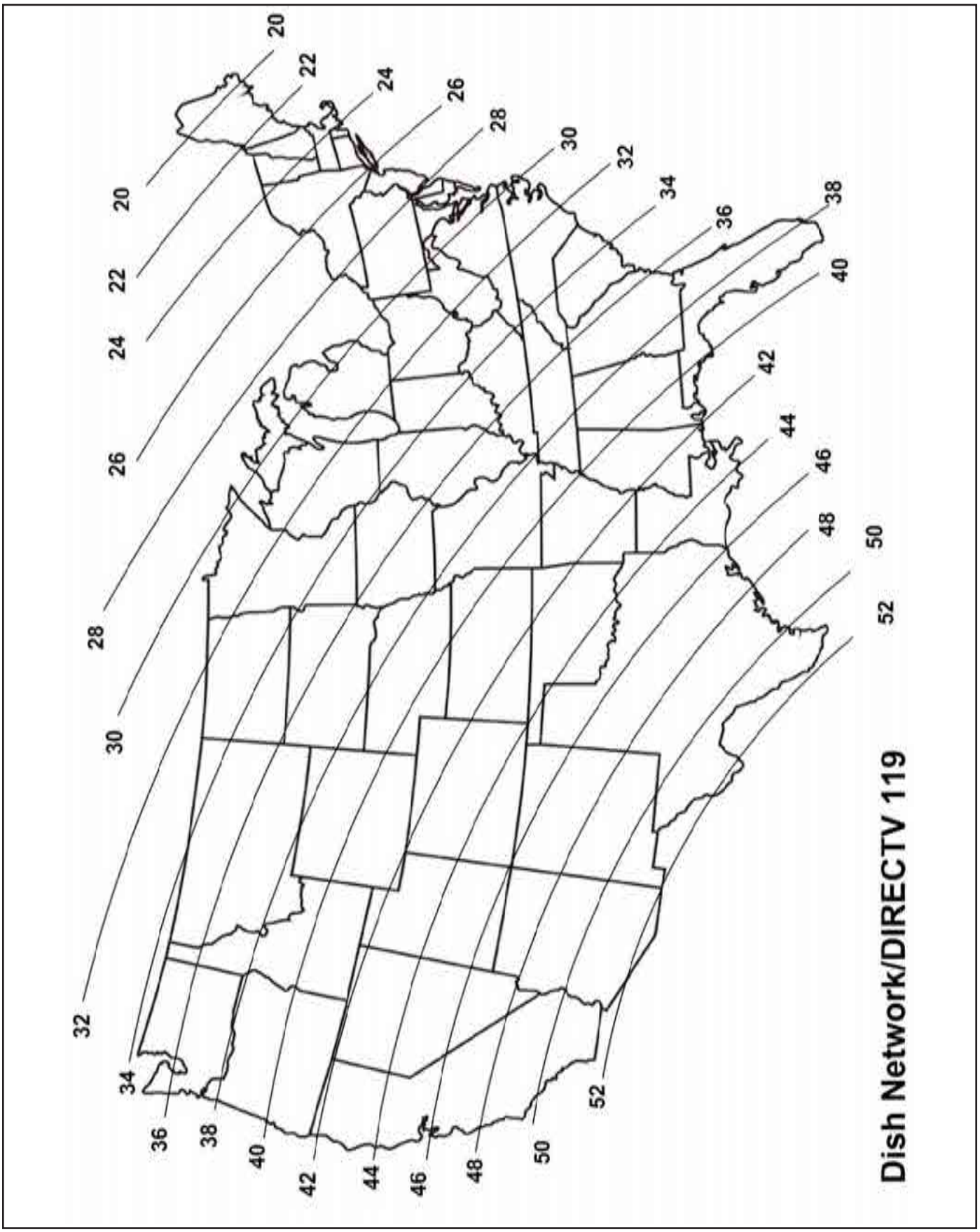
ELEVATION MAP FOR DISH NETWORK 110

All Serial Numbers



ELEVATION MAP FOR DISH NETWORK / DIRECTV 119

All Serial Numbers



King-Dome.

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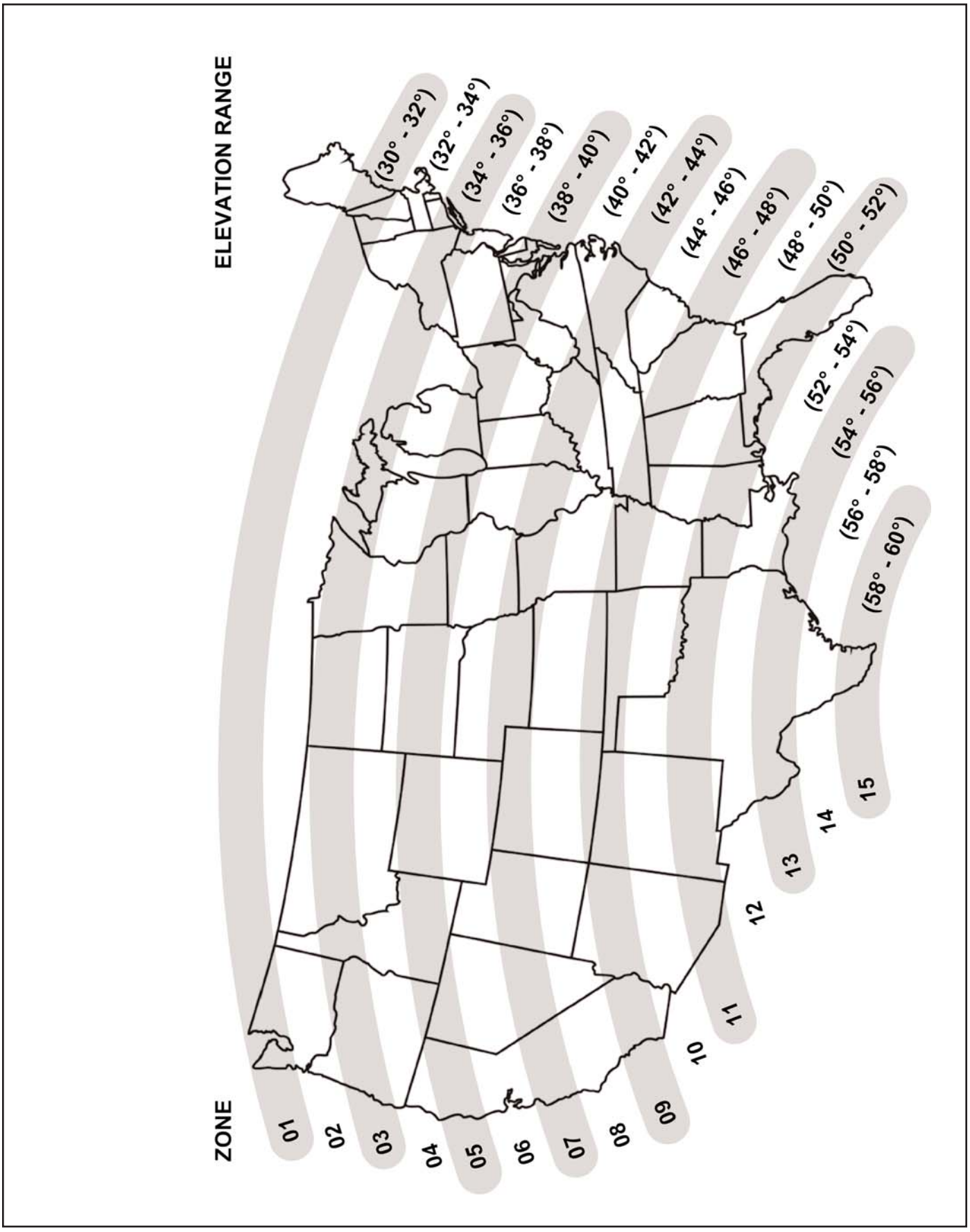
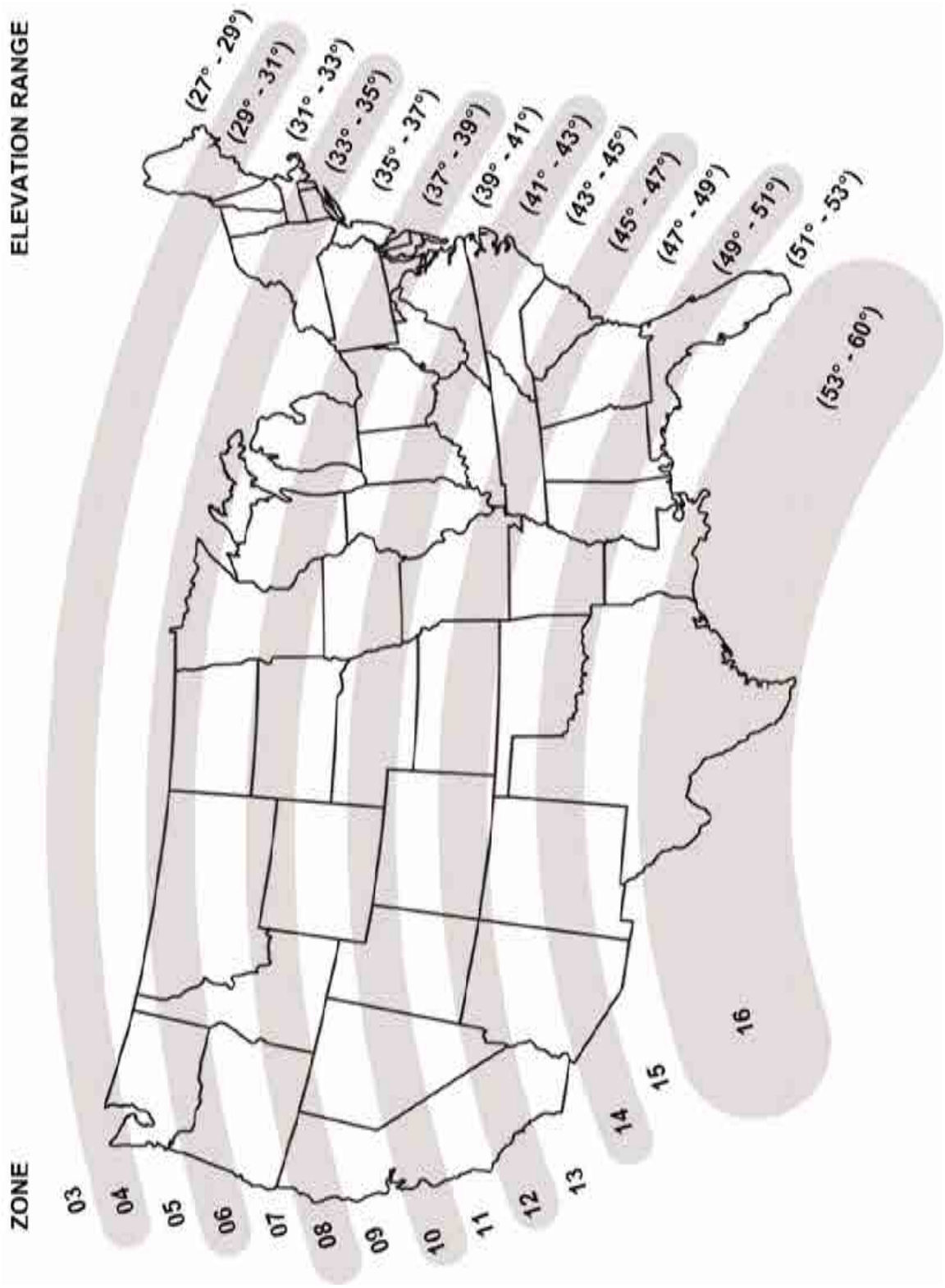
ZONE MAP FOR DIRECTV 101

Serial Number 269999 and lower



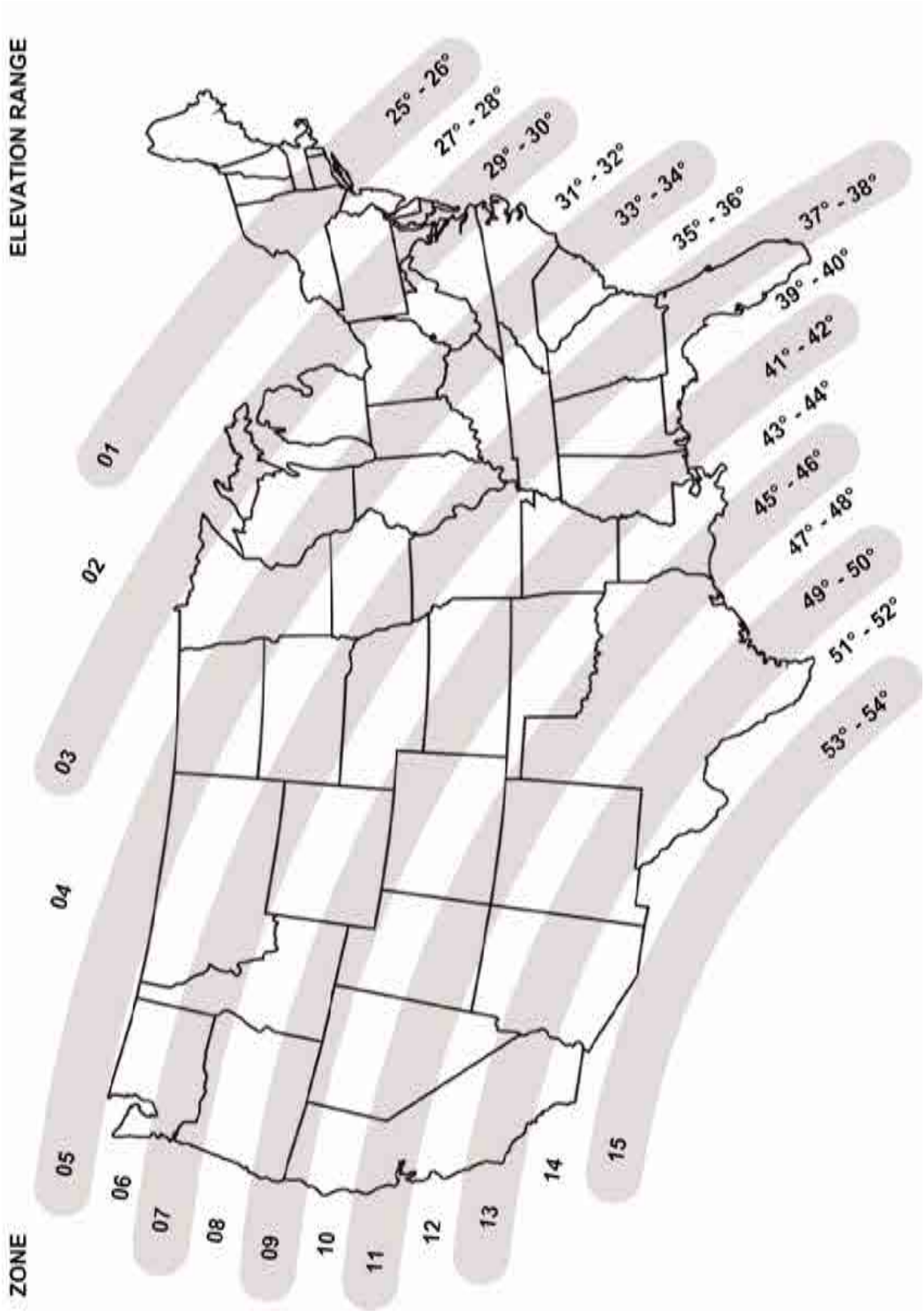
ZONE MAP FOR DIRECTV 101

Serial Number 270000 and higher



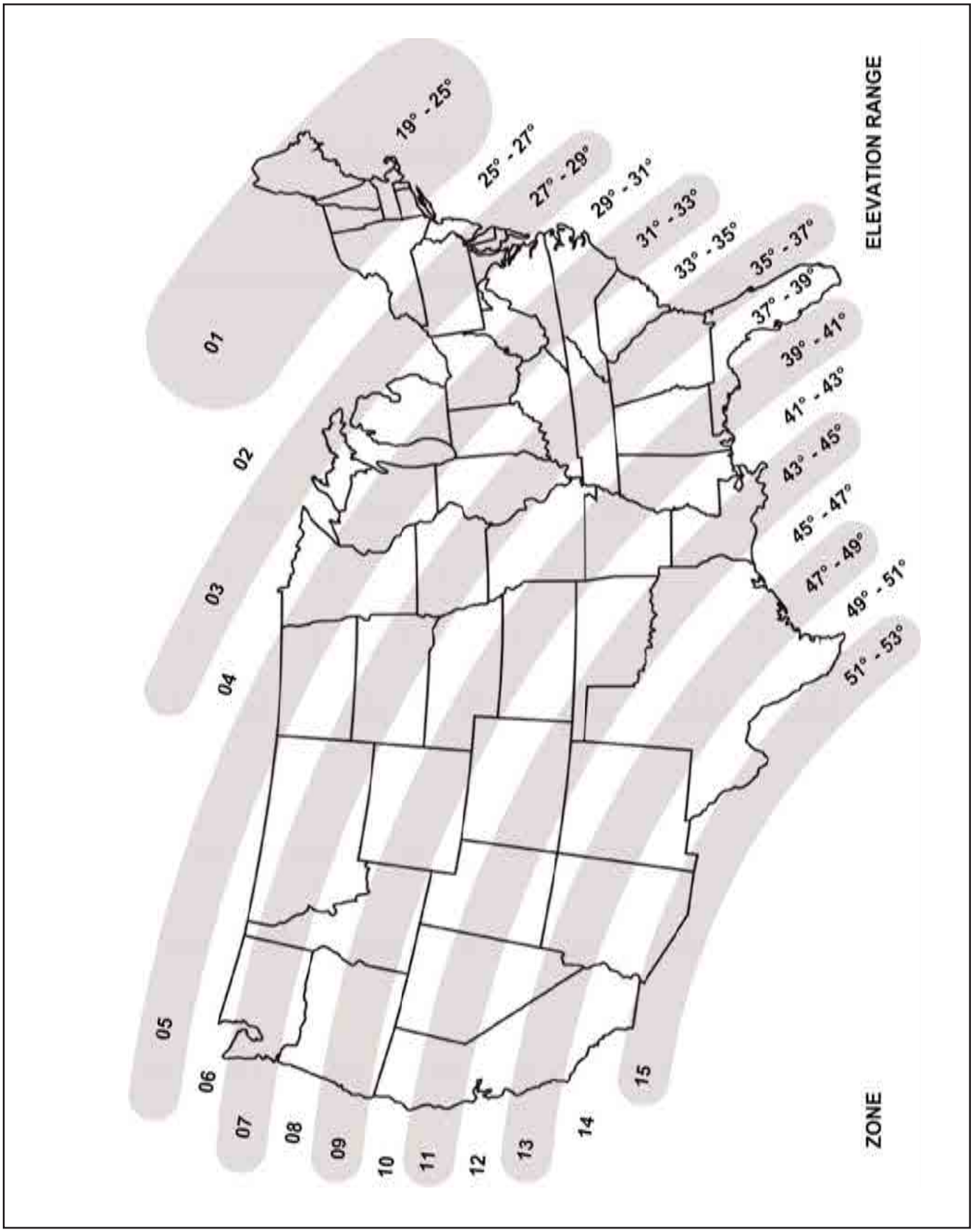
ZONE MAP FOR DISH NETWORK 119

Serial Number 269999 and lower



ZONE MAP FOR DISH NETWORK 119

Serial Number 270000 and higher



DIRECT TO CIRCUIT BOARD CABLE

All Serial Numbers

IMPORTANT! Only the Direct to Circuit Board Cable will work for this procedure. A standard phone cord <u>WILL NOT WORK</u>.

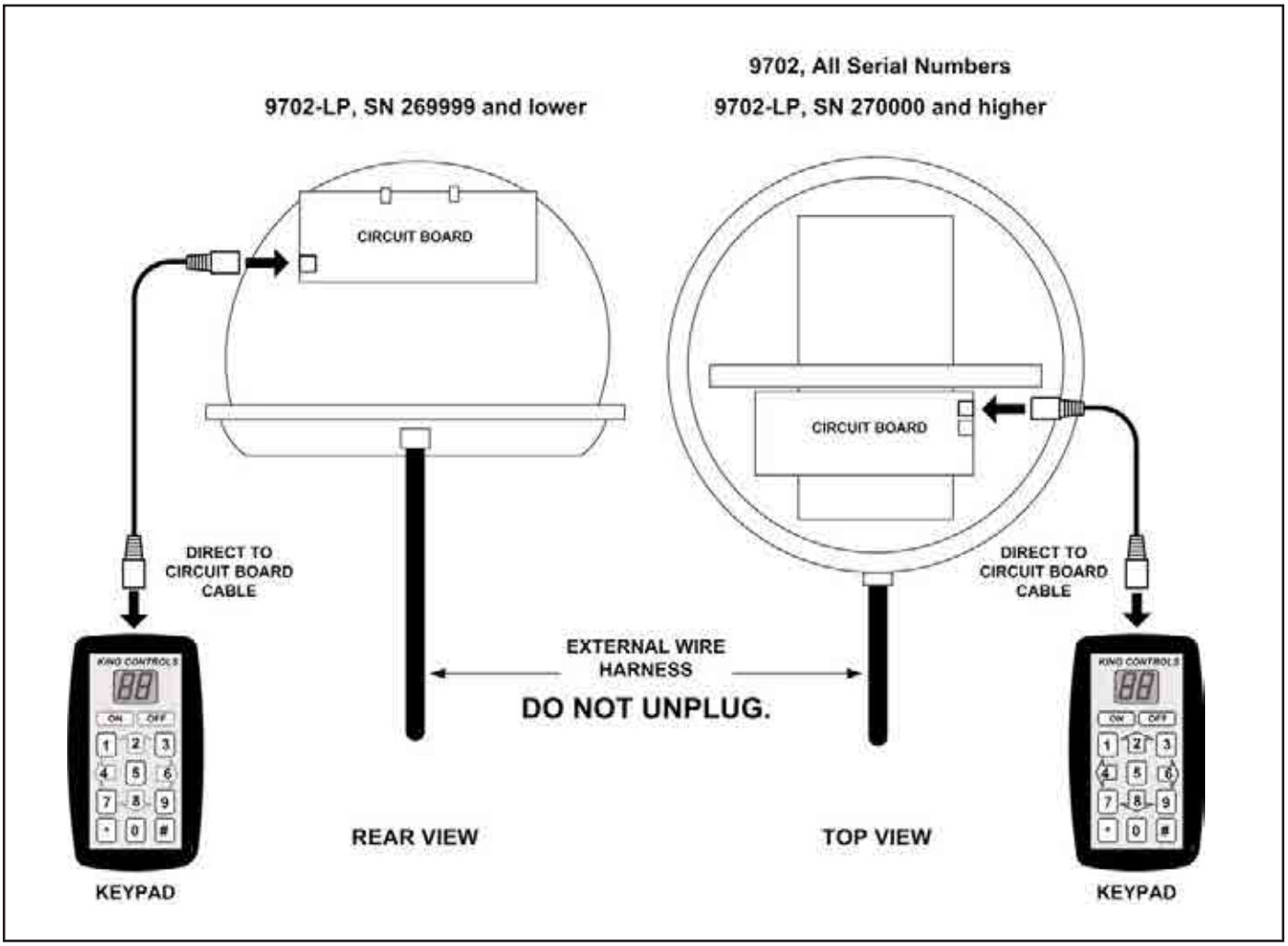
Call King Controls before performing this procedure.

Note: Warranty does not cover external wiring.

The Direct to Circuit Board Cable (supplied by King Controls) is used to verify that the data cable in the external wire harness is good.

Leave the external wire harness connected to the back of the dome unit.

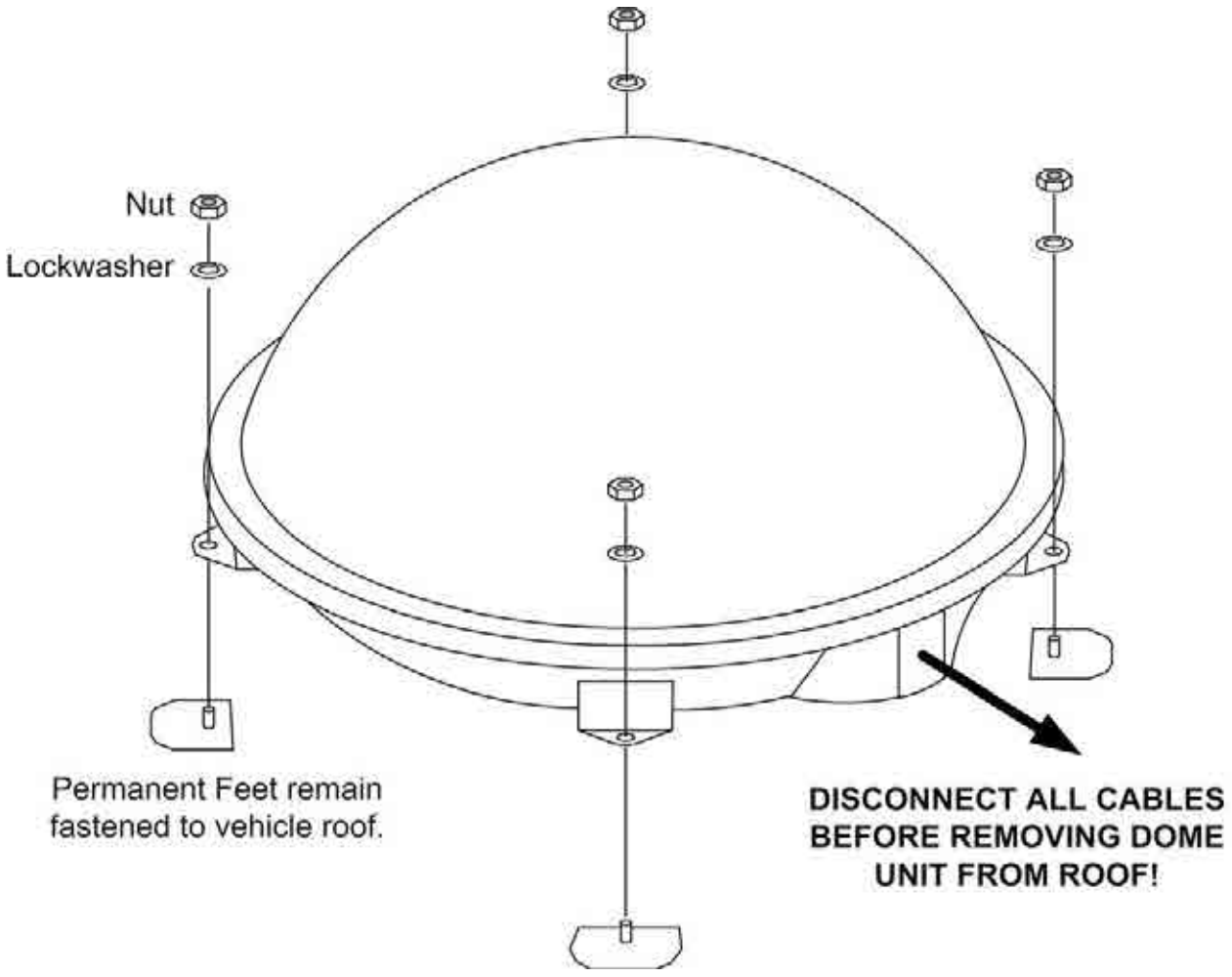
Connect the Direct to Circuit Board Cable between the Keypad and the circuit board and press ON. The Keypad should turn on.



2 PART REMOVABLE DOME FEET

Note: Newer King-Dome models feature a two part foot. This enables the dome unit to be easily removed from the roof of the vehicle without compromising the roof seal.

IMPORTANT! Be sure to disconnect all cables from the back of dome unit before removing from roof.

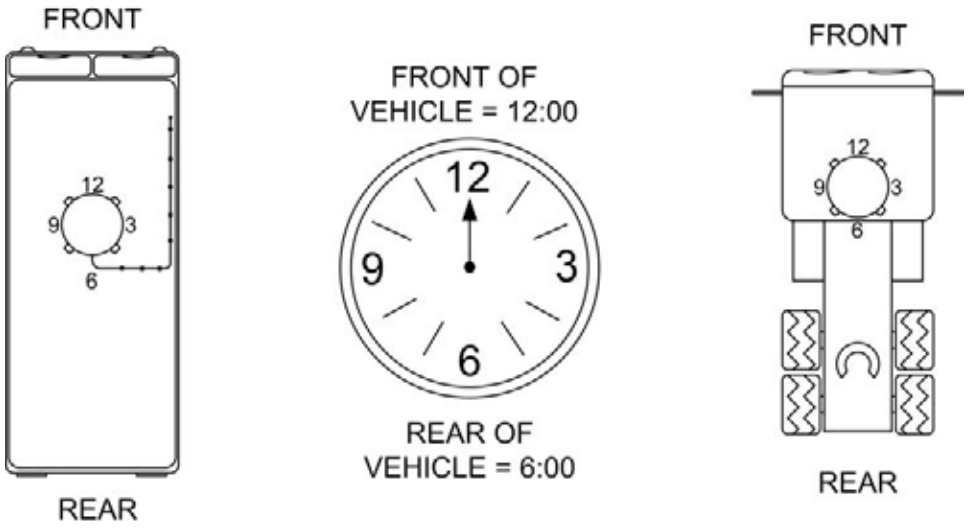


DEFINITION OF TERMS

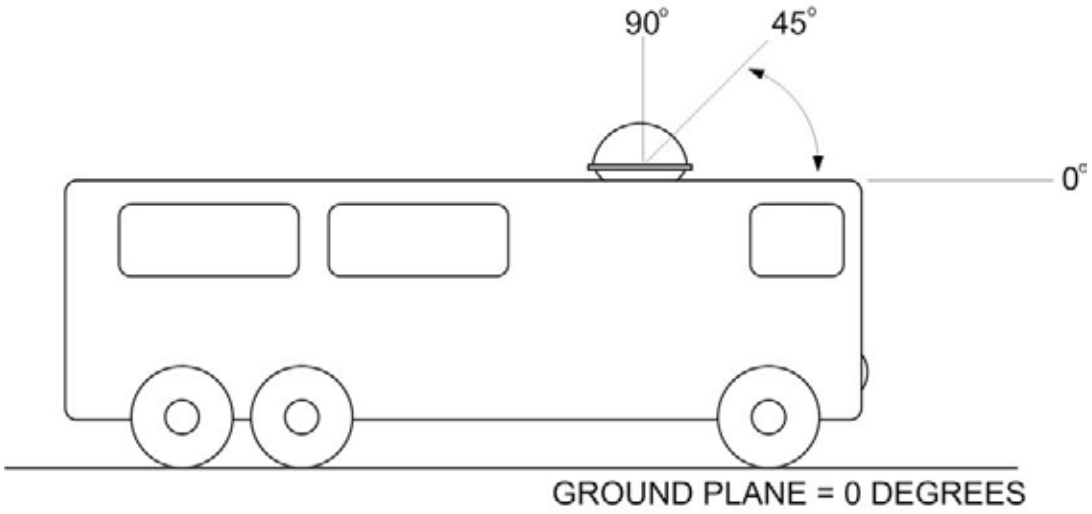
All Serial Numbers

AZIMUTH: Circular rotation around the vehicle.

Like a clock face: front of vehicle is 12:00, rear is 6:00.



ELEVATION: Angle in degrees measured from the ground plane.



NOTES:

NOTES:

WARRANTY CONSIDERATION FORM

Service Center Name	**Customer Name ***
Address	**King-Dome 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 King-Dome	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 Controls 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 55438-2453
Phone: (800) 982-9920 Fax: (952) 922-8424

www.kingcontrols.com