



Installation Guide

Advisories:

- The Orby TV system is intended for residential use only.
- Orby TV service is available only in the 48 contiguous United States. Customers living in rental properties must ask for and receive landlord's permission before carrying out the installation.
- The Orby TV equipment should only be used for Orby TV service. Equipment from other service providers should not be used and is not compatible with Orby TV.
- The Orby TV satellite dish supports service for up to four Orby TV receivers or DVRs.

Safety Information:

SELF-INSTALLATION IS AT YOUR OWN RISK. ORBY TV ASSUMES NO LIABILITY AND IS IN NO WAY RESPONSIBLE FOR DAMAGE, INJURY OR HARM TO YOU OR YOUR HOME.

- Professional installation of the dish and antenna is strongly recommended. A professional installer can also provide advice on the ideal location for the installation providing best signal quality. Orby TV equipment sold by an authorized retailer comes with a one-year limited warranty. However, outdoor equipment and its installation is only warrantied when installed by an Orby TV-recommended professional installer. For more information, visit OrbyTV.com/install.
- Please read instructions thoroughly before attempting a self-installation. Anyone not comfortable with these steps or who does not have the recommended tools or experience should not attempt the installation and should visit OrbyTV.com/install for information on professional installation.
- Ensure that the system is grounded correctly by connecting to the earth grounding system of the building as close to the point of cable entry as practical as required by National, State and Local regulations.
- Do not locate the dish or antenna near the weatherhead or power lines.
- Do not carry out the installation during bad weather or electrical storms.
- It is important that all building codes and the electrical standards specified by National, State and Local building codes, including the National Electric Code are adhered to, as well as standard safety procedures for installing and working with this type of equipment.
- Improper procedures or installation could result in: poor or erratic signal quality, damage to the equipment or the building, or even potential harm to the installer.

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Necessary Knowledge, Tools and Materials

Installation may involve working high above the ground and should not be attempted without suitable safety equipment.

Attempt this installation ONLY IF you are:

- Experienced with power tools.
- Comfortable working on ladders and at heights.
- Able to use a plumb line or level to set horizontal and vertical surfaces.
- Skilled at drilling into surfaces such as brick, cinder block, wood, etc. and able to identify suitable fasteners to suit the material for a safe secure mount.
- Skilled at drilling holes for the cable entering the building, fitting connectors to cable, running the cables to the receiver location, and weather proofing and sealing holes made during installation.
- Confident that you can complete the alignment and installation.
- Able to obtain the following items that are not supplied in the Orby TV package:
 - Coaxial cable for Diplexer to Grounding Block and ground block to Orby TV Receiver.
 - Recommended coaxial cable: RG6, 1mm conductor, swept to 3Ghz dual shield
 - Recommended cable clips and 75-ohm F-Type compression connectors.
 - Fixings to allow the dish, grounding block, cable and antenna to be mounted to the home.
 - Grounding materials as specified by the National Electric Code
 - Coaxial cable ties
 - Cable splitter, if needed: Only use in-line splitters that pass power on all ports and are rated from at least 5-2300
 - Tools to complete the installation: compass, Phillips head screwdriver, power drill (masonry-compatible as required), correct size drill bits for fixings, level or plumb line, adjustable wrench, silicone filler for holes, cable cutters/prep tool, hammer.

Additional recommended tools: satellite finder/meter, mobile phone / computer for communication. We recommend the V8 Finder BT03 satellite meter for best results. Instructions can be found in Part 6.

Orby TV Dish Kit Contents

27" Elliptical dish	Terrestrial antenna
Elevation bracket	Terrestrial antenna to J pole (mast) and bracket
Cannister/Pole Collar	Terrestrial antenna fixing bolts
LNB	4 each mounting bracket lagbolts
LNB Feed arm	Two 1M RF coaxial cables
Dish J Pole	Grounding block
Floor / Wall mount bracket	Bolts and nuts for dish assembly
Diplexer	Back Frame

Other Items Needed for Installation (Not Included):

- Coaxial cable: RG6, 1mm conductor, swept to 3Ghz dual shield. NOTE: Standard RG 59 cable causes too much DC drop and signal drop and cannot be used to pass the satellite signal.
- Connectors
- Cable clips
- Wall / floor secure fixings
- Tools:

Compass	Adjustable wrench
Phillips head screwdriver	Hammer
Level or plumb line	Correct size drill bits for fixings
Cable cutters/prep tool	Silicone filler for holes
Power drill (masonry-compatible as required)	

These items can be found at a hardware store and should be purchased prior to beginning the installation. It is recommended that dual shield 1mm conductor Coaxial cable (RG6) be used for the connection from the LNB to grounding block, grounding block to the Orby TV receiver location and for the terrestrial antenna to LNB connection.

Orby TV Installation Overview

The Orby TV system combines cable channels received through our satellite dish, and local channels received through our terrestrial antenna. In order to view our cable channels and your local channels, you'll need to install both components.

Orby TV Satellite Dish

The Orby TV satellite is in orbit to the south of the continental U.S., located at 116.8 degrees West (Eutelsat 117W A).

Information needed to point the Orby TV satellite dish:

- Azimuth: Horizontal/pointing direction of the satellite dish
- Elevation: Vertical direction of the satellite dish
- Skew: Satellite dish rotation with respect to the ground, measured in degrees.

To find the correct satellite parameters for your zip code, visit OrbyTV.com/dish-pointer-tool

Terrestrial Antenna for Local Channels

You'll need the location of your local TV towers to find the best location to install the dish and antenna and to decide on the cable run into the home. NOTE: The satellite dish and antenna pointing are independent – they can point in completely different directions.



For terrestrial antenna information and TV tower locations in your area, download the Antenna Point app from your phone's app store. It shows the TV towers in your area along with the distance to each tower, based on your location.

Or, visit antennaweb.org. Enter your address and click submit. Do not check the "antenna height" box.

A screenshot of the AntennaWeb website. At the top left is the AntennaWeb logo with the tagline "Maximize Your Television Reception". To the right is a "Co-sponsored by" logo for the Consumer Technology Association and NAB. Below the logos is a paragraph of text: "Begin by entering your address. It is used to calculate the strength of each station that may be received at your location and determine which station each antenna type will receive." There is a form with a label "Address:" and a text input field containing the placeholder "Enter a ZIP Code or full address". Below this is a label "Antenna Height:" followed by a checkbox and the text "The antenna will be installed more than 30' above ground level." At the bottom are two buttons: "Submit" and "Reset".

The site predicts which over-the-air (OTA) channels are available in your area and shows the locations of the TV towers. If your towers are in multiple locations, point your terrestrial antenna in the direction of the tower with the most channels, or of the tower that broadcasts the channels you watch most often.

Preparation, Assembly, and Installation

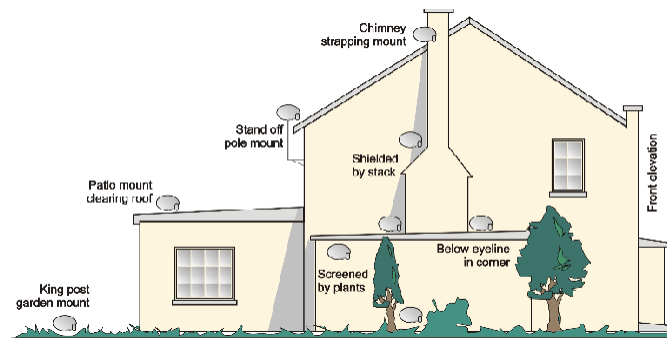
Part 1: Gather Information and Materials

1. Complete the chart below using the OrbyTV.com/dish-pointer-tool as described above. You will need this information later.
2. Find the direction of your local TV towers using information in the Installation Overview section above. You can also check neighboring homes that have outdoor antennas and note which direction antennas point.

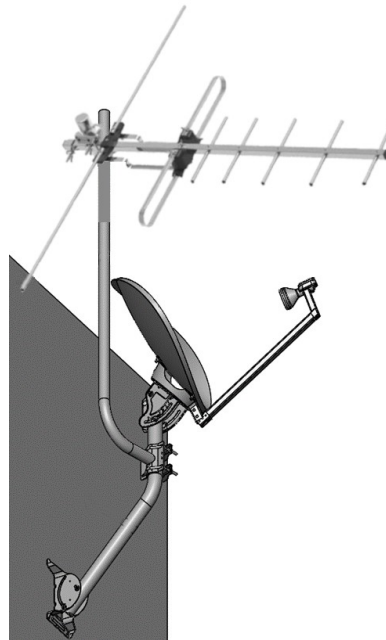
Zip code of installation address	
Azimuth direction (compass direction)	
Elevation setting (degrees above the horizon)	
Skew setting (sideways tilt of the dish)	
Local TV tower direction	

3. Read all instructions and warnings in this manual prior to beginning installation.
4. With the information above and guidelines in Part 2, identify a suitable location to install the satellite dish and terrestrial antenna that will provide the best situation for the dish, clear satellite line of sight and stable dish pole mounting surface. In general, higher dish and TV antenna placement will mean better signal reception for both satellite and local channels.
5. Choose the ideal location(s) in the home for your Orby TV receivers or DVRs.
6. Measure all cable runs and purchase RG6 cable, cable clips, connectors, wall / floor secure fixings, and any necessary tools
7. Unpack and the dish, antenna, hardware and receiver(s)
8. Download the Orby TV V-8 Meter application (if meter purchased) and install on your phone or tablet
9. Power on the Orby TV Receiver and connect to your TV via HDMI or RCA cables. Select correct TV input and verify display of Orby TV Welcome screen.

Part 2: Choose an Installation Position



If you can find a single location where both satellite and local TV signals can be received, you can mount the dish and antenna on the same base. The antenna should go above the dish using the supplied antenna J pole (mast), pictured below.



The supplied diplexer will combine the cable from the satellite dish and cable from the antenna, so a single cable carries both signals into the home. If the dish and antenna are placed close together, the diplexer can be secured to the dish. If the dish and antenna are installed separately, the two cables will need to be longer, and the diplexer can be closer to the point where the cables enter the home.

The dish can be attached to the home, to a pole in the ground, to a non-penetrating mount (also known as a sled mount) or to a tripod.

Part 2: Choose an Installation Position (continued)

Checklist: Where to put your dish and antenna

- ✓ Will there be a clear line of sight of the Southern sky for the satellite dish and a good path for the terrestrial TV signal? Is the view totally clear of trees, structures or other potential obstructions?
- ✓ If you plan to place the dish on a pole in the ground, select a location that will allow you to level out the pole best as possible.
- ✓ If nearby trees or bushes grow, might they block the satellite line of sight?
- ✓ Will the dish be within 100 feet of the Orby TV devices? Signal may be lost with a longer cable run.
- ✓ If attaching the dish with the included foot plate, do you have a strong, stable surface to attach it to? Mounting surface should be at least 0.5 inches thick. Avoid surfaces that flex, such as shingles or siding, as the dish could wobble in the wind.
- ✓ If installing on a roof overhang, place the foot plate so the center holes penetrate the rafter and make sure to pre-drill to avoid splitting the wood.
- ✓ If you plan to place the dish on a pole in the ground, can you secure it with 150 lbs of fast-setting concrete? Remember that the cement will need time to set.
- ✓ Is your planned installation location separated from where people walk, work, or play? For example, could it be bumped by children playing or by lawn mowing?
- ✓ If your area gets winter snow and ice, could you access the dish to clear it?
- ✓ Before you drill, are you really sure you've found the best and final location?

After you've used the direction of the satellite and local TV towers to find the ideal spot, you could try a test installation using a temporary mount (piece of wood, etc.) to confirm that the satellite and antenna signals can be received.

TIP: The dish pole or mast must be totally vertical and plumb! If it is not vertical, the elevation, skew and azimuth results for your zip code will not point you to the Orby TV satellite.

Part 3: Choose a Mounting Option

Best options:

- On the side of a building or on a flat surface as high up as can be safely installed.
- On a firm and even surface, so you can easily make the pole 100% vertically level.
- Brick, cinder block and wood are ok, provided you use the appropriate fasteners.
- When fitting on a wooden deck or beam it is important to ensure that the wood is solid and does not flex. Make sure to pre-drill to avoid splitting the wood.
- Apply weather sealant to any drilled holes.

If attaching to bricks or cinder blocks:

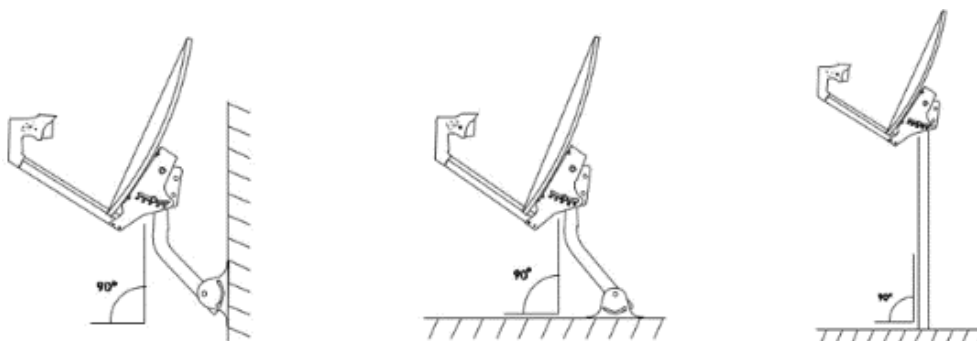
- The mortar should be in very good condition.
- The wall mount should straddle several bricks, not be mounted to the mortar between bricks or in the top layer of bricks or those at the edge of the wall.
- On cinder block walls or surfaces, suitable toggle anchors should be inserted into the cinder block cavity.

Use caution with roof installation:

- Installation on a roof should only attempted by a professional.
- The mounting brackets should be attached through the roof to the rafters.
- To prevent the roof from leaking, caulk or silicone sealant should be used around all the holes and at the bottom of the bracket where it contacts the roof.

Pole mounts:

- The dish can be fitted to a pole cemented into the ground.
- The pole should be plumb and not able to flex.
- The diameter of the pole should suit the back assembly on the dish and antenna brackets. Ensure that the pole does not interfere with power, gas, water or sewerage utilities. Contact local utility companies for location of any buried cables/pipes before digging.
- Ensure that coaxial and grounding cables are not a tripping hazard or could be damaged.

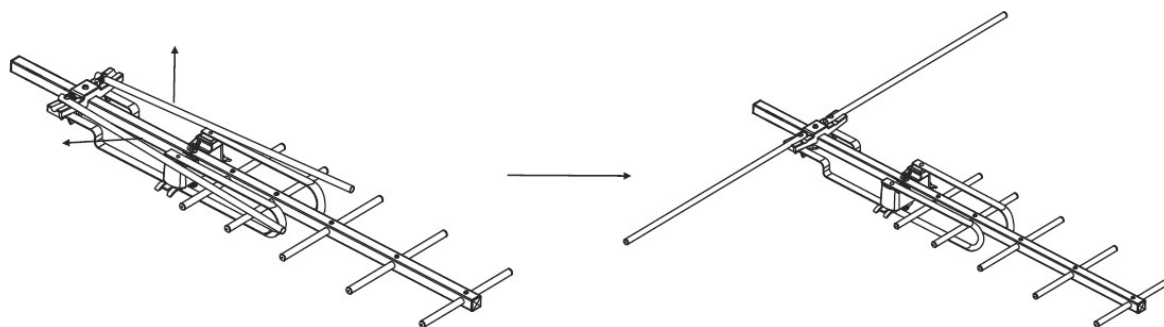


Not recommended:

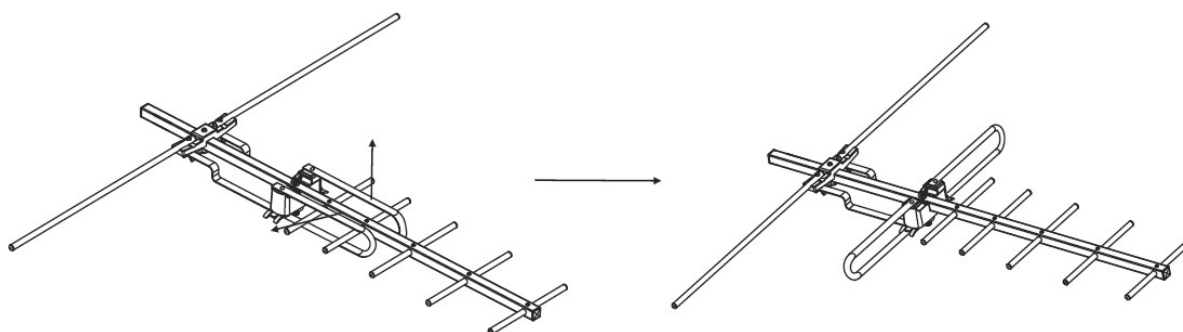
- Wooden bannisters or railings
- Attaching to aluminum or vinyl siding
- When attaching to other siding it may be necessary to fit shims to even the surface, and the fixings should be fitted to the solid background surface or to the studs, located by tracking the finish nails or using a stud finder.

Part 4: Assemble the Dish and Antenna

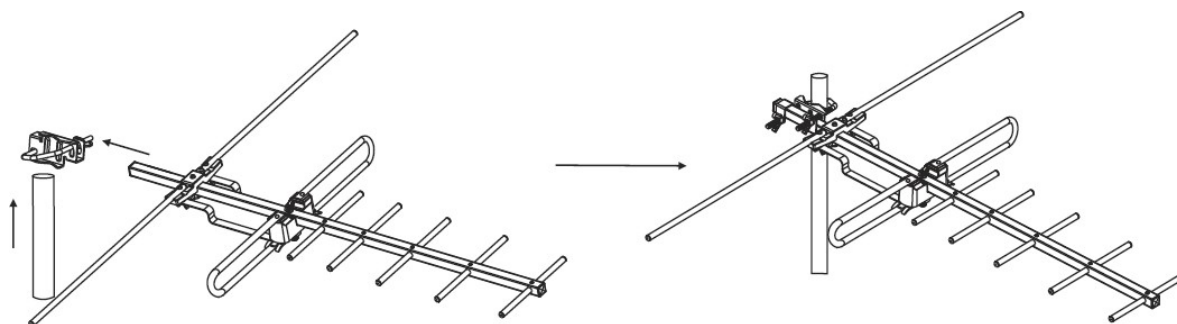
Unpack the terrestrial antenna. Fold out the 2 rear elements as shown and tighten in place using wing nuts. These can be fully tightened now.



Fold out the 2 inner looped elements as shown and tighten in place using wing nuts. These can be fully tightened now.

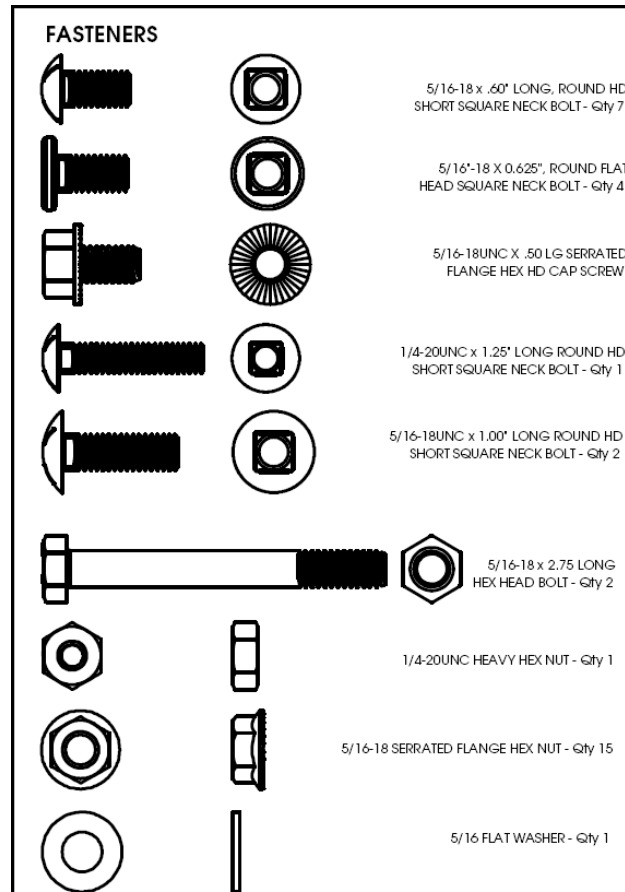
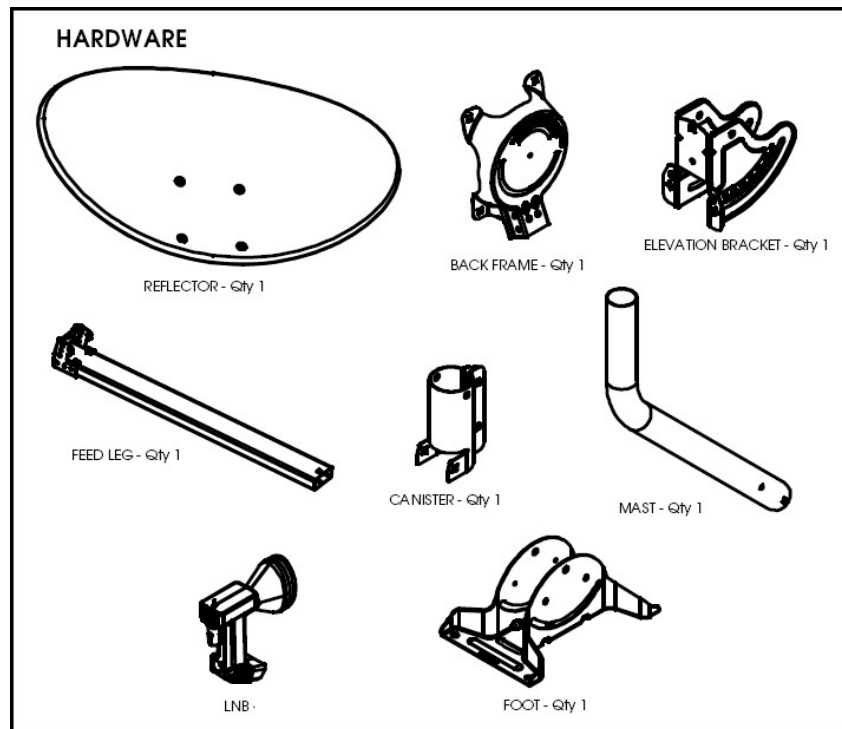


Using the TV Tower location setting detail recorded earlier, fit the antenna to the toothed clamp in the correct orientation and slide the clamp onto the antenna mast pole. Loosely fix the wing nuts on the U clamp bolts to prevent the antenna from sliding down the mast during the other adjustments but do not tighten yet; further adjustment will be necessary. If the antenna is being fitted to the Dish J Pole of the dish assembly below the dish the mast may not be required.



Part 4: Assemble the Dish and Antenna (continued)

Unpack the dish parts and fasteners. Some bolts should be fitted only finger tight until final installation takes place.



Part 4: Assemble the Dish and Antenna (continued)

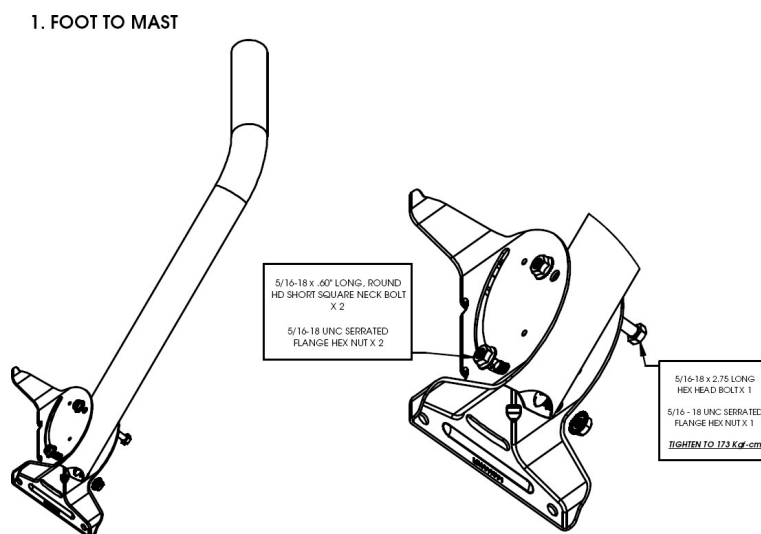
Dish Assembly Step 1

If a satellite dish from another company is already installed, it may be possible to replace it with the Orby TV satellite dish.

If you have an existing dish mounted to your home and would like to use the same pole/mast:

- Measure the diameter of the existing pole/mast.
- If the diameter is 2 inches, you may use the existing mast for the Orby TV dish assuming pole is plumb in all directions.
- If they are different diameters, please remove the existing satellite dish mast and mounting plate (if applicable) and install the Orby TV mast and mounting plate.

If you are using the Dish J Pole and foot/wall fitting, assemble the Dish J Pole to the foot/wall mast using the short bolts into the slotted adjustment channel. Fit the long bolt through the tube and the pivot holes. Fit the nuts and finger tighten as further calibration is required for vertical adjustment during mounting.

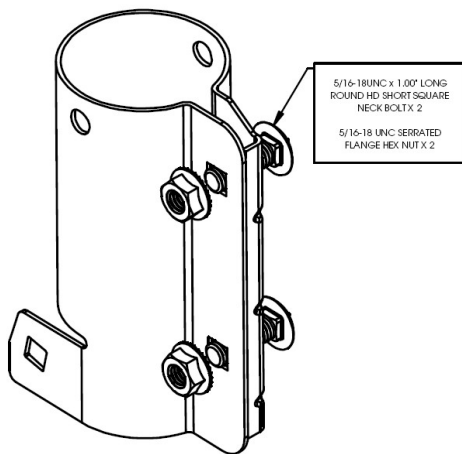


Part 4: Assemble the Dish and Antenna (continued)

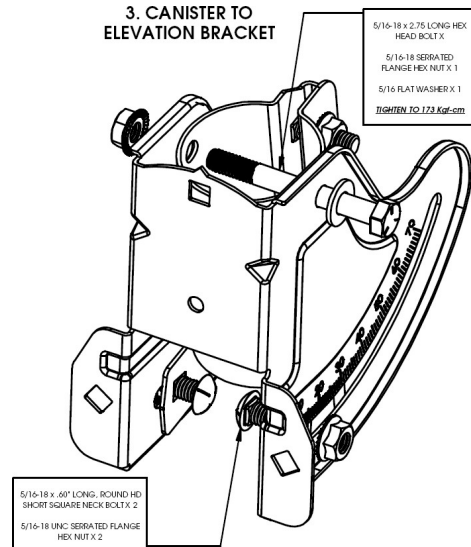
Dish Assembly Steps 2 and 3

- Insert the 2 short canister tightening bolts into the canister clamping edge, fit the nuts and finger tighten only. Further calibration is required for azimuth adjustment during alignment.
- Place the canister into the elevation bracket and fit the long bolt through the tube and the pivot holes of the elevation bracket.
- Fit the 2 small bolts into the slotted elevation adjustment channel and into the canister holes.
- Fit the nuts.

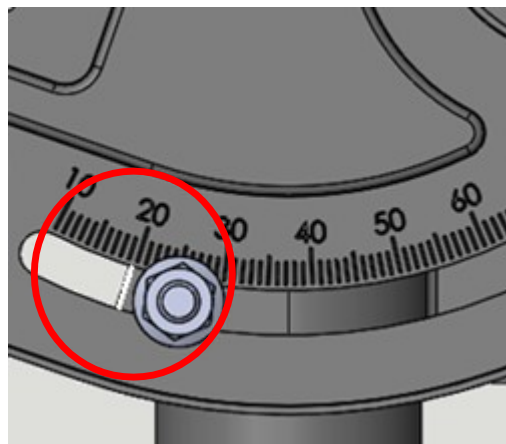
2. INSERT CANISTER BOLTS



3. CANISTER TO ELEVATION BRACKET



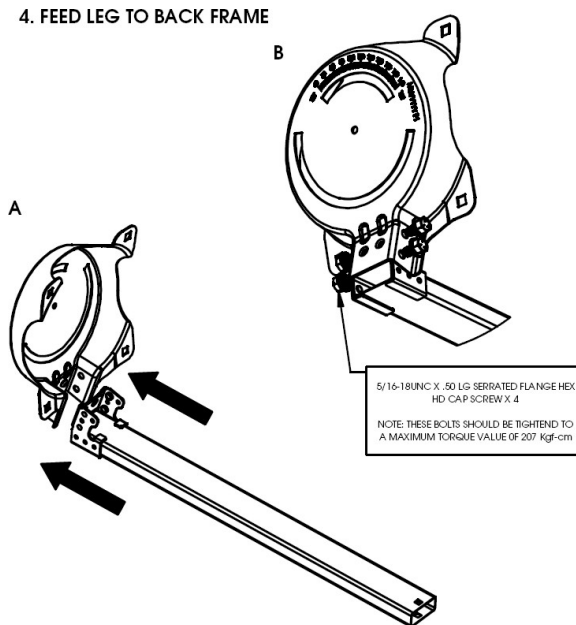
- Using the elevation detail recorded earlier, tilt the elevation bracket to the approximate elevation of the satellite using the reference edge on the canister which is visible through the slot and the markings and tighten fully.



Part 4: Assemble the Dish and Antenna (continued)

Dish Assembly Step 4

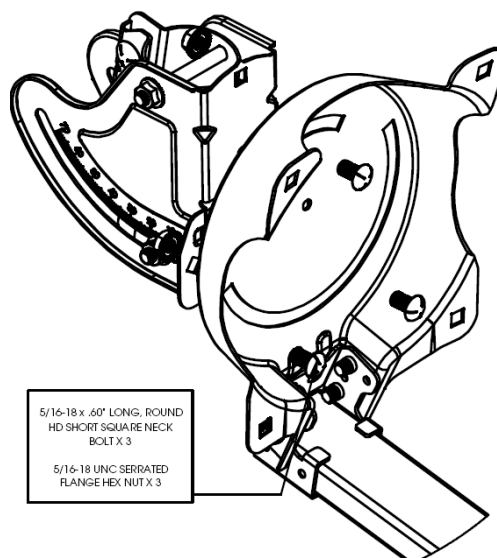
Fit the LNB feed arm to the back frame and secure using the 4 short screws. These can be fully tightened now.



Dish Assembly Step 5

- Fit the back frame to the elevation bracket using the 3 short bolts.
- Fit the nuts and set the metal point to the skew degree given for your zip code.

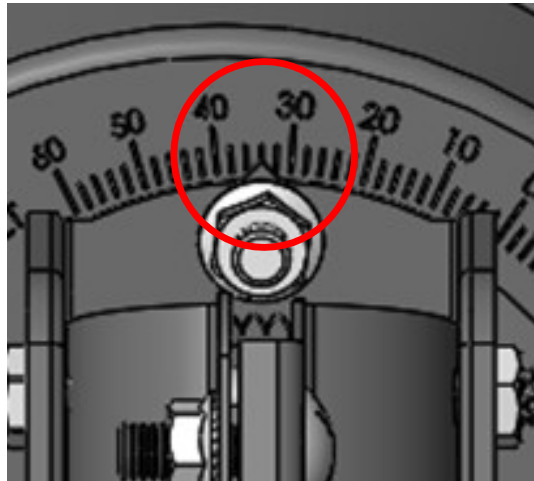
5. ELEVATION BRACKET TO BACK FRAME



Part 4: Assemble the Dish and Antenna (continued)

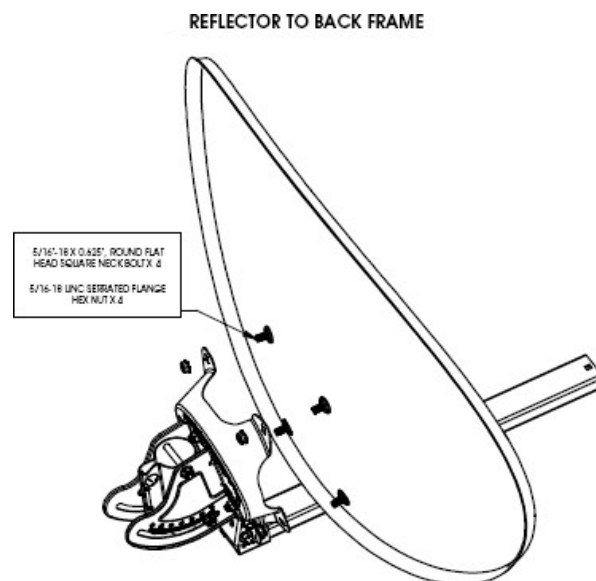
Dish Assembly Step 5 (continued)

- Rotate the back-frame bracket to the approximate skew of the satellite using the arrow marking on the back frame. Securely tighten now.
- The bolt heads should be inside the back frame to allow access to the nuts after the reflector has been fitted.



Dish Assembly Step 6

Fit the reflector to the back frame using the 4 short bolts. Fit the nuts and tighten them fully.

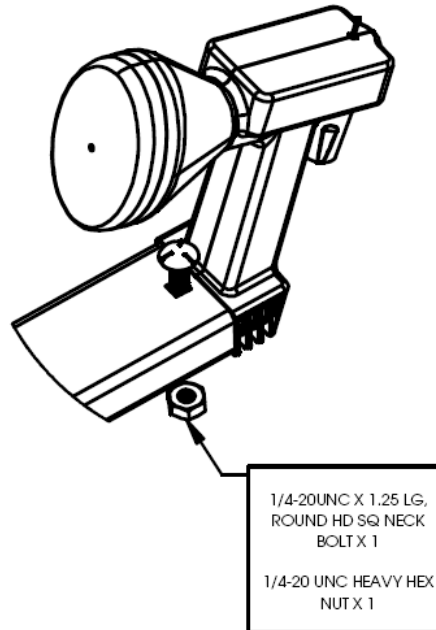


Part 4: Assemble the Dish and Antenna (continued)

Dish Assembly Step 7

Fit the LNB into the feed arm by pushing it fully in and fit the short bolt. Fit the nut and tighten it fully.

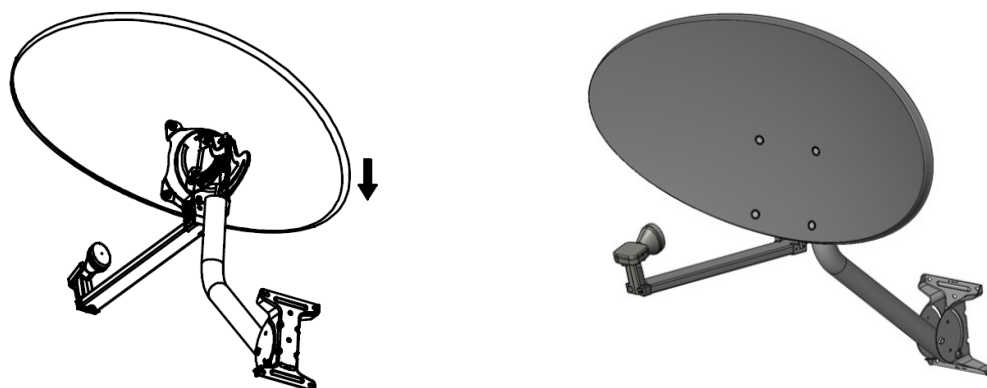
LNB TO FEED LEG



Dish Assembly Step 8

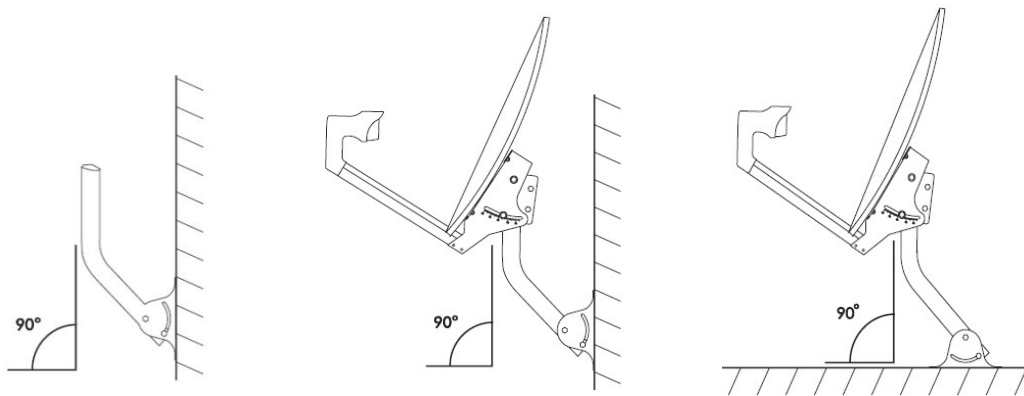
If you are mounting the dish to a wall or floor and are using the Dish J Pole, drop the canister over the end of the Dish J Pole but do not tighten it yet. You will rotate the dish to the correct azimuth. If the dish is fitted to a pole in the ground or other alternative fitting, then the canister will drop onto that installed pole.

SLIDE CANNISTER ONTO MAST



Part 5: Install the Dish Mount

- Before the dish is installed in its final location, ensure that it is possible to route the cable from the dish location into the building where the Orby TV receiver is located, drilling holes where necessary.
- Depending on the final location of the dish and antenna, mount the wall / floor / pole to the chosen solid surface using suitable screws.
- Slide the dish canister off the Dish J Pole and set the dish assembly aside taking care not to damage any of the component parts.
- Fix the wall / floor / pole mount to its final location, using a level or plumb line to adjust the Dish J Pole so that, when the wall / floor / pole mount is fixed to the surface, the vertical part of the mast behind the dish is as close to vertical as possible. Tighten the wall / floor / pole fixing bolts according to the supplier recommendations.



- Place the dish assembly on the Dish J Pole with the canister securing bolts finger tight. At this point the dish assembly should support itself allowing adjustment during alignment.



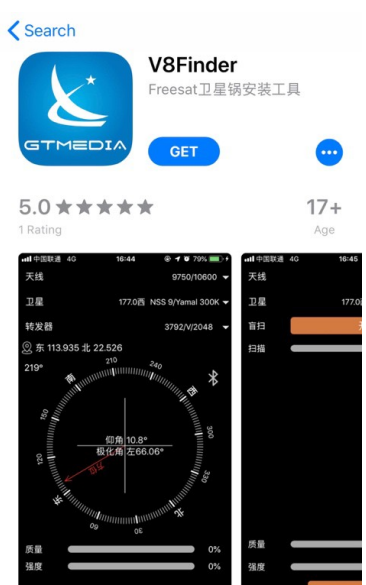

Part 6: Prepare the signal meter

These instructions are for the V8 Finder BT03 satellite meter, which will help you find the signal of the Orby TV satellite. If you are using a different meter, or do not have a meter, you may be able to point and "peak" the dish using instructions in Step 7, but your signal indicator will be different.

First, find a power supply for the signal meter. This may be a phone charger or power brick, but make sure the supplied power is enough. The BT03 requires an external power supply via USB with a minimum output of 5V 2.0A.

You will know the meter has enough power when the light indicator blinks blue, indicating it is in pairing mode.

Using an Android phone or an iPhone, complete the steps in the chart below:

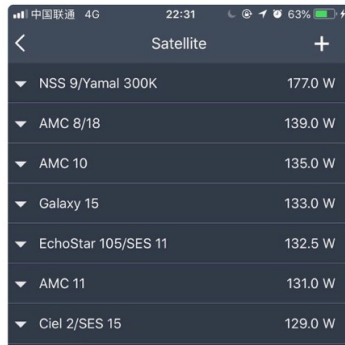
Step 1	Step 2
<p>Download the "V8 Finder" in your phone's app store</p> 	<ul style="list-style-type: none">• Turn on Bluetooth in your phone's settings. Turn off any nearby paired devices.• Tap the Bluetooth symbol in the upper right side of the app to pair your phone with the meter.• Once connected the light will turn solid blue and say "V8 Finder Connected" 

(Continued on next page)

Part 6: Prepare the signal meter (continued)

Step 3

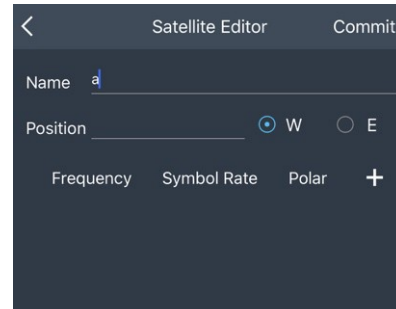
- From the Main Screen, click the satellite icon on the bottom task bar.
- In the satellite list, select Orby TV if it's already programmed, or click the "+" icon to add 116.8 W to the list.
- Follow steps 4 and 5 to add Orby TV.



Step 4

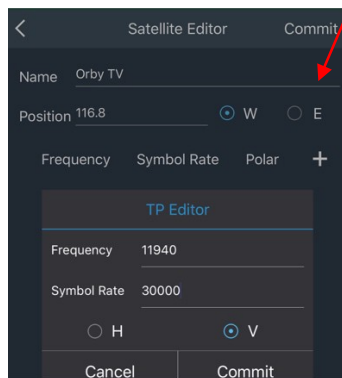
In the Satellite Editor screen:

- Name your satellite "Orby TV"
- Position 116.8 W
- Click the "+" symbol to add:
 - Frequency: 11940
 - Symbol Rate: 30000
 - Polarization V (vertical)



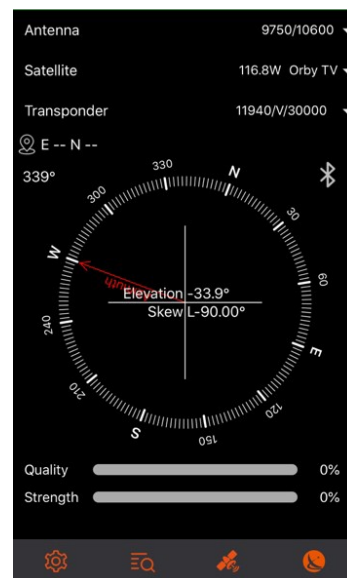
Step 5

Once added, make sure to hit "Commit" in the TP Editor underneath "V" first, and then "Commit" again in the top right corner of the screen. (Android users only need to "Commit" once.)



Step 6

Back to Main Screen – Click on "Antenna" and you will see the "LNB Config" Screen



(Continued on next page)

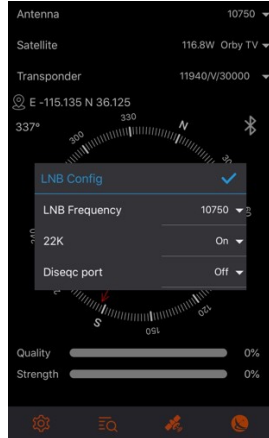
Part 6: Prepare the signal meter (continued)

Step 7

Set your LNB Frequency to 10750

Set 22K to "On"

Leave Diseqc port "Off"



TROUBLESHOOTING

Your meter should be ready to use. If not, follow the troubleshooting tips below:

- If the V8 Finder meter is not pairing to your phone, make sure all nearby Bluetooth devices are turned off.
- The V8 Finder light indicator should be a strong blue blinking light. If it turns red while blinking, check the voltage output and ensure it is 5V 2.0A.
- If still does not connect or connects and disconnects your mobile device may not be compatible. Try using a different model phone.

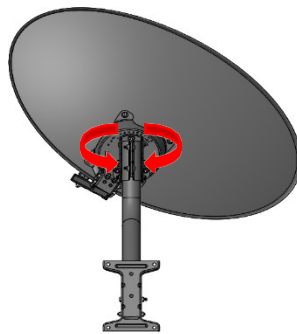
Part 7: Point the dish

Before continuing, please confirm:

1. The satellite dish is assembled and resting on its mast.
2. You have used a level to confirm that the mast is absolutely vertical.
3. You have set the elevation and skew to the correct values have and tightened those bolts.

Now you are ready to rotate the dish to the approximate compass direction of the satellite (azimuth) and use the signal meter to "peak" the dish so the LNB receives the highest possible signal.

- Using a compass and the azimuth detail recorded earlier in the Installation Overview section, rotate the canister on the mast so that the dish and feed arm is pointing in the approximate direction indicated by the compass. Loosely fix the bolts to prevent the dish from moving during the other adjustments but do not tighten as further adjustment will be necessary.



- Connect the signal meter to the LNB using a short coaxial cable. The Main Screen of the V8 Finder app is your Point and Peak screen.
- If your skew and elevation are correct, you should see a "Strength" reading and hear beeping almost instantly. This does not mean you are pointed at the correct satellite!
- Rotate the dish to the approximate azimuth required for your location. Very slowly, "sweep" the dish to the left and right until you see significant signal under "Quality" and hear faster beeping. This means you are locked on 116.8 W. Because of the slight lag time for the signal to appear in the meter, it is critical that you rotate the dish slowly.
- Once you get a reading on the quality bar, make fine adjustments to the dish rotation to maximize the readings. Strength should be 85%+ and signal quality should be 70%+.
- Readings less than this may cause loss of signal during cloudy or rainy days.
- Click on the "Channel Search" icon at the bottom of the app to confirm. You'll see all channels that are coming in if your antenna and transponder settings are correct. If you see Orby TV channels (example: 101 (TNT)), your settings are correct.
- Once the dish is pointed optimally, tighten the bolts on the canister on the mast to lock the dish in place.

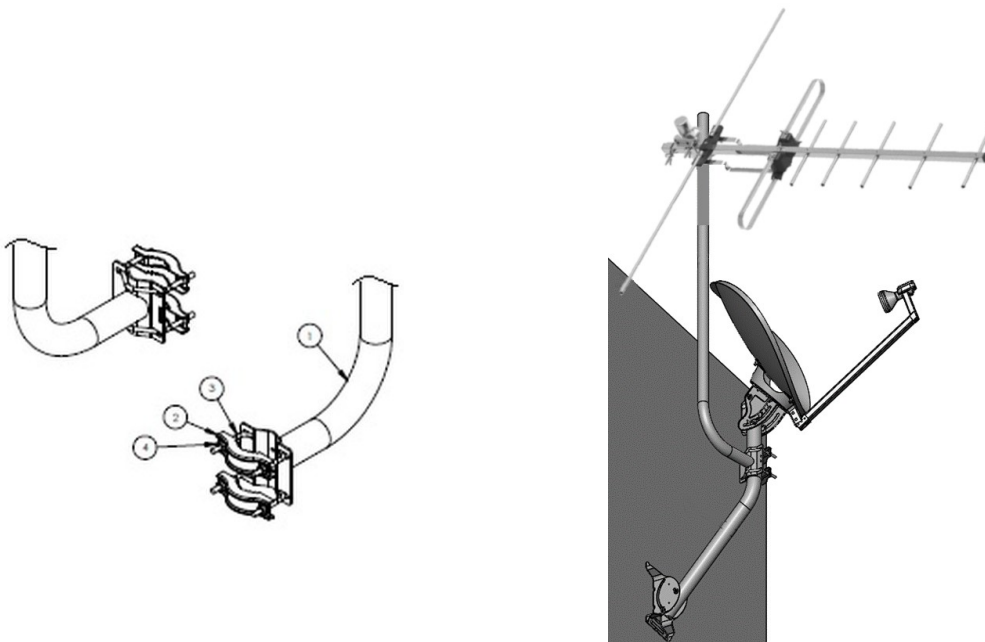
Part 7: Point the dish (continued)

If you do not have a signal meter and need to point the dish using the signal meter in the Orby TV Receiver or DVR:

- Connect a coaxial cable from to the F Connector on the LNB to one of the Orby TV receivers or DVRs.
- Connect that Orby TV device to a TV and get to the Orby TV startup screen.
- If a signal meter is not available or the screen cannot be viewed from the install location, adjustment of the dish is best accomplished by two people: one to position the dish while another provides information about the effect of the adjustments by watching the signal strength bar on the television until "Found Satellite" is displayed. Communication between the two is needed to obtain a peak signal level.
- Avoid standing directly in front of the satellite dish while aiming it to prevent the satellite signal being blocked.

Part 8: Attach the antenna

If the terrestrial antenna is being co-located with the dish, fit the antenna mast clamp to the Dish J pole so it sits either to the left or right of the main Dish J pole, as required, and finger tighten the nuts on the mast clamp. Fit the terrestrial antenna to the end of the mast and finger tighten to prevent it sliding down the mast. Attach the provided 1M coaxial cable to the F Connector on the terrestrial antenna.



Part 9: Install the Diplexer

Attach the 1M Coaxial cable from the terrestrial antenna to the TV F Connector on the diplexer. If a signal meter is not available and you are using the Orby TV receiver to find satellite, connect the 1M coaxial cable from the LNB to the SAT F connector on the diplexer.

Secure the diplexer to the dish assembly using cable ties or other method to secure. If using a meter, connect the 1M coaxial cable to the diplexer after finding and peaking satellite signal.

Part 10: Install the grounding block

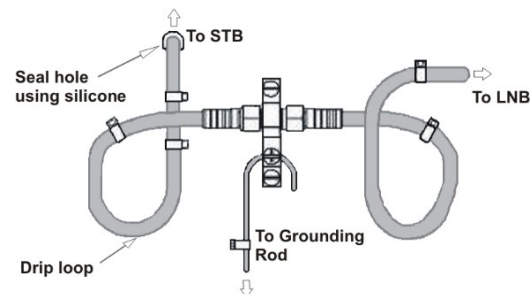
The dish system, antenna and coaxial cable should be grounded in accordance with National, State and Local electrical codes to protect against damage caused by lightning strikes and other electrical discharges. **WARNING:** Severe damage to electrical wiring and appliances may occur without proper grounding.

The following guidelines apply to all grounding systems:

A copper-clad iron rod driven into the soil as close to the building as possible provides good grounding. The grounding block should be located as close as possible to the grounding rod, be fixed securely to the building structure and a copper cable should be fitted from the grounding block body screw to the grounding rod. Additional grounding options can be used as described in the National Electric Code. National Electric Code is published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts, 02269-9101 and may be available at your local public library.

The coaxial cable from the LNB should be run to the grounding block taking the shortest possible route and connected to one of the F Type connections on the grounding block. A coaxial cable connected to the other end of the grounding block F Type connection should then be run directly into the home and connected to the Orby TV receiver or the wall socket near the Orby TV receiver.

A grounding cable must be connected into the hole of the grounding block and the screw tightened securing the grounding cable. The other end of the grounding cable must be connected to the clamp on the grounding rod.



To protect the house and Orby TV receiver, the Dish J Pole mast must also be grounded. To ground the mast a grounding cable can be run from one of the bolts securing the wall / floor / pole mount to the grounding rod, using the shortest possible path.

EXTRA: Multi-Room Installations

When setting up receivers in multiple rooms, an Orby TV-approved splitter should be used in conjunction with a properly bonded and grounded ground block. An All Port DC Power Passing splitter should be used and should be rated to pass at least 5-2300 MHz. The splitter utilized should have the same number of ports as receivers you are installing, as having unused ports causes extreme signal loss.

NOTE: DO NOT use splitters from any other satellite or cable service. Other splitters such as DIRECTV SWiM, Dish Network Solo and Duo Nodes, or any cable service utilized component will NOT work with Orby TV.

Approved Splitters:

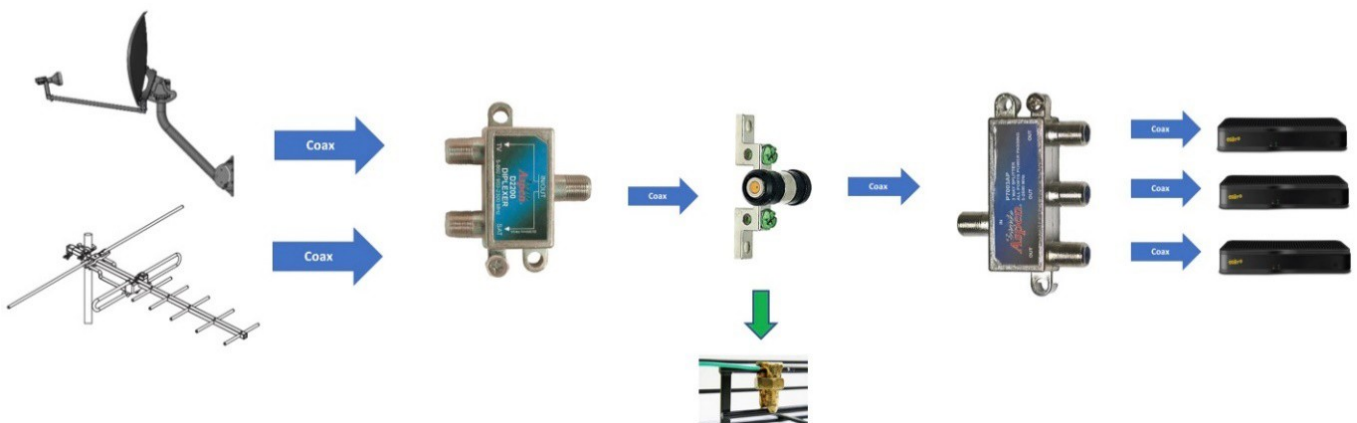
- Eagle Aspen - All ports power passing 5-2600MHz
- Perfect Vision - All ports power passing 5-2300MHz
- WDC - Worldtec Distributing Corp – All ports power passing 5-2300MHz

****It's very important to have all ports passing EVERYWHERE.** All of these brands of splitters have versions with one port or no ports passing power.

This is an example of an Eagle Aspen splitter approved for use in a three-room system:



Below is a diagram illustrating the proper use of a splitter:



Part 11: Run the Coaxial Cable

WARNING: Use caution when drilling into walls. Ensure that no existing electrical wiring is in place to avoid electrocution.

Use the shortest route possible to run the coaxial cable from the LNB to the grounding block and from the grounding block into the building and to the Orby TV receiver. Do not kink or pinch the cable. The cable should not be bent at right angles. Any bend should have at least a 3-inch radius. Securing clips should be spaced about 18 inches apart when the cable is run horizontally along the wall and 36 inches apart when vertical. The clips should hold the cable firmly but not crush it.

The simplest method is to locate the Orby TV receiver inside the building against or near an outside wall. Drill a hole through the outer wall to pass the cable through to inside the building so that it can be connected to the Orby TV receiver. Ensure that there is sufficient cable inside the property to allow it to be neatly dressed from the hole to the Orby TV receiver.

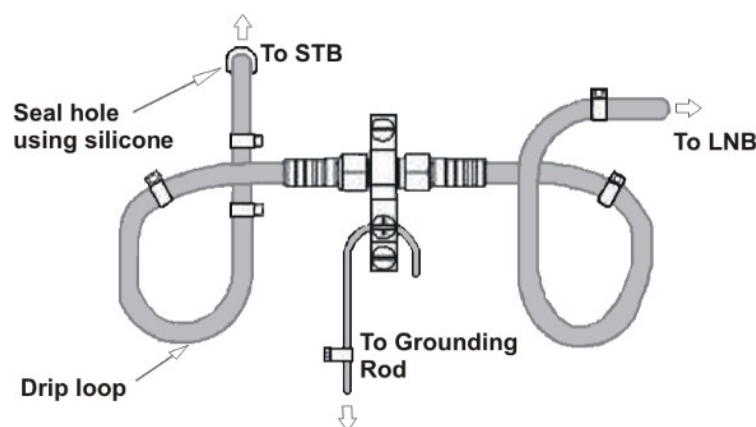
If the receiver is located in an interior room, the cable route should be through the outside wall, and into an attic, basement, or crawl space to access the Orby TV receiver location.

Seal the exterior hole with silicone or other weatherproof sealant material after installation.

Once the cable is inside the building, attach it to a wall socket or, after fitting the F Type connector, directly to the Orby TV receiver.

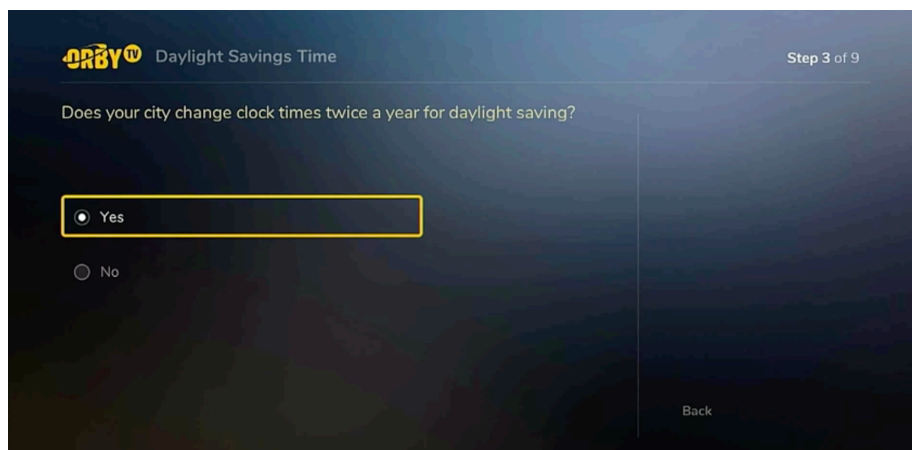
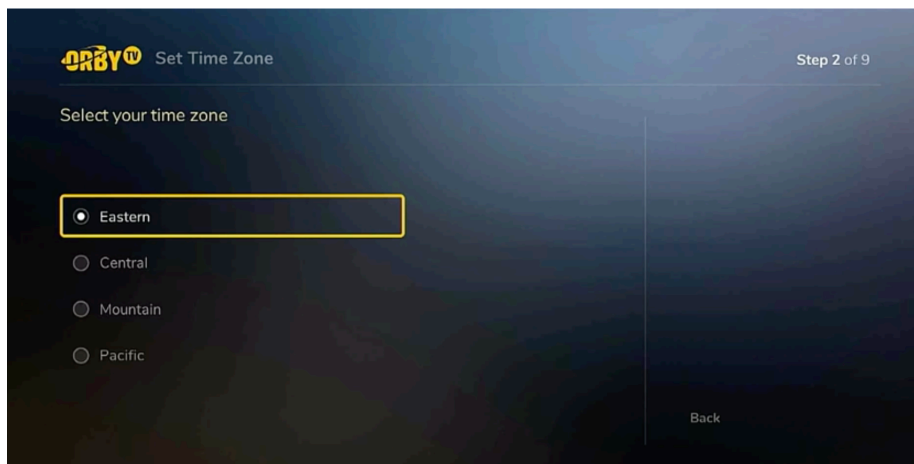
Do not overtighten the coaxial cable connection. General rule is finger tight plus a quarter turn using a small wrench.

Where the cable connects to the LNB, antenna, grounding block or enters the house through the hole in the wall, ensure that a drip loop is formed in the cable to ensure that water does not run into the connections or into the home.



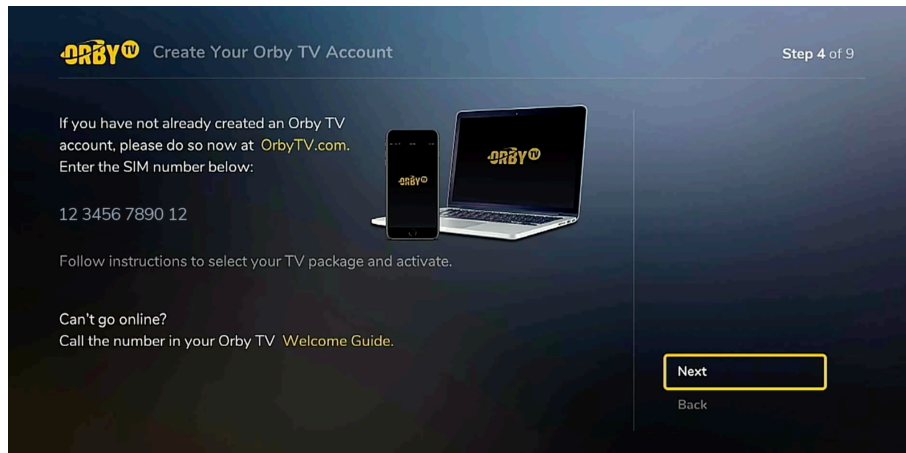
Part 12: Set up the Orby TV Receivers or DVRs

- Connect the HDMI or composite cable from the Orby TV receiver to the television
- Connect the satellite coaxial cable to the ANT IN connection on the Orby TV receiver
- Connect the Orby TV receiver power supply to the power outlet
- Turn ON the television and the Orby TV receiver
- Select the correct input on the TV to show the screen of the Orby TV receiver
- Proceed by following the on-screen prompts, choosing your preferred language, time zone, and daylight savings preference.

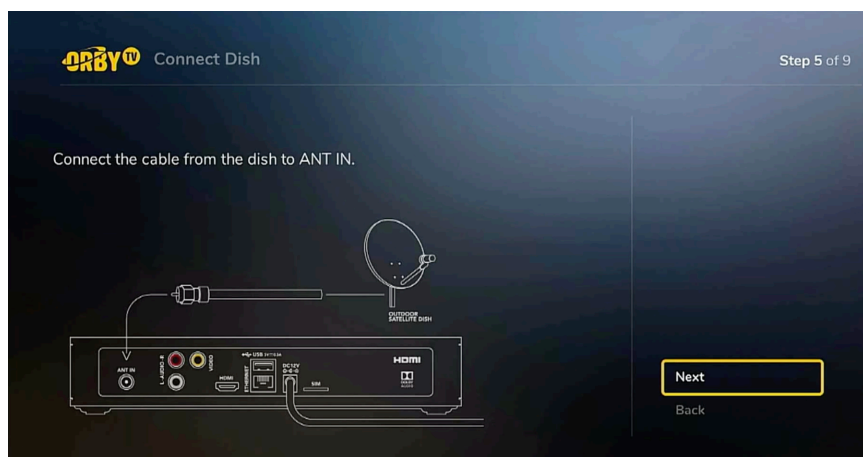


Part 12: Set up the Orby TV Receivers or DVRs (continued)

- Create your Orby TV account at OrbyTV.com. If you do so on your mobile phone, you can save the app icon to your phone home screen for easy access later. You can activate your Orby TV service and control your account online.



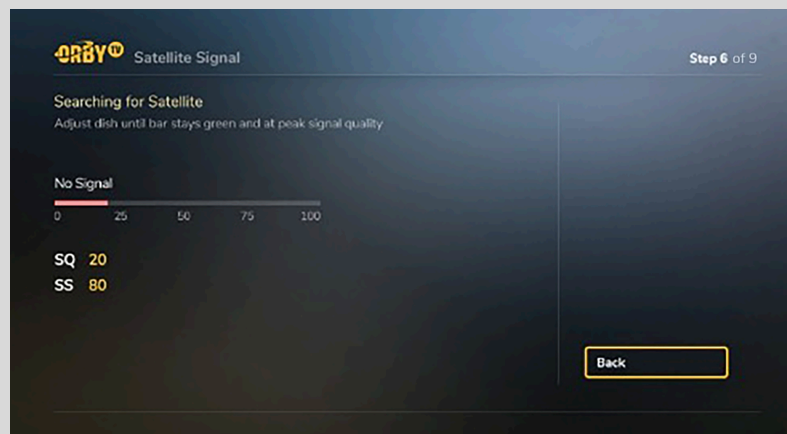
- Connect the satellite coaxial cable to the ANT IN connection on the Orby TV receiver, if you haven't already



Adjusting the satellite dish using the on-screen signal meter

If you used the V8 signal meter to peak the satellite dish, skip this section

- During the fine-tuning alignment ("peaking") of the dish, the Signal Strength bar on the screen shows the signal level being received. It is important that all adjustments are carried out using very small steps to achieve the highest signal level on the signal graph.
- The possible levels are between 0% and 100%. It is not necessary for the signal strength to reach 100%, and a standard installation is not likely to get the signal strength to this level.
- Once a signal level is indicated on the signal strength bar and confirmation is received that the correct satellite has been found, proceed to peaking the signal level.
- If no signal level is indicated on the signal strength bar or if the message stating that no satellite signal is present is displayed, loosen the cannister clamp bolts slightly and swing the dish very slowly to the left. Slowly swing dish to the right back to the appropriate azimuth. If you pass the azimuth degree more than 15 degrees slowly swing back. Keep doing this, in very small increments, swinging the dish about 5 degrees, pausing for 2 seconds and then continue. The system takes a moment to update the signal strength display, so it is important that the movements are slow and gradual with pauses between adjustments. If the signal is not located in the first direction, rotate the dish back to the starting position left of the azimuth and carry out the procedure again.



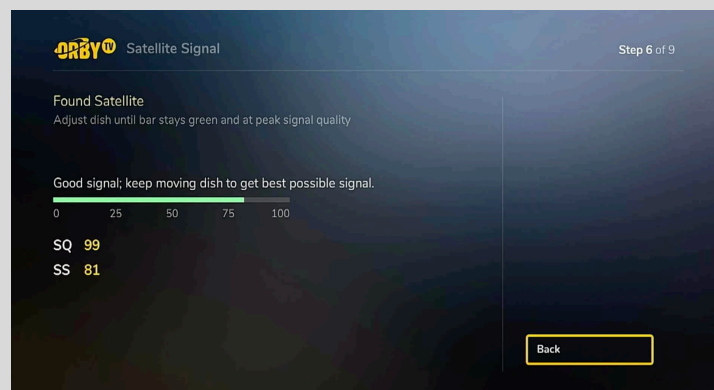
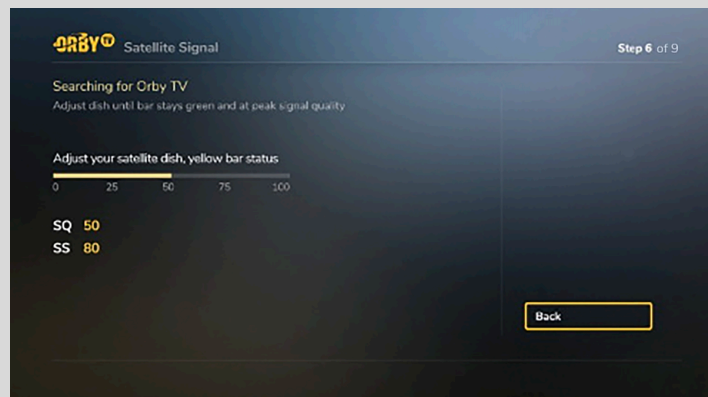
- Turn the dish assembly back and forth very slowly, until the signal strength bar indicates signal is present.
- If the signal still cannot be found, double check the level of the J Pole. It is critical your J Pole is plum vertically when finding signal otherwise it can make the dish pointing process very difficult.
- Turn the dish assembly back to the original azimuth setting. Swing the dish to the left by 15 degrees or so. Loosen the elevation bolts and increase the elevation angle by 10 degrees higher and lower from the according elevation.

(Continued on next page)

Adjusting the satellite dish using the on-screen signal meter (continued)

If you used the V8 signal meter to peak the satellite dish, skip this section

- If the signal still cannot be found, double check the level of the J Pole. It is critical your J Pole is plum vertically when finding signal otherwise it can make the dish pointing process very difficult.
- Turn the dish assembly back to the original azimuth setting. Swing the dish to the left by 15 degrees or so. Loosen the elevation bolts and increase the elevation angle by 10 degrees higher and lower from the according elevation.
- Move the dish up and then down very slowly, keeping the bolts loose with minimal play, swing the dish 5 degrees in the direction of your azimuth (right of you). Repeat these steps, raising and lowering the elevation and swinging the dish in increments of 5 degrees until the satellite signal is found.

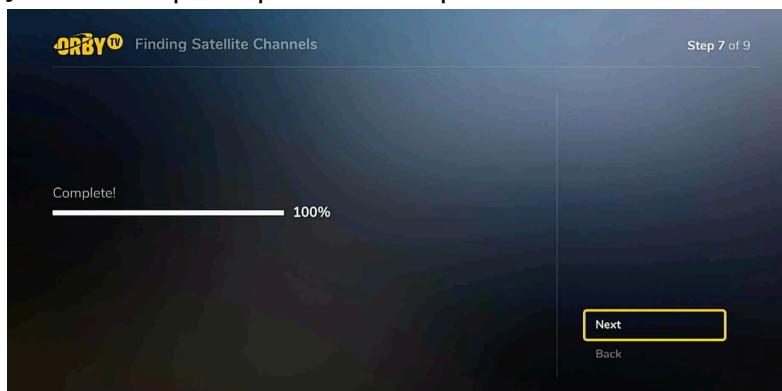


- When the satellite is found, turn the dish assembly back and forth very slightly until the signal strength bar displays the maximum possible signal strength. Tighten the canister clamp bolts. Then, loosen the elevation bolts and adjust the elevation of the dish up and down slightly until the signal strength bar displays a maximum signal. Do not adjust the skew setting! Tighten all the bolts on the dish assembly so that the dish cannot be moved.
- When the strongest possible signal is found press next to proceed to the next step of the installation process.

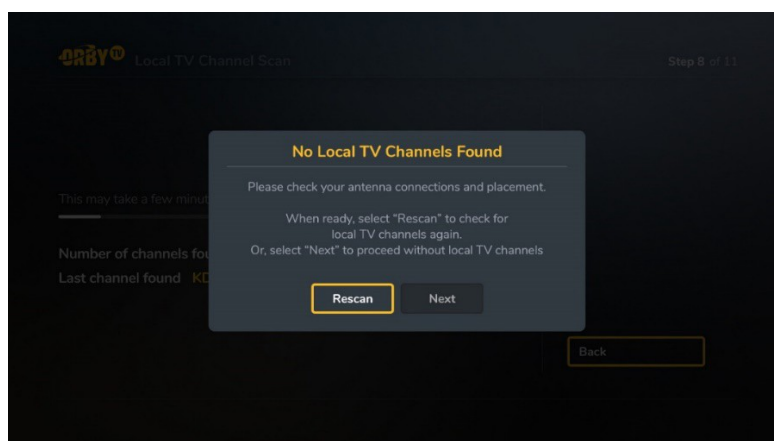
Note: Make each of these adjustments individually, loosening the respective bolts before each movement. Very small adjustments (less than one degree) are required at this point.

Part 12: Set up the Orby TV Receivers or DVRs (continued)

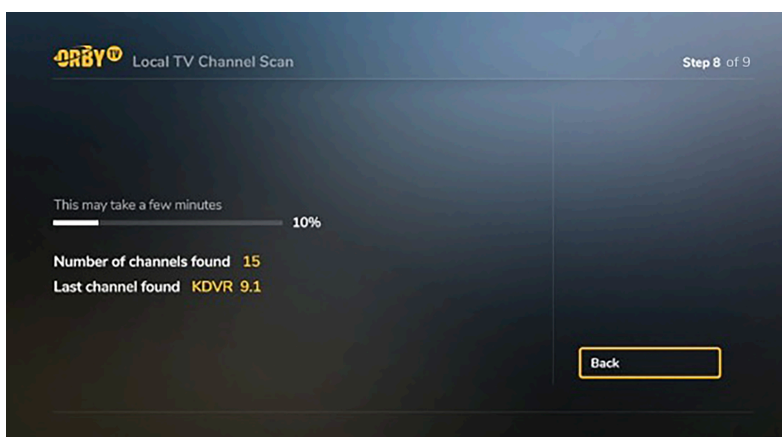
The Orby TV receiver will scan for satellite channels and store them in the Orby TV receiver memory. Once complete, press next to proceed.



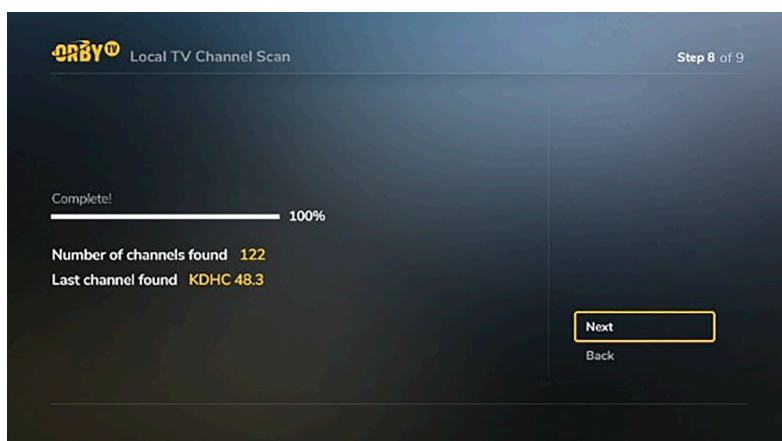
Next, the Orby TV receiver will scan for local TV channels and store them in the Orby TV receiver memory. Once complete, press next to proceed.



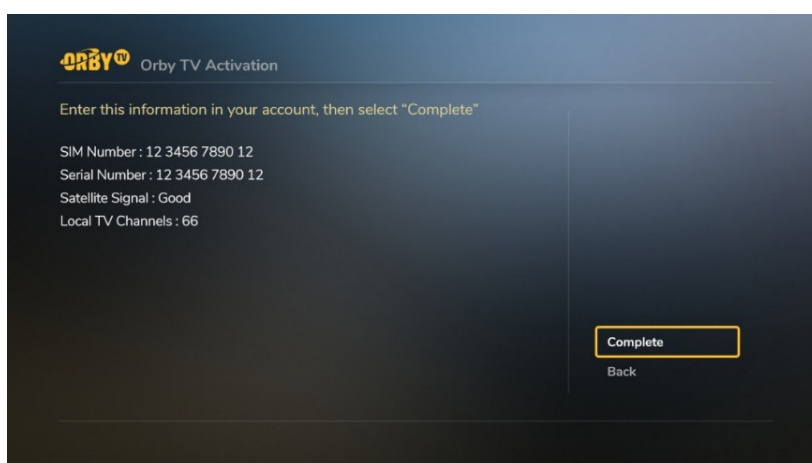
- If the terrestrial signal cannot be found, loosen the bolts securing the terrestrial antenna to the antenna pole and turn the antenna assembly slowly in one direction by a few degrees. Check again to see if local channels have been found. Repeat these steps until the local TV channel scan starts. If the expected number of local TV channels are not seen following the scan, press back and repeat the process making small changes to the pointing direction of the antenna.



Part 12: Set up the Orby TV Receivers or DVRs (continued)



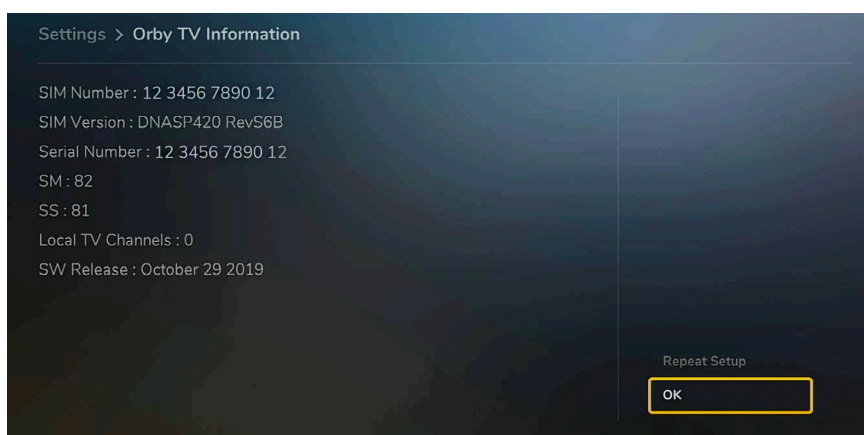
Once you find the local TV signal, scan for local TV channels. Then, follow the instructions to activate the Orby TV service. The fastest way to activate your Orby TV service is online. Go to OrbyTV.com and click My Account.



Click Complete. The unit will restart, and then the Software Update screen will appear. The software update takes 5 to 10 minutes. Then the unit will restart again and will be on channel 101 (TNT).

Once service is activated, you should be able to see both local channels and satellite channels. Test a few of each to make sure that the system is working properly.

Part 12: Set up the Orby TV Receivers or DVRs (continued)



Using the remote control and on-screen menu, navigate to the Orby TV information page (Menu>Settings>Orby TV Information) and check SM and SS. Typical readings of SM should be 75+. If below 75, additional peaking of dish is required to assure optimum satellite reception.

Choose a monthly programming package in your account and get ready to enjoy!

Optional: Program the Orby TV remote control

You can program the Orby TV remote to turn your TV on/off, change TV inputs, and to adjust the TV volume.

For instructions, press menu on your remote, then go to Settings/ Advanced Settings/ Setup Remote Control.

Choose the code for your TV, and the Orby TV remote will learn your TV control settings.

Welcome to Orby TV!

Troubleshooting Tips

Can't find satellite signal

- Satellite dish might not be aligned properly. Go to [Part 7: Point the Dish](#) in this guide to review the dish pointing steps.
- Satellite dish mount and/or mast may not be plumb. Go to [Part 5: Install the Dish Mount](#) in this guide to review levelling steps.
- Make sure all cable connections are correct and each connection is seated/tightened properly.
- Inspect the inside of each cable connector for dirt or possible connector to case/shield short.
- RG 6 coaxial cable must be used. Standard RG 59 cable causes too much DC drop and signal drop; it cannot be used to pass the satellite signal.

No local TV channels

- The antenna may not be aligned properly. Go to [Part 7: Point the Dish](#) to review the antenna pointing steps.
- The diplexer may not be installed correctly. Make sure the SAT port on the diplexer is connected to the satellite dish and the TV port (can also be named UHF/VHF or ANT) is connected to the OTA antenna. The cable from the IN/OUT port must go directly to the receiver or to an Orby TV-approved all port power passing splitter in line (when applicable for multi-room viewing). A second diplexer is not necessary as your Orby TV receiver has one built in.

Intermittent signal on satellite channels (message 900)

- The satellite dish may not be pointed optimally. Use the Orby TV remote to go to the settings/Orby TV information screen to check the SS and SM readings. SM (signal margin) should be stable and over 80.
- There may be a line of sight issue with your satellite dish. Go to [Part 5: Install the Dish Mount](#) in this guide to review the dish installation steps.
- The satellite dish may not be installed on a flat surface. Make sure that the satellite dish mounting bracket is installed securely on a flat surface and can't be moved. Ensure that the dish and antenna are in a location where they can't be bumped out of alignment by people, tree branches, or other objects.
- Ensure no unapproved splitters are being used and double check the run of the cable from LNB to the Orby TV receiver.

One receiver or DVR is working, other receivers or DVRs in the home aren't working

- Ensure that the splitter to additional receivers is an Orby TV-approved splitter. Splitters such as DIRECTV SWiM, Dish Network Solo and Duo Nodes, or any cable service utilized component will NOT work with Orby TV.
- Go to EXTRA: Multi-Room Installations in this guide to see the list of Orby TV-approved splitters.