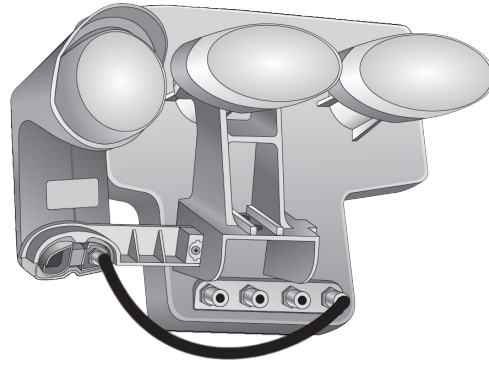


DISH Pro Plus 500 + LNBF



Features

- DPP 500+ LNBF is used with the original DISH 500+ antenna to receive 110°W, 118.7°W, and 119°W.
- Three receiver output ports support direct connection to either three single-tuner receivers or three DISH Pro Plus (dual-tuner) receivers (when used with a DPP Separator), or a combination of these receivers.
- Includes an LNB In port to connect a fourth orbital location.
- Default output ports of the DPP 500+ LNBF are 119°W on Port 1, 110°W on Port 2, and 118.7°W on Port 3.
- Upgrade the DPP 500+ LNBF to a DPP 1000+ LNBF assembly by attaching the bracket for 129°W (included in the kit) and a DP Dual or DP Single LNBF (not included).
- DPP 500+ LNBF is backwards compatible with the original DISH 500+ LNBF mounting bracket. If desired, the new DPP 500+ LNBF can be mounted on the old bracket once the FSS/DBS Dual Band LNBF and DP Dual LNBF are removed.

DISH Pro Plus 500 + LNBF

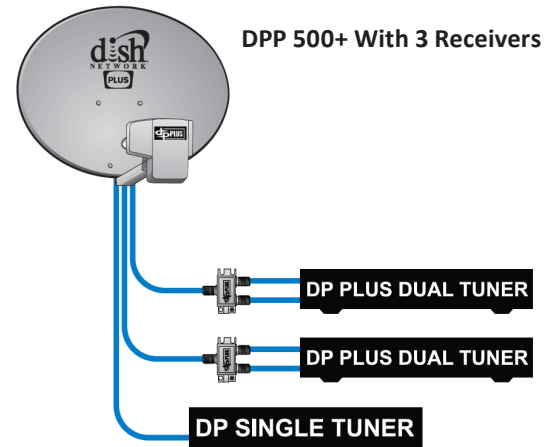
1-8a

DISH Pro Plus 500 + LNBF

1-8b

Installation Considerations

- The peaking angles used for pointing a DISH 1000+ are slightly different than the DISH 500+. Use the correct angles from the Installation Instructions.
- Peak on 118.7°W (Port 3) using a meter. Run a check switch, and then verify the signal on 110°W, 119°W, and 118.7°W (and 129°W for DISH 1000+) within the receiver's Point Dish screen. A software download and second check switch may be required to see all of the orbital locations.
- If your peaking meter does not output at least 600 mA of current, connect a receiver to 110°W (Port 2) of the LNBF to power the LNBF while peaking.
- A separate DP Dual LNBF is used for the 129°W orbital location; the DPP 500+ kit includes the LNBF mounting bracket.
- The only switch compatible with the DPP 500+ LNBF is the DPP44 Switch. The LNBF's LNB In port is disabled when connected to the switch.
- The DPP 500+ can be used for up to three receivers; for more than three receivers, use a DPP44 Switch.

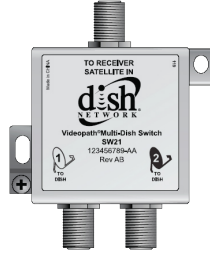


Legacy Switches

Just like an LNBF, alternates the polarity in a Legacy installation, combines and switches signal from multiple satellite locations.

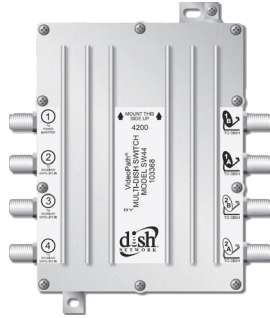
SW21 Switch

- Supports up to 2 orbital locations
- 1 tuner output
- 2 LNBFs inputs
- Can also be used to cascade a twin and dual LNBF for three orbital locations.



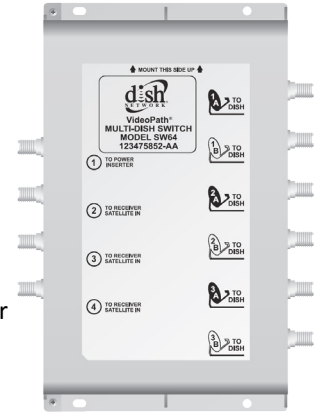
SW44 Switch

- Supports up to 2 orbital locations
- 2 even LNBF inputs
- 2 odd LNBF inputs
- 4 tuner outputs
- A power inserter must be connected to output to receiver port 1
- Only the dual and quad LNBFs can be connected to SW44 and SW64 switches



SW64 Switch

- Supports up to 3 orbital locations
- 3 even LNBF inputs
- 3 odd LNBF inputs
- 4 tuner outputs
- A power inserter must be connected to output to receiver port 1, labeled To Power Inserter



Power Inserter

- Must be installed for SW44 and SW64 switches, by connecting the cable in the tuner output labeled 1
- These switches need the power from the power inserter because of their large power requirements
- Only install the power inserter indoors

Legacy Technology

1-14c

Legacy Technology

1-14d

	Orbital Locations	Tuner Outputs
Single	1	1
Dual	1	2
Twin	2 (110° and 119°)	2
Quad	2 (110° and 119°)	4
SW21	2	1
SW44	Up to 2	4, needs power inserter
SW64	Up to 3	4, needs power inserter

Confirm Signal

1. Connect the receiver cable(s) to the DPP 1000.4 LNBF PORT 1 (and PORT 2 and PORT 3, as necessary) and receiver.
2. Run Check Switch test and confirm 61.5°W, 72.7°W, and 77°W reception.
3. Take a software download, if you haven't already.
4. Run a second Check Switch test and confirm 61.5°W, 72.7°W, and 77°W reception.
5. Install additional receiver(s), if necessary.
6. If applicable, connect a second satellite dish to the DPP 1000.4 LNBF's LNB IN port.

Legacy Technology

- Legacy technology was the first generation technology used by DISH Network, but is no longer installed.
- You will come across Legacy components in the field
- You need to know how to recognize, install upgrades, and troubleshoot the customer's issues
- It is recognized by the old DISH Network logo

Legacy technology is based on transponders and polarity.

- Transponders are the part of the satellite that sends a signal to earth using a specific frequency range
- Polarity is the direction of the signal in either a left-hand circular or right-hand circular direction
 - o Even numbers transponders use: left-hand polarity
 - o Odd numbered transponders use: right-hand polarity

Polarity allows us to broadcast twice the number of channels in a specific frequency range.

- In Legacy installations, the switch or LNBf alternates the two polarities allowing us to reuse the same frequency
- Uses the 950-1450 frequency range and one polarity at a time, without a switch
- If only one coax cable per satellite location is used, such as with an SW21 switch, the LNBf must switch polarities
- If only one polarity is available at a time, the SW21 can support only one set top box

Legacy Technology

1-34a

Legacy Technology

1-14b

Legacy LNBf

Single LNBf

- 1 orbital location
- 1 output
- Directly connects to 1 solo receiver
- Usually used alone with a DISH 300 (single orbital location dish antenna)



Dual LNBf

- 1 orbital location
- 2 outputs
- Directly connects up to 2 solo receivers or 1 duo receiver
- Can be used to see only 1 orbital location and for direct connections of up to 2 receivers
- Two dual LNBfs are used in conjunction with a multi-dish switch to view multiple orbital locations



Twin LNBf

- 2 orbital locations, 110° and 119°
- 2 outputs
- Directly connects up to 2 solo receivers or 1 duo receiver
- Used only with a DISH 500
- Has internal switch, and therefore cannot be used with any other switch except an SW21, to receive signals from three orbital locations when used with a second dish



Quad LNBf

- 2 orbital locations (110° and 119°)
- 4 outputs
- Directly connects up to 4 solo receivers or 2 duo receivers or 2 solo and 1 duo receiver



Orbital Location by Dish Antenna

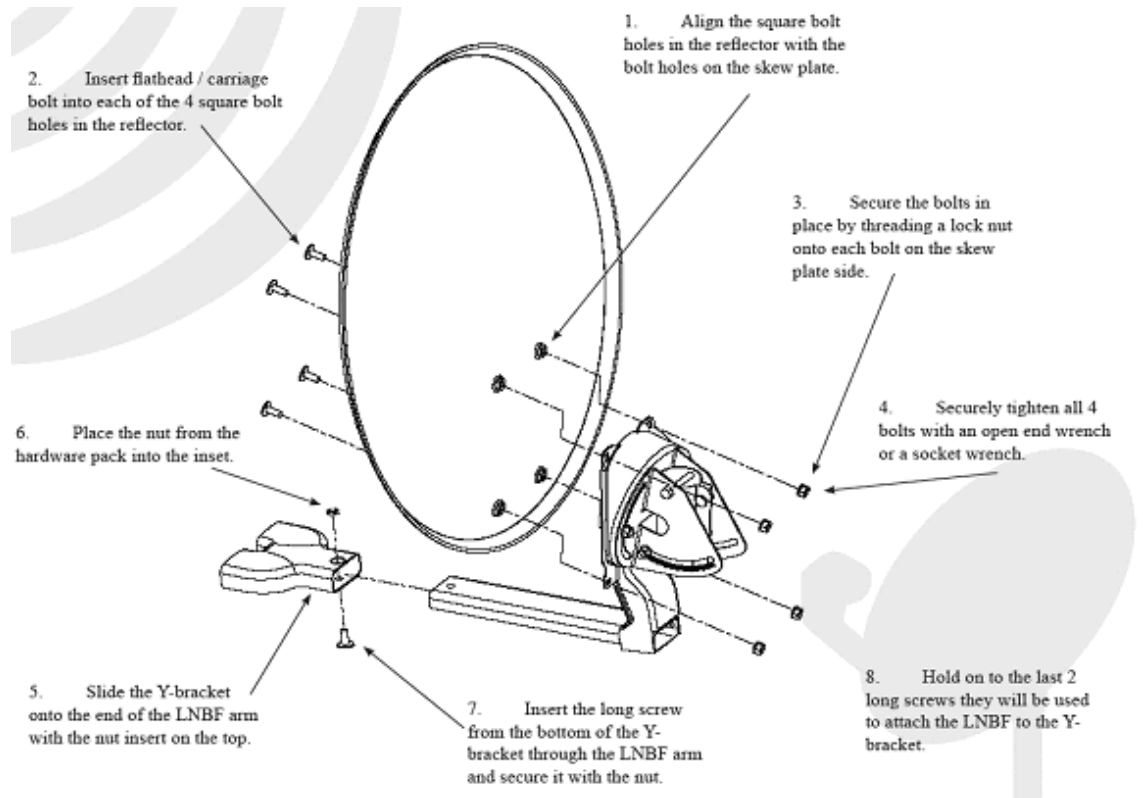
Choose the correct dish antenna based on orbital locations needed.

	DBS						FSS		
	61.5	72.7	77	110	119	129	105	118.7	121
DISH 500*				X	X				
DISH 1000				X	X	X			
DISH 500+				X	X			X	
DISH 1000+				X	X	X		X	
DISH 1000.2				X	X	X			
DISH 1000.4 (WA)				X	X	X			
DISH 1000.4 (EA)	X	X	X						
DISH 500AK (Alaska)					X	X			
DISH 500HW (Hawaii West)					X	X			
DISH 500 HE/PR (Hawaii East, Puerto Rico, U.S. Virgin Islands)				X	X				

*The DISH 500 is also used as a single orbital dish or wing dish and can be pointed to any one DBS satellite. See these options on page 2-2.

DISH 500

Antenna Assembly



DISH 500 - Assembly, Pointing, and Peaking

2-2a

DISH 500 - Assembly, Pointing, and Peaking

2-2b

Assembly Instructions

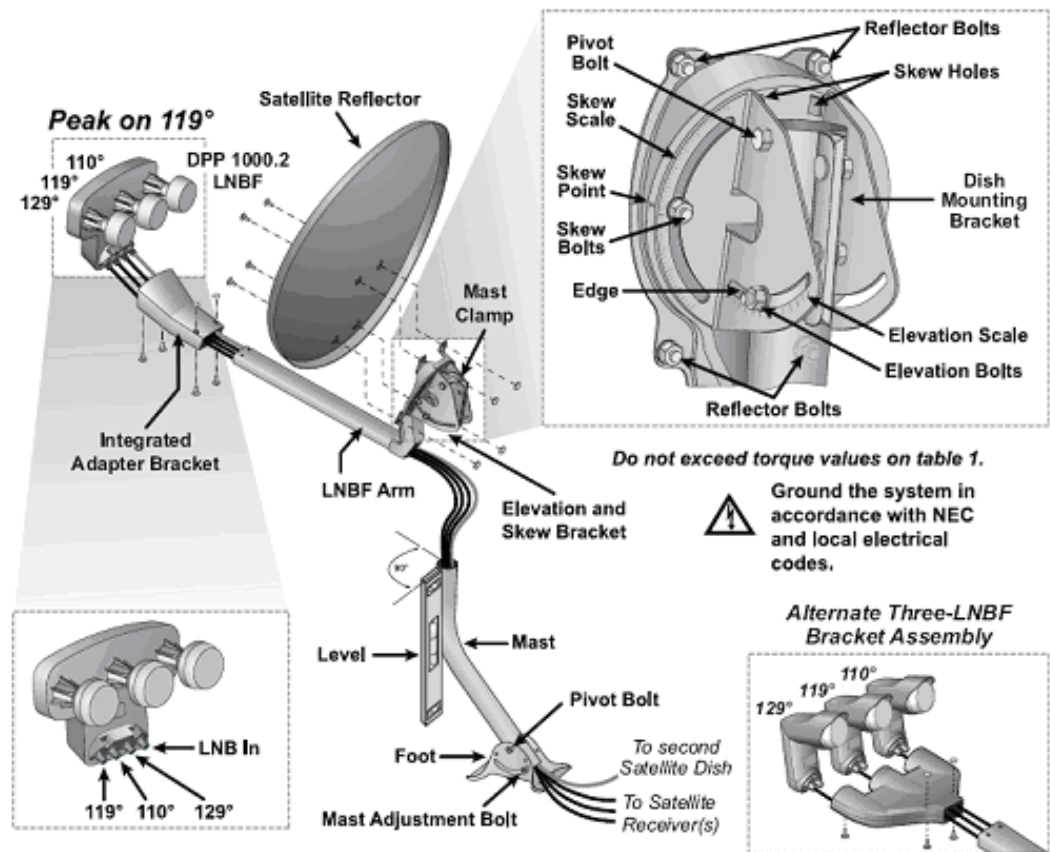
1. Align the square bolt holes in the reflector with the bolt holes on the skew plate.
2. Insert flat head/carriage bolt into each of the 4 square bolt holes in the reflector.
3. Secure the bolts in place by threading a lock nut onto each bolt on the skew plate side.
4. Securely tighten all 4 bolts with an open end wrench or a socket wrench.
5. Slide the Y-bracket onto the end of the LNB arm with the nut insert on the top.
6. Place the nut from the hardware pack into the inset.
7. Insert the long screw from the bottom of the Y-bracket through the LNB arm and secure it with the nut.
8. Hold on to the last 2 long screws they will be used to attach the LNB to the Y-bracket.

Pointing and Peaking

1. Enter the correct equipment information.
2. Enter the ZIP Code.
3. Set the Skew and Elevation.
4. Connect an RG-6 coaxial cable jumper between the Super Buddy, satellite meter and the switch or LNB.
5. Power the LNB.
6. Point the dish.
7. Peak the dish using Limit Scan
8. Obtain a maximized and locked signal on the verified correct satellite locations.
9. Complete a Proof of Performance Scan and save the results.

DISH 1000.2

Antenna Assembly



DISH 1000.2 Assembly, Pointing, and Peaking

2-6a

DISH 1000.2 Assembly, Pointing, and Peaking

2-6b

Assembly Instructions

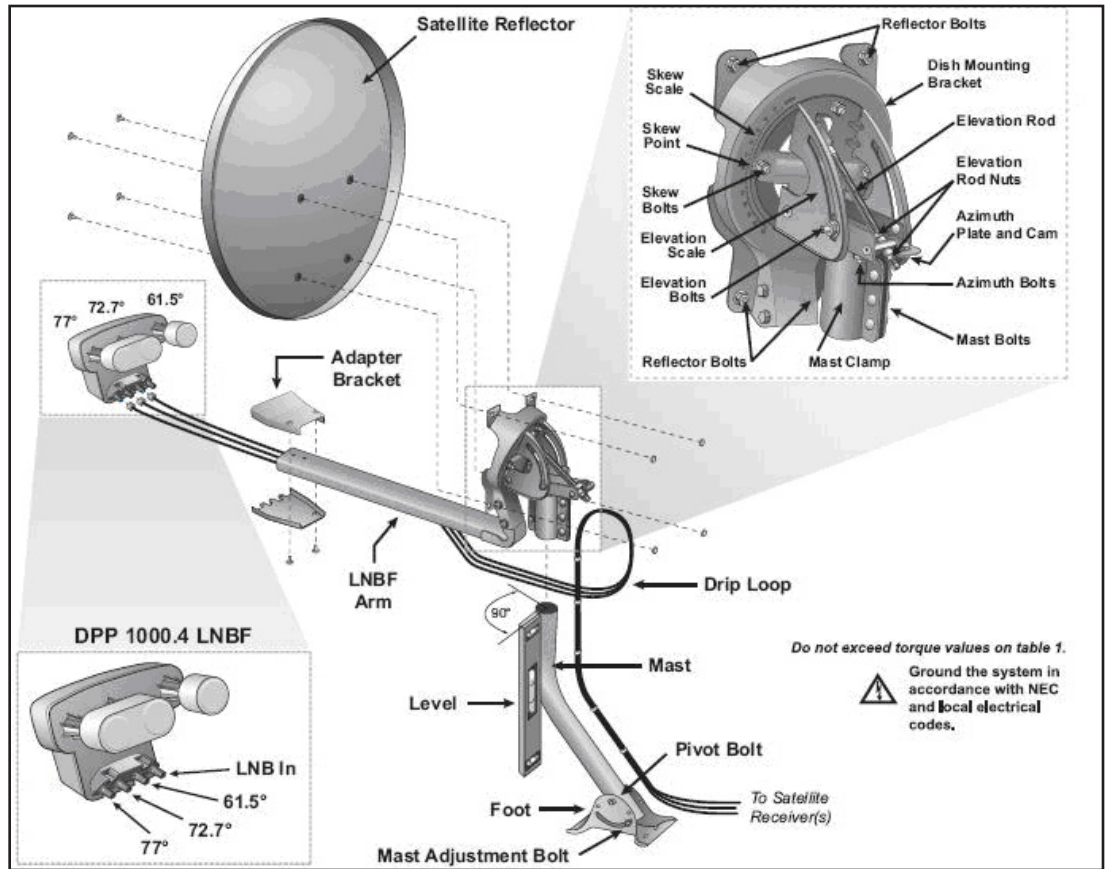
1. Align the square bolt holes in the reflector with the bolt holes on the skew plate.
2. Insert flat head/carriage bolt into each of the square bolt holes in the reflector.
3. Secure the bolts in place by threading a lock nut onto each bolt on the skew plate side.
4. Securely tighten all 4 bolts with an open end wrench or a socket wrench.
5. Split the LNB bracket into the top and bottom halves.
6. Reconnect the LNB bracket onto the end of the LNB arm with the round tabs into the guide holes on either side of the arm with the raised text on the top.
7. Place the nuts from the hardware pack into the inserts.
8. Insert the medium length screws from the bottom of the LNB bracket and secure them with the nuts.
9. Hold on to the 3 long screws they will be used to attach the LNB to the LNB bracket.

Pointing and Peaking

1. Enter the correct equipment information.
2. Enter the ZIP Code.
3. Set the Skew and Elevation.
4. Connect an RG-6 coaxial cable jumper between the Super Buddy, satellite meter and the switch or LNB.
5. Power the LNB.
6. Point the dish.
7. Peak the dish using Limit Scan
8. Obtain a maximized and locked signal on the verified correct satellite locations.
9. Complete a Proof of Performance Scan and save the results.

1000.4 Dish

Antenna Assembly



1000.4 Dish - Assembly, Pointing, and Peaking

2-8a

1000.4 Dish - Assembly, Pointing, and Peaking

2-8b

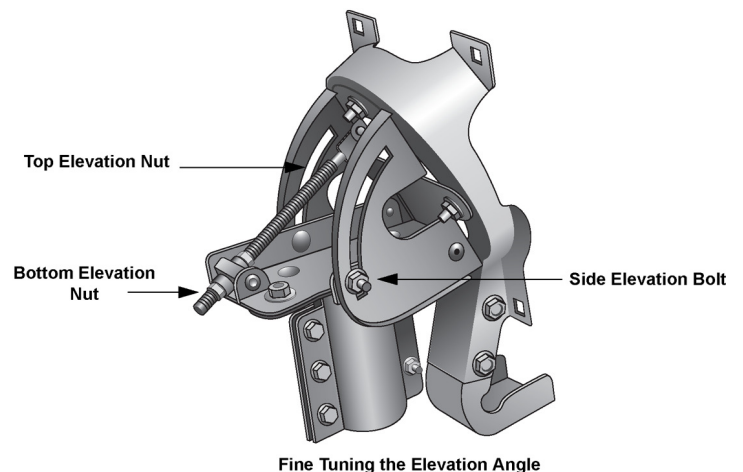
Assembly Instructions

1. Find Azimuth/Elevation/Skew angles for your location.
2. Find a location for the dish antenna with a clear line of sight and a sturdy mounting surface.
3. Mount the mast, making sure it is absolutely vertical. Attach struts to the mast, using the strut instructions.
4. Assemble the dish antenna, setting the skew and elevation angles in the process.
5. Mount the dish antenna on the mast and point the dish to the azimuth angle.
6. Run cables between the dish antenna and the receiver(s), leaving a service loop around the dish mounting bracket and attaching cables to the mast using zip ties.

Point and Peak Instructions

Rough Point and Peak

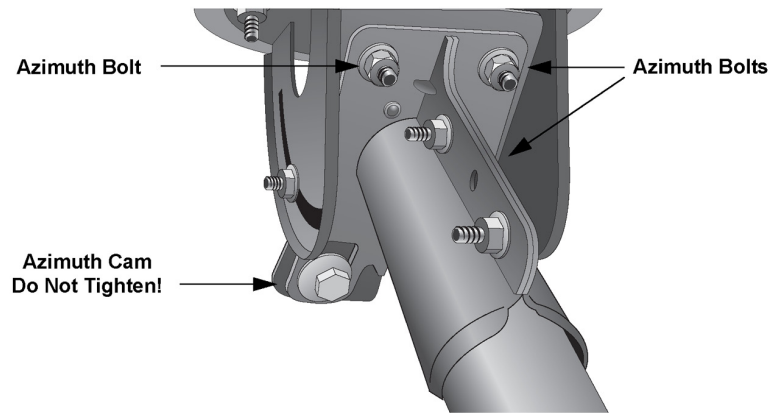
1. Using a peaking meter attached to the DPP 1000.4 LNB PORT 2, rough peak the dish on 72.7°W using transponder 13, 19, or 21 for maximum strength. Lock the mast clamp bolts and re-confirm signal.



Fine Tuning the Elevation Angle

Fine-Tuning Elevation and Azimuth

- Using the elevation rod, fine-tune the elevation angle to achieve maximum signal using the following sweep and count method.
 - Using a 1/2" wrench, loosen the top elevation nut to allow the dish to be moved up and down in elevation.
 - Turn the bottom nut in one direction until the signal drops off the meter.
 - Reverse the direction of the wrench while counting the number of turns it takes to have the signal drop off in the opposite direction.
 - Turn the adjuster back once again in the opposite direction by one-half the total number of turns to center the dish on the signal beam.
- Tighten the top elevation rod nut, and then tighten the side elevation bolts. Reconfirm signal using the push pull method after tightening all elevation bolts.
- With the signal meter still connected, using the azimuth fine-tune cam, fine-tune the azimuth angle to achieve maximum signal using the following method.
 - First, loosen the three azimuth plate bolts labeled with a 'T' just enough to allow the two azimuth plates to rotate.
 - Using the 1/2" wrench slowly turn the cam adjuster clockwise.
 - Watch the signal meter for value changes.



Fine Tuning the Azimuth Angle

1000.4 Dish - Assembly, Pointing, and Peaking

2-8c

1000.4 Dish - Assembly, Pointing, and Peaking

2-8d

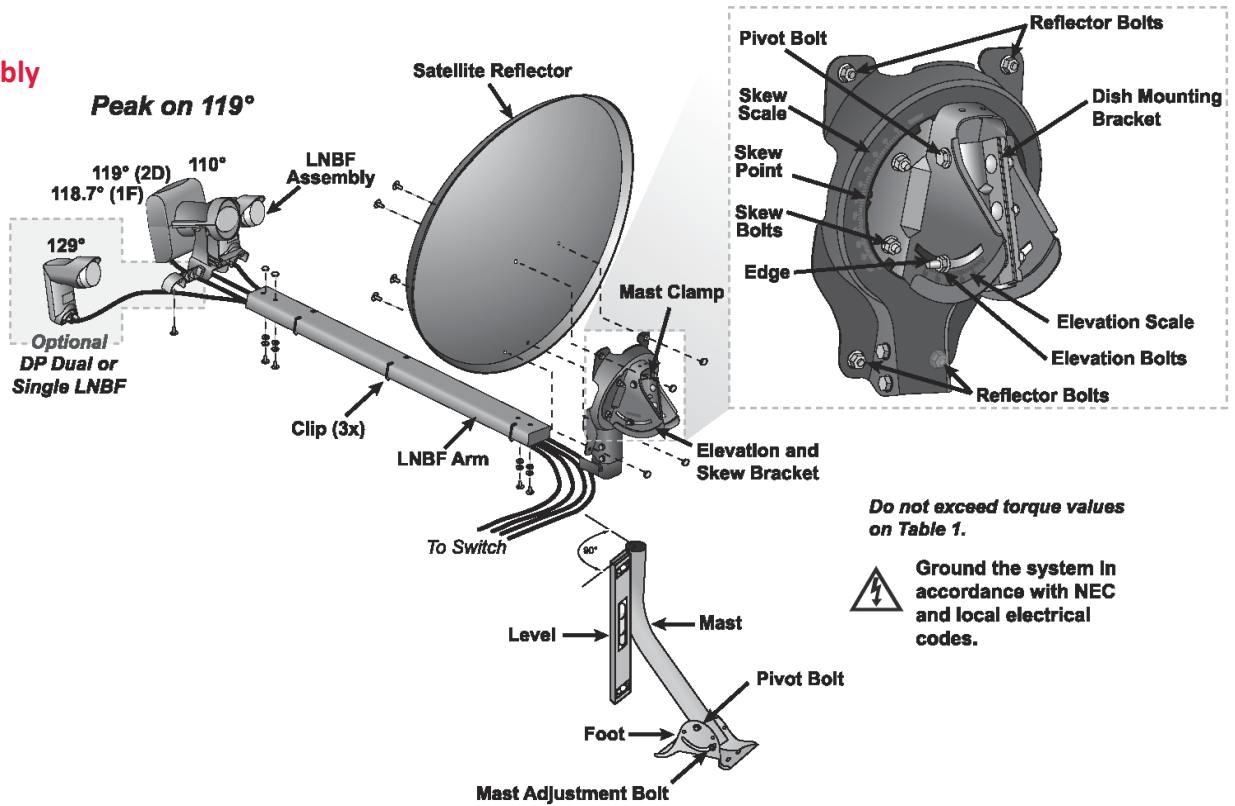
- Rotate the cam clockwise until the highest possible signal is reached, repeat rotations if necessary.
 - IMPORTANT: Do not tighten the azimuth fine-tune cam.
- Tighten the three azimuth plate bolts labeled with a 'T' and reconfirm signal using the push pull method.

Complete Assembly

- Connect the receiver cable(s) to the DPP 1000.4 LNB PORT 1 (and PORT 2 and PORT 3, as necessary).
- Run Check Switch test and confirm 61.5°W, 72.7°W, and 77°W reception.
- Take a software download, if you didn't already.
- Run a second Check Switch test and confirm 61.5°W, 72.7°W, and 77°W reception.
- Install additional receiver(s), if necessary.
- If applicable, connect a second satellite dish to the DPP 1000.4 LNB's LNB IN port.

DISH 500+/1000+

Antenna Assembly



Dish 500+/1000+ Assembly, Pointing, and Peaking

2-10a

Dish 500+/1000+ Assembly, Pointing, and Peaking

2-10b

Assembly Instructions

1. Add the skew plate and LNBF arm to the reflector.
2. Place the four skew bolts and tighten them.
3. Add the bracket to the end of the LNBF arm.
4. Place the bracket screw and tighten it.
5. Add the LNB to the end of the bracket.
6. Connect the coaxial cable to port 1 of the LNB.
7. Place the LNB screw and tighten it
8. Adjust the skew angle
9. Adjust the elevation angle

Pointing and Peaking

1. Enter the correct equipment information.
2. Enter the ZIP Code.
3. Set the Skew and Elevation.
4. Connect an RG-6 coaxial cable jumper between the Super Buddy, satellite meter and the switch or LNB.
5. Power the LNB.
6. Point the dish.
7. Peak the dish using Limit Scan
8. Obtain a maximized and locked signal on the verified correct satellite locations.
9. Complete a Proof of Performance Scan and save the results.

Site Survey

Customer Meet and Greet

Did You...	Yes/No	Comments
Check direction house faces in relation to southern satellite signal	Y ___ N ___	
Check for an installed antenna that you can see from the street	Y ___ N ___	
Check for obstructions on the property to the Southern sky	Y ___ N ___	
Have the work order with you	Y ___ N ___	
Have the Site survey with you	Y ___ N ___	
Introduce yourselves	Y ___ N ___	
Identify they are with DISH Network	Y ___ N ___	
Explain why they were there	Y ___ N ___	
Ask if the customer is home owner	Y ___ N ___	
Identify the installation job they were there to perform	Y ___ N ___	
Confirm the programming the customer had ordered	Y ___ N ___	
Verify the equipment they had ordered	Y ___ N ___	
Discuss receiver locations with customer	Y ___ N ___	

Site Survey

5-2a

Site Survey

5-2b

Interior Site Survey Checklist

Interior: Did You...	Yes/No	Comments
Check the receiver locations	Y ___ N ___	
Check the receiver model numbers	Y ___ N ___	
Determine usable existing interior cable	Y ___ N ___	
Plan for cable routing	Y ___ N ___	
Check for phone line or Cat-5 Ethernet per receiver	Y ___ N ___	
Check for electrical outlet for each receiver	Y ___ N ___	
Determine no plumbing, HVAC or wiring interference	Y ___ N ___	
Determine if customer has any existing TV services that need to be maintained or integrated	Y ___ N ___	
Determine need for drilling or possible damage to the customer home	Y ___ N ___	
Check for safety concerns	Y ___ N ___	
List items to discuss with customer	Y ___ N ___	

Site Survey

Exterior Site Survey

Exterior: Did You...	Yes/No	Comments
Check if existing exterior cables usable	Y ___ N ___	
Check for grounding location	Y ___ N ___	
Determine mounting options	Y ___ N ___	
Check for Line of Sight	Y ___ N ___	
Check for safety concerns	Y ___ N ___	
Check for accessibility	Y ___ N ___	
Consider aesthetics	Y ___ N ___	
Consider customer preferences	Y ___ N ___	
Develop two mounting locations if possible	Y ___ N ___	
Determine what antenna and mount type to use	Y ___ N ___	
Determine if switch is needed	Y ___ N ___	
Record all concerns on your Installation Plan at the bottom under, Items to Discuss with Customer	Y ___ N ___	

Site Survey

5-2c

Site Survey

5-2d

Installation Plan Presentation to Customer Checklist

Did You...	Yes/No	Comments
Display customer service skills	Y ___ N ___	
Explain two possible installation locations	Y ___ N ___	
Explain location of cable runs	Y ___ N ___	
Explain why these locations are required	Y ___ N ___	
Explain concerns about customer maintaining antenna	Y ___ N ___	
Address concerns about aesthetics	Y ___ N ___	
<p>Time Saving Tip: While conducting your site survey, utilize the site survey form, and take detailed notes specifically on what items you'll need to complete the install. For example, how many bushings, wall plates, barrels, connector, type, and quantity of cable fasteners. Note any "specialty items" needed. Once back at the van use these notes as a "job inventory" sheet. Knowing exactly what you'll need for the entire job and stocking yourself accordingly can save you from making multiple trips to back to the van - saving time.</p>		
<p>Time Saving Tip: Make sure that the customer agrees to all parts of your installation plan before you bring out any equipment, cabling, tools, and start mounting the antenna. This will save you time moving or re-routing cable if the customer does not like where the antenna is mounted or how the cables run.</p>		

Direct to Wall

1. Locate the stud using the approved stud finder
 - Locate the center of the stud
 - Do not mount the dish near the edge of the stud
2. Position and hold the footplate so it is centered on a stud
 - Use a level to ensure the footplate is vertical
 - With a pencil, mark all six holes of the footplate to pilot-drill
 - Mark the four outermost round corner holes
 - Mark the two center holes
3. Remove the footplate and pilot-drill the holes
 - Use the 7/32" drill bit in the cordless hammer drill
 - Drill the center holes to a 2 1/2" depth
 - Drill the corner holes to a 1 1/2" depth
4. Fill each pilot-drilled hole approximately 3/4 of the way full with silicone sealant
5. Place the footplate back on the wall

Mounting Options

6-2a

Mounting Options

6-2b

Brick, Cinderblock, and Concrete

1. Place the footplate against the wall in the desired location
 - Do not place more than two holes per block/brick
 - If the wall is brick, place the footplate as close to the center of bricks as possible
2. Using the torpedo level, vertically level the footplate
3. Using a marker or pencil, mark the four outermost round corner holes
4. Remove the footplate
5. Drill the marked holes
 - Use cordless drill; set to hammer drill and high-speed selections
 - Use 1/2-inch masonry bit
 - Drill holes to a 3-inch depth
6. Hammer a lag shield into each hole until it is flush with the surface
 - A lag shield is used under the foot /mast assembly to seal and protect the mounting holes
 - An expansion anchor shield used with lag screws

Version 3.1

6. Insert the 1/2" nut driver into the cordless drill
 - Select the drill icon and set to slow speed
 7. Tighten the lag screws to secure the footplate to the wall
 8. Use 3" x 5/16" lag screws for the center holes
 9. Use 2" x 5/16" lag screws for the corner holes
- Remember the center lag screws must be in the stud.
10. Do the final tightening of the footplate screws with a wrench or ratchet and tighten until they are snug against the footplate
 11. Attach and plumb the mast to the footplate



- A metal shield guide used when drilling into masonry surface
7. Completely fill the holes with clear silicone
8. Place the footplate against the wall; align the four corners to the holes
9. Mount the footplate
 - Use a 1/2-inch socket and ratchet
 - Use 2-inch x 5/16-inch lag screws
 - Tighten the lag screws slowly
10. Plumb the mast
 - Level the mast from at least two sides
11. Install support struts on dish antennas DISH 500+ and larger
 - Install the struts after mount installation is complete
 - Where should you not mount the strut? Do not mount on or around the mortar



2/28/2011

Mount: Telescoping Wall

1. Using a stud finder, locate a stud
2. Place the mounting base at the desired location
 - Define where the base plate on the mounting insert should be mounted, high or low
 - High mounted base plate
 - The base plate is mounted high if the mounting holes closest to the insert post face down
 - Low mounted base plate
 - The base plate is mounted low if the mounting holes closest to the insert post face up
3. Level the mounting base
4. Mark the base with marker or pencil
5. Remove the mounting base
6. Pre-drill the marked holes
7. Fill holes $\frac{3}{4}$ full with silicone
8. Mount the mounting base
9. Install the mounting insert

Mounting Options

6-4a

Mounting Options

6-4b

Mount: VERSATILE™

1. Place the base plate in the desired location
 - Locate along the roof eave, accessible from a ladder
 - Affixed on tiles located two or more rows from the roof eave, having an unencumbered roof tile surface area of at least sixteen square feet
 - NEVER affix the VERSATILE Mount on any existing cracked, broken, or cut tiles, or on tiles located within three (3) feet of metal flashing, or along hips, ridges, or valleys of the roof body
2. Install the support tongues
 - Gently lift the tiles in the row above the area you selected for the Base Plate, and slide a Support Tongue under them until the Support Tongue's back hook reaches the back edge of the tile below it
 - Lower the Support Tongue then pull it back towards you until the hook has seated itself to the tile below
 - Repeat with other supplied Support Tongues
3. Install the base plate
 - Place Base Plate so its center is above the joint of the two tiles below it

Version 3.1

10. Mount the footplate to the base plate on the mounting insert using the included hardware
 - Be sure to secure the footplate snugly against the wall surface so the installation remains safe and secure
 - Plumb the mast/footplate
 - Tighten the mast/footplate set screws on the mounting base



- Slightly lift the tiles below the Base Plate and slide its hooks under the tile
 - Install the stiffener bars and fasten together
 - Place Stiffener Bar on top of Support Tongues
 - The center of each Stiffener Bar should be above the joint of the two tiles below it.
 - Line up the pre-drilled holes in the Stiffener Bar and Support Tongue
 - Insert supplied hardware into holes of Base Plate, Support Tongues, and Stiffener Bars
 - Tighten with a wrench until the mounting assembly is level and clamped firmly in place
4. Attach the footplate to the VERSATILE Mount



2/28/2011

Mount: Soffit

1. Locate a rafter stud
2. Place soffit mounting base away from house
 - Face front of soffit mounting base away from house
 - Touch front of soffit mounting base to edge of fascia board
 - Center front of soffit mounting base over stud
 - Center back of soffit mounting base over stud.
3. Mount the soffit mounting base.
 - Place and halfway tighten one #10 3-inch wood screw in rear center hole.
 - Place and halfway tighten the one #10 3-inch wood screw in each of four angled holes of soffit mounting base
 - Tighten front screws
 - Tighten back screws
4. Using included bolts, washers, and nuts, attach footplate to base plate on mounting insert
5. Attach footplate to mounting insert
6. Install mounting insert

- Slide mounting insert with attached dish mast into soffit mounting base until desired depth is achieved
- Vertically level dish mast
- Tighten both mast screws on soffit mounting base



Mounting Options

6-6a

Mounting Options

6-6b

Mount: Under Eave

1. 1. Locate a rafter stud
2. 2. Place soffit mounting base away from house
 - • Face front of soffit mounting base away from house
 - • Touch front of soffit mounting base to edge of fascia board
 - • Center front of soffit mounting base over stud
 - • Center back of soffit mounting base over stud.
3. 3. Mount the soffit mounting base.
 - • Place and halfway tighten one #10 3-inch wood screw in rear center hole.
 - • Place and halfway tighten the one #10 3-inch wood screw in each of four angled holes of soffit mounting base
 - • Tighten front screws
 - • Tighten back screws
4. 4. Using included bolts, washers, and nuts, attach footplate to base plate on mounting insert
5. 5. Attach footplate to mounting insert

6. Install mounting insert
 - Slide mounting insert with attached dish mast into soffit mounting base until desired depth is achieved
 - Vertically level dish mast
 - Tighten both mast screws on soffit mounting base



Mount: Eave/Gable Fascia

Eave Fascia Installation Instructions

1. Locate the end of the roof rafter behind the fascia board and mark the centerline of the roof rafter on it
2. Position the mounting plate on the fascia board just below the roof flashing

IMPORTANT: The flat side of the fascia mount must be against the fascia board

- The center holes in the mount plate must be placed over the centerline of the roof rafter previously marked
3. Place a level on the side of the mounting plate, level and mark the top two corner holes and top three center holes over the rafter end

Note: Depending upon the width of the fascia board, the bottom center hole may not be used to attach the plate to the structure

4. Drill a pilot hole on each of the marked mounting holes using a 7/32" drill bit for the 5/16" X 3" lag screws supplied
5. Using the machine bolts, washers, and nuts supplied, attach the dish foot plate to the Fascia Mounting Plate using the two lower corner holes and the bottom center hole if it is not used to attach the plate to the fascia

Mounting Options

6-8a

Mounting Options

6-8b

Gable Fascia Installation Instructions

1. Position the mounting plate on the fascia board just below the roof flashing

IMPORTANT: The flat side of the fascia mount must be against the fascia board.

2. Place a level on the side or across the bottom edge of the mounting plate, level, and mark the top two corner holes and top three center holes on the fascia board.

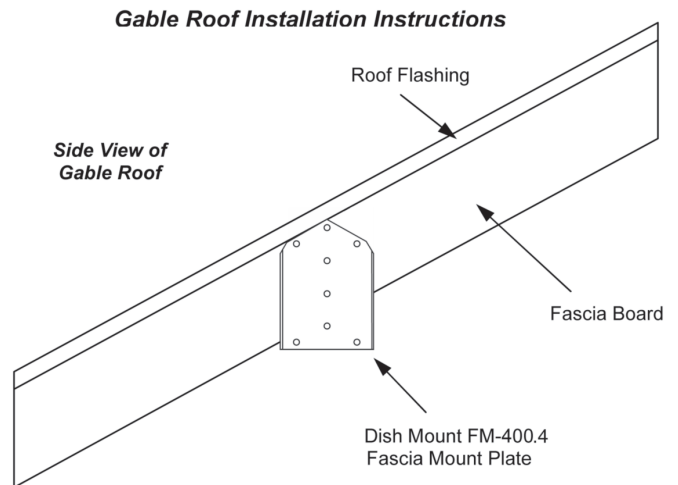
Note: Depending upon the width of the fascia board, or pitch of the roof, the bottom center hole may not be used to attach the plate to the structure.

3. Drill a pilot hole on each of the marked mounting holes using a 7/32" drill bit for the 5/16" X 3" lag screws supplied
4. Using the machine bolts, washers, and nuts supplied, attach the dish foot plate to the Fascia Mounting Plate using the two lower corner holes and the bottom center hole(s) if it is not used to attach the plate to the fascia

- At this time, hand tighten the hardware only
5. Position the dish foot plate and mounting plate assembly over the mounting locations
 6. Using the lag screws and washers supplied, thread the lag screws into the previously drilled pilot holes and tighten
 7. Tighten the remaining machine bolts installed in step 4 to connect the dish mounting base to the mounting plate

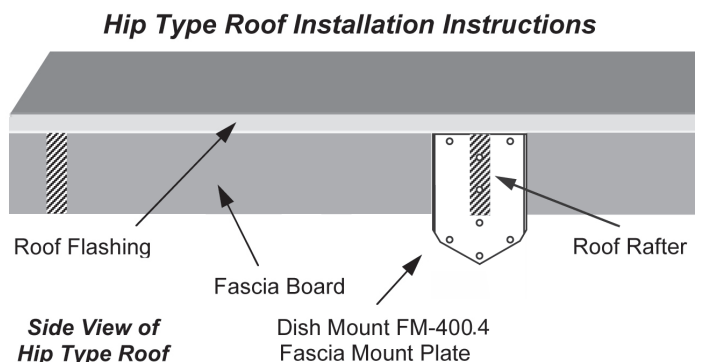
Version 3.1

6. Position the dish foot plate and mounting plate assembly over the mounting locations
7. Using the lag screws and washers supplied, thread the lag screws into the previously drilled pilot holes and tighten
8. Tighten the remaining machine bolts installed in step 5 to connect the dish mounting base to the mounting plate



Installation Tips

- When you can only screw into the fascia board, use 1.5" lag screws
- In the center holes, use 3" lag screws to screw into a rafter or stud
- Use the 5/16" hardware (included in the kit) for the lower portion of the mounting plate
- In the center hole, if possible, insert a 3" lag screw into a rafter or stud
- Make sure that the flat side of the fascia mount is against the mounting surface and the raised lip edges are facing away from the structure



2/28/2011

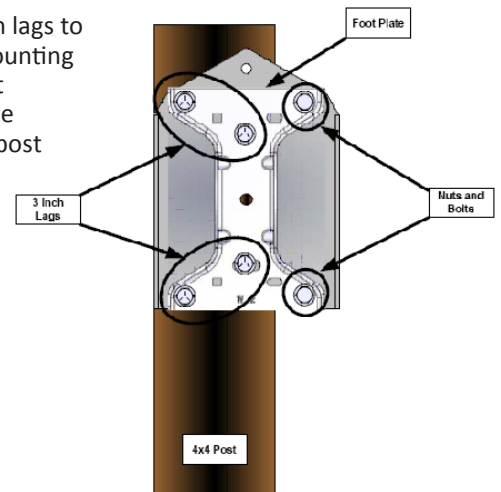
Installing Eave/Gable/Fascia Mount to a 4 X 4 post on an existing support structure:

1. Evaluate the 4 X 4 post and existing support structure

Note: If the structure or post does not meet these specifications, it is not an acceptable mounting solution

- 4 X 4 post is secured in concrete
 - Structure and 4 X 4 post is in good condition, not rotted, especially at the base
 - 4 X 4 post does not restrict pedestrian walkways or create a safety hazard
 - Do NOT use the following:
 - o Free standing 4 x 4 posts
 - o Fence posts
2. Fully discuss all possible mounting options with the customer before selecting the final mounting location
 3. Position the mounting plate on the 4 x 4 wooden post at the desired height
 - For aesthetic purposes, point the plate up
 - The ribs must be facing away from the post
 4. Verify the mounting plate is level using a torpedo level
 5. Mark four mounting holes on the 4 x 4 wooden post
 - Two center and two outer

6. To ensure you don't split the wood, drill a pilot hole for each of the marked mounting holes using a 7/32" wood bit
7. Fill the pilot holes with silicone sealant, making sure not to over fill past the hole opening
8. Attach the mast foot plate to the Fascia/Gable Mount's outer holes using the bolts, washers, and nuts included with the mount
9. Position the mounting plate and mast footplate over the pre drilled holes
10. Use four 3 inch lags to secure the mounting plate and mast footplate to the 4 x 4 wooden post



Mounting Options

6-8c

Mounting Options

6-8d

Mount: Angled Fascia

1. Locate the end of the roof rafter behind the fascia board
2. Mark the centerline of the roof rafter on the fascia board
3. Position the angled fascia mounting plate on the fascia board just below the roof flashing
4. Verify that the mounting plate is level using a torpedo level
5. Mark the six mounting holes on the fascia board
6. Pilot drill a hole on each of the marked mounting holes using a 7/32" wood bit
7. Fill the pilot holes with silicone sealant, making sure not to over fill past the hole opening
8. Position the angled fascia mounting plate over the pilot drilled holes
9. Using the provided lag bolts and washers, thread the lag bolts into the drilled holes and tighten them
 - Two lag bolts run through the center of the mount and mast.
 - The bottom lag bolt secures the mast to the mount. The top lag bolt secures the mast in position once plumbed

10. Use the remaining carriage bolts to attach the arm or mast to the angled fascia plate
11. Plumb the mast on a minimum of two sides.



Mount: Asphalt Roof

1. Using a stud finder, locate a rafter
2. Place footplate against roof in the desired location on rafter
3. Using torpedo level, vertically level footplate
4. Using a marker or pencil, mark all six holes
5. Remove footplate.
6. Pilot drill marked holes
 - Use cordless drill
 - Use 7/32-inch drill bit
 - Drill center holes to 2½-inch depth
 - Drill corner holes to 1½-inch depth
7. Cover each hole with a large piece of pitch patch
8. Place footplate against roof, aligned to holes
9. Mount the footplate
 - Use ½-inch socket and ratchet
 - Use 3-inch x 5/16-inch lag screws for center holes
 - Use 2-inch x 5/16-inch lag screws for corner holes

10. Tighten lag screws slowly, so don't damage/strip lag screws
11. Plumb mast
12. Using a torpedo level, vertically level mast
13. Struts must be installed on dish antennas DISH 500+ and larger
14. Mount footplate to roof



Mounting Options

6-10a

Mounting Options

6-10b

Mount: Pole

1. Dig the Hole a minimum 7 inches wide and 3 feet deep (or below the local frost line)
2. Prepare the Pole
 - To prevent twisting prepare a pole for mounting by
 - Pounding the base of the pole into an oval shape
 - Drilling two or three 3 inch lag screws in base of pole below cement line
 - Drill two 3/16-inch holes in pole 3 inches up from ground level to allow water to drain out of pole
3. Add Concrete
 - Always follow proper safety procedures while using cement
 - Eye Protection, gloves, and dust mask
 - Mix concrete in a 5-gallon bucket with shovel/or pour the mix into the hole and add water
 - Place mixed cement into hole
 - Pat surface of concrete with backside of shovel until all rocks are pushed into concrete, concrete tapers down from pole 2 inches above ground, and surface of concrete is smooth
4. Level the Pole

- Take readings from two locations 90 degrees apart on side of pole to ensure complete leveling of pole
 - Check readings periodically while cement is drying
 - Immediately wash your hands after working with cement
 - While waiting at least 40-60 minutes (depending upon type of concrete mix used) for cement to dry, work on other aspects of installation before mounting dish to pole. (You must completed step 5 before cement dries.)
5. Attach PVC Angle (Sweep)
 - While cement is still wet, attach a piece of PVC (90° elbow) 1 inch in diameter to pipe where cable enters ground, commonly referred to as a sweep
 6. Route Cable
 - Route cable through sweep conduit to provide protection from lawn mowers, weed eaters, squirrels, etc.
 - Route cable from dish by attaching coaxial cable to pole using cable ties
 - Dig a trench to house for burial cable
 - Dig to depth established by local underground utilities
 - Direct burial cable (orange cable) is required in all applications requiring the buried cable when not in conduit

Mount Pole Work Order Process

Initial Truck Roll:

1. Install a permanent pole mount only if DNS standards are met including marked utilities and the hole already dug to required dimensions
2. Call FSM for approval to complete a temporary mount
3. Contact the Underground Utility Company (UUC) if utility lines are not marked
4. Contact Dispatch to set up subsequent pole mount work order after completion of temporary mount install
5. Install a temporary mount if approved
6. Notate the customer account

Subsequent Truck Roll:

1. Confirm utility markings
2. Install a permanent pole mount
3. Return temporary mount to office

Process A: Install a Permanent Pole Mount

Step	Task owner	Process
1	Technician	Install permanent pole mount using standard install process

Mounting Options

6-10c

Mounting Options

6-10d

Process B: Temporary Pole Mount Can be Completed

Step	Task Owner	Process	
1	Technician	Call FSM to inform of reason for temp mount	
		If not approved:	Follow FSM guidance to complete install
		If approved:	Contact Underground Utility Company (UUC) for date to mark ground
2	Technician	Call UUC	
		If contacted:	Get UUC ticket # and date of markings; notate account: name of approving FSM, why permanent pole mount could not be completed, UUC ticket #, and estimated time for UUC to complete markings
		If not contacted:	Notate account: name approving FSM & why permanent pole mount could not be completed
3	Technician	Install temp mount and complete install	
4	Technician	If UUC contacted:	Discuss date of permanent install with customer
		If UUC not contacted:	Inform customer DISH continue to contact UUC for date to mark ground for underground utilities
5	Technician	Call Dispatch	
		If UUC contacted:	Inform dispatch of UUC ticket # and marking date -->Proceed to step 11
		If UUC not contacted:	Inform dispatch of need for 'LI -Needs Pole Mount' tag be added to account-->Proceed step 6
6	Dispatch	Add 'LI - Needs Pole Mount' tag code to the account	
7	Dispatch	Send email to local Dispatch group inbox advising that UUC needs to be contacted	
8	Dispatch	Continue to contact UUC until successfully reached	
9	Dispatch	Get UUC ticket # & date of markings; notate account with: UUC ticket # and estimated time UUC to complete markings	
10	Dispatch	Contact customer to determine date of permanent pole mount work order	
11	Dispatch	Create permanent pole mount work order on date chosen by customer	

Process C: Temporary Mount Cannot be Completed

Step	Task Owner	Process	
1	Technician	Call FSM to inform of reason why temp mount cannot be installed	
2	Technician	Call UUC	
		If contacted:	Get UUC ticket # and marking date; notate account with the following: <ul style="list-style-type: none"> • FSM who was informed that permanent/temporary mount could not be completed • Why the permanent/temporary mount could not be completed • UUC ticket # • Estimated time for UUC to complete markings
		If not contacted:	Notate account with the following: <ul style="list-style-type: none"> • FSM who was informed that permanent/temporary mount could not be completed • Why the permanent/temporary mount could not be completed
3	Technician	If UUC contacted:	Discuss date of permanent install with customer
		If UUC not contacted:	Inform customer DISH continue to contact UUC for date to mark ground for underground utilities
4	Technician	Call Dispatch	
		If UUC contacted:	Proceed to step 10
		If UUC not contacted:	Proceed to step 5
5	Dispatch	Place work order on HOLD - HOUSE/ROOM NOT READY	
6	Dispatch	Send email to local Dispatch group inbox advising that UUC needs to be contacted	
7	Dispatch	Continue to contact UUC until successfully reached	
8	Dispatch	Get UUC ticket # & date of markings; notate account with: UUC ticket # and estimated time UUC to complete markings	
9	Dispatch	Contact customer to determine date of permanent pole mount work order	
10	Dispatch	Re-schedule work order to date chosen by customer using XTRA SUPL NEED reschedule reason	

Mounting Options

6-10e

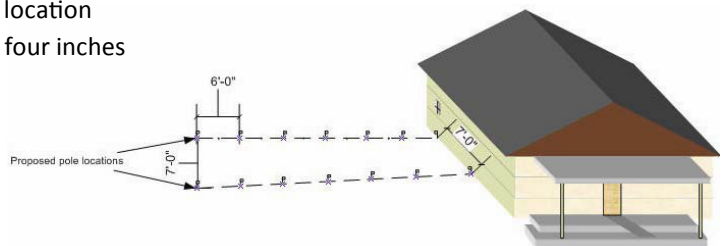
Mounting Options

6-10f

Utility Marker Flags

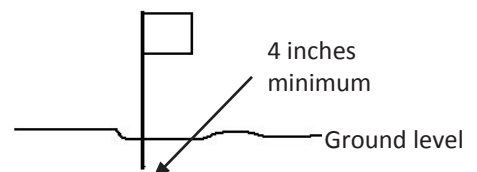
Once the need to dig or trench has been determined:

1. Identify two potential installation locations at least seven feet apart at both the proposed pole location and the point where the cable reaches the house
2. The technician will inform the customer that white flags will be placed in their yard to mark the proposed excavation site for the dish and cable trenching prior to marking by the Underground Utility Company
 - o Explain that two locations have been marked to help prevent the need for a reschedule if there is a conflict due to utility lines
 - o Explain that it is very important not to move or remove these flags prior to utility marking
3. Place one white marker flag at the proposed location of the pole mount one at the house and one flag approximately every six feet in between
 - o There should be a minimum of three flags for each marked location
 - o The flags should be inserted into the ground a minimum of four inches
 - o In snowy conditions, ensure the flag has penetrated the ground and not just the snow layer
4. Contact the Underground Utility Company (811) to have utility lines marked
5. Continue with temporary mount installation



Truck roll to complete permanent installation:

1. Confirm utility markings
2. Retrieve white marker flags
3. Install permanent pole mount



Mount: Non-Penetrating Roof

1. Locate a suitable area to assemble the mount
 - Clean, flat and near hauling area
2. Assemble non-penetrating roof mount kit using manufacturer's assembly instructions
 - Place 4 rail angles forming a square with side with most holes and slots facing ground
 - Connect four corners with nuts and bolts, making sure corners are aligned, and hand tighten
 - Place remaining two rail angles in the center of square, with side with most holes and slots facing ground and backs of rail angles facing each other
 - Align end holes of two upper rail angles with center most slots of lower rail angles and connect them with hand-tightened nuts and bolts
 - Place adaptor rails, verifying that side with most holes and slots facing ground and slotted end aligned, facing ground, to unused center slots of an outer rail angle
 - Hand tighten the nuts and bolts
 - Assemble footplate between two adaptor rails, positioning majority of mast above adaptor rails and aligning edge of footplate
 - Hand tighten nuts and bolts

Mounting Options

6-12a

Mounting Options

6-12b







Mount: Rail

1. Determine proper location for Rail Mount on railing
 - Recommended location: where vertical rails intersect with either bottom or top horizontal rail
 - NEVER affix Rail Mount on railing rusted, bent, cracked, has deficient or broken welds/connections to top or bottom horizontal rails, or railing not structurally stable in connection to building
2. Place Plate #1 on top of Plate #2
 - Place first external tooth lock washer and then flat washer onto the ¼" x 20 x 1.5" Bolt
 - Then insert bolt/lock washer/flat washer assembly through slot in Plate #1 and thread into Plate #2
3. Set assembled plates at install location on railing
 - Adjust two plates so as to "lightly clamp" opposing edges of plate assembly to vertical rails and then tighten securely four ¼" x 20 x 1.5" bolts
4. Align Plate #3 with Plate #1/#2 on other side of railing
 - Ensure part label for Part #3 identifying "UP" is in proper direction

3. Position mount on desired location
 - Clean area by removing all gravel and debris from that will occupy by non-penetrating roof mount
 - Place regulation rubber mat in desired location
 - Place assembled mount on rubber mat
 - Orient front (side with 2 adaptor rails) of mount towards azimuth used for pointing the dish
 - Level dish mast
 - Evenly place required ballast mount
 - To raise ballast up to a roof, there are two options
 - Option 1
 - This is the preferred option: 2-man use of a hand-line - where production schedules allow. This procedure will involve contacting your manager or another technician for assistance
 - Option 2
 - 1-man use of a hand-line: procedures for this are similar to option 2; however it will require more trips up and down ladder increasing risk of a fall
 - Follow instructions for amount of weight to use
 - Attach and point dish assembly
 - Orient the majority of dish assembly over the non-penetrating roof mount



Mount Chart


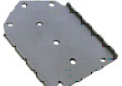





Mount	Type	Acceptable Surfaces	Mount Locations	Antenna Rating	Safety Concerns
	Standard Mast	Fiber board, wood, brick, cinder block, concrete, asphalt roof	Approved vertical, horizontal or asphalt roof surface	All dishes Note: Struts required for 1000.4 Dish, DISH 500+/1000+	Structure should be solid, mast could be a bump hazard, ladder possibly needed
	Short Mast	Fiber board, wood, brick, cinder block, concrete, asphalt roof	Approved vertical, horizontal or asphalt roof surface	Prescribed for the 1000.4 Dish only	Structure should be solid, mast could be a bump hazard, ladder possibly needed
	Pole Mount	In ground	Approved in-ground location	All dishes Note: Must call Dig Safe (811) before installation	Could hit a gas/electrical line, possible tripping hazard
	Telescoping Wall Mount	Fiber board, wood, brick, concrete, cinder block	Approved vertical surface	Up to DISH 1000.2	Structure should be solid, mast could be a bump hazard, ladder needed
	Soffit Mount	Roof truss or other structural member under the soffit	Soffits	Up to DISH 1000.2	Structure should be solid, mast could be a bump hazard, ladder needed
	Under Eave Mount	Mounts to exposed under-eave rafter. Soffit framing members must be exposed	Soffits	Up to DISH 1000.2	Structure should be solid, ladder possibly needed

Mount Chart

6-15

Mount Chart

6-16

Mount	Type	Acceptable Surfaces	Mount Locations	Antenna Rating	Safety Concerns
	Angled Fascia Mount	Mount to stud, rafter tail, or structural member behind an angled fascia board	Angled fascia board	Up to DISH 1000.2	Structure should be solid, mast could be a bump hazard, ladder needed
	Eave/Gable Mount	Mount to stud, rafter tail, or structural member behind a fascia board,	Fascia board on end or gable, 4 x 4 wooden post (part of existing support structure)	Up to DISH 1000.4 with short mast	Structure should be solid, mast could be a bump hazard, ladder needed
	Railing Mount	Balcony rail	Balcony/ porch rail	Up to DISH 1000.4 with short mast	Structure should be solid
	Quick Pipe Adapter	Existing 2" or greater in diameter pole or pipe	C-Band or Prime Star antenna masts	Up to DISH 1000.2	Structure should be solid, not for use on vent pipes
	Universal Non-Penetrating Mount	Any flat surface	Flat roof	All dishes	Structure should be solid, ladder needed
	Non-Penetrating Patio Mount	Limited to semi-inclosed areas	Patios/decks	All dishes	Structure should be solid, requires proper block use
	VERSATILE Mount	High-profile, low-profile, flat concrete roofs	Concrete roof	Up to DISH 1000.2	Structure should be solid, mast is a bump hazard, ladder needed

Receiver Model Families

Model Families	Models	Description	TVs	DVR	TV1 HD
922	ViP922 SlingLoaded DVR	SlingLoaded DVR	1	X	X
622	ViP622, ViP722, ViP722k	HD Duo DVR	2	X	X
522	DISH Player-DVR 522, DISH Player-DVR 625	Duo DVR	2	X	
222	ViP222, ViP222k	HD Duo	2		X
322	DISH 322	Duo	2		
612	ViP612	HD Solo DVR	1	X	X
512	DISH DVR 512	Solo DVR	1	X	
211	ViP211, ViP211k, DISH 411	HD Solo	1		X
311	DISH 311, DISH 381	Solo	1		

Receiver Model Families

10-1a

Legacy Receivers

10-1b

Legacy Receivers*

Receiver	HD / SD	Tuners	TVs	DVR	Recording Time	Remote Type
1000/1500	SD	Single	1	No	NA	IR
2700/2800	SD	Single	1	No	NA	IR
3000/3500/3700/3900	SD	Single	1	No	NA	IR
4000	SD	Single	1	No	NA	IR or UHF
4700/4900	SD	Single	1	No	NA	IR
5000	SD	Single	1	No	NA	IR or UHF
6000	SD/HD	Single	1	No	NA	IR/UHF
7100/7200	SD	Single	1	No	NA	IR
JVC IRR	SD	Single	1	No	NA	IR/UHF
DISH 111	SD	Single	1	No	NA	IR
DISH 301	SD	Single	1	No	NA	IR
DISH 501	SD	Single	1	Yes	Up to 35 hours	IR/UHF
DISH 508/510	SD	Single	1	Yes	Up to 60 hours	IR/UHF
DISH Player-DVR 921	SD/HD	Dual	1	Yes	Up to 180 hours SD Up to 25 hours in HD	IR/UHF Pro
DISH Player-DVR 942	SD/HD	Dual	2	Yes	Up to 180 hours SD Up to 25 hours in HD	IR/UHF Pro

* All legacy receivers are MPEG-2

ViP®922 SlingLoaded™ DVR

Remote Viewing Requirements

PC Requirements	HD Streaming (on home network)	Intel 2.4 GHz Core 2 duo class processor with 2 GB of RAM, DXVA support desirable on graphics card
	SD/QVGA streaming (anywhere)	Pentium IV class
	Operating System	Microsoft XP, Vista, or Windows 7
Mac Requirements	HD Streaming (on home network)	Intel 2.8 GHz Core 2 duo class processor with 2 GB of RAM
	SD/QVGA Streaming (anywhere)	Intel 2.8 GHz Core 2 duo class processor with 2 GB of RAM
	Operating System	OS 10.5.7 or higher
Browser Specifications	Internet Explorer	Version 7 or higher
	Firefox	Version 3.0 or higher
	Safari	Version 4.0 or higher


Receiver Model Families

10-24a

Legacy Receivers

10-24b

32.0 Hot Keys

	Hot Keys			
	Red	Green	Yellow	Blue
				
Live TV	JUMP	Quick Clicks Feature	Settings	Broadband Setup
Main Menu	JUMP	On Demand	Settings	Broadband Setup
Settings' Menu	JUMP	System Info	Point Dish	Broadband Setup

Connectivity Benefits

Better Technology

Customize Your TV Experience

- Pay your bill and manage your account.1
- Caller ID on your TV screen.2
- Remote DVR access: access your ViP® DVR remotely via computer or iPhone™.3

Access Pay-Per-View with the Touch of a Button

- Rent movies without leaving your home, right through your TV.
- No processing charges/fees, and no need to call.
- Pay for your Pay-Per-View purchase on your next bill.

Access Additional Programming, Games, and More

- Thousands of movies and TV shows are available on demand.3
- Interactive Applications: Play games, check weather, news, sports, even shop. 4

Connectivity

11-1a

Connectivity

11-1b

Connectivity Device Hierarchy

Connectivity Device Usage Priority

- Broadband connection is always the top priority, even when a phone is also present
- Connect a phone line when a broadband connection is unavailable
- Connection of the “Primary” receiver is the main objective

Considerations

- Only use 1 non-direct connectivity device per account (SlingLink / DishCOMM / Phonex)
- Do NOT use Phonex with ViP receivers
- ONLY use Wireless Adapter if:
 - o Direct Ethernet is unavailable
 - o SlinkLink is impossible

To determine the correct connectivity device, use the Mandatory Connectivity Device Matrix below.

Better Customer Experience

Quality Service

- Diagnose technical problems: connected receivers can track, log and notify us of any problems.
- Access customer support application: get easy troubleshooting tips for the most common problems.4

Privacy

- Your privacy is guaranteed: connecting your receiver will not compromise your privacy.

Additional Savings and Flexibility

Stay Connected

- Plugging in your receiver will not interrupt your phone line or Internet connection.
- All required accessories are included at no additional cost.

Mandatory Connectivity Device Matrix

Receiver Configuration	Preference Order
1 ViP receiver on account	1. Ethernet 2. SlingLink 3. Wireless Adapter 4. Phone line 5. DishCOMM Modem
2+ ViP receivers on account	1. SlingLink 2. Ethernet 3. Wireless Adapter 4. Phone line 5. DishCOMM Modem
No ViP receivers on account	1. Phone line 2. Phonex*

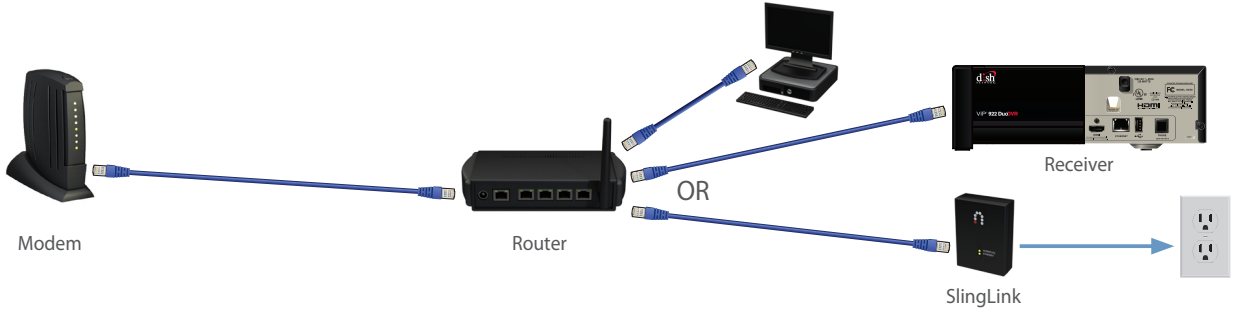
*Do NOT use Phonex with ViP receivers

Modem

A modem is a network device that converts a broadband cable or DSL line into a single Ethernet cable with access to the Internet. By itself, a standard modem provides Internet access to only one piece of equipment, usually the customer's computer.

Correct configuration of a modem with a DISH Network receiver

Correct



Connectivity

11-1c

Connectivity

11-1d

Gateway

A gateway is a network device that combines a modem and a router, allowing multiple connections to the Internet without a separate router.

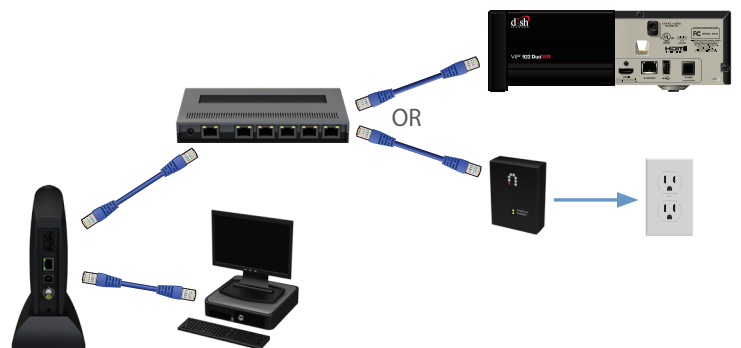
Correct configuration of a gateway with a DISH Network receiver

Gateway to Receiver

Correct



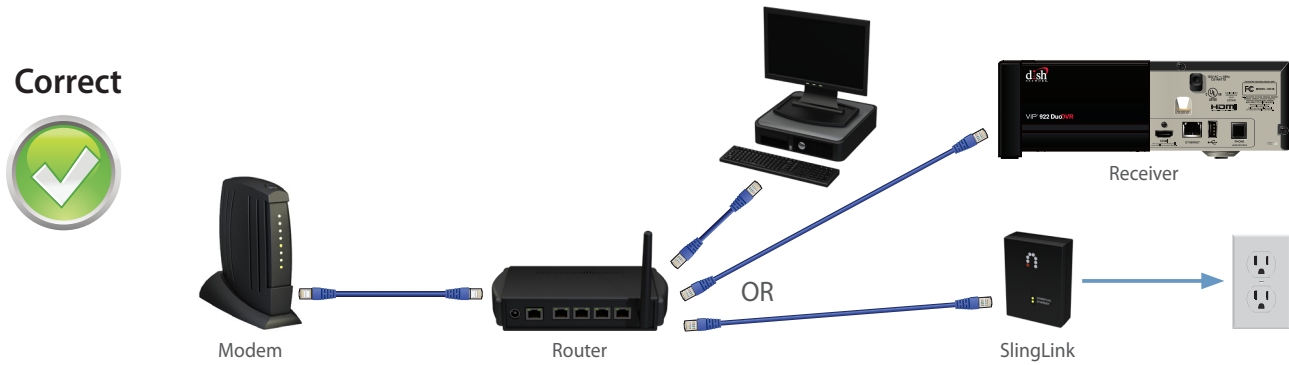
Gateway to Switch to Receiver



Router

A router is a network device connected to a modem that splits the Internet from a single Ethernet out port to multiple ports. If a customer only has a standard modem, a router is required.

Correct configuration of a router with a DISH Network receiver



Connectivity

11-1e

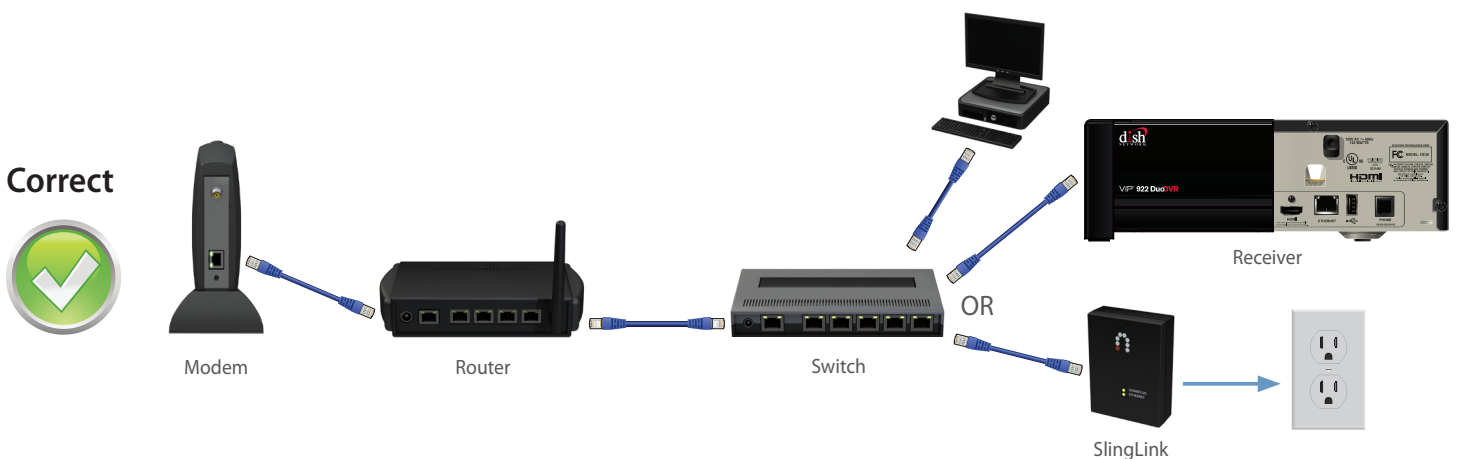
Connectivity

11-1f

Switch

A switch is a network device that increases the number of Ethernet ports on a router or gateway. It should only be used when additional ports are needed on the router or gateway. Adding a switch directly to a standard modem without a router does not work.

Correct configuration of a switch with a DISH Network receiver



Wireless Adapter

Prior to Installation

Before proceeding with the wireless adapter installation perform the following:

- Follow the Connectivity Hierarchy Matrix (See appendix)
 - o Attempt to install direct Ethernet cable
 - o Attempt to install SlingLink
- If neither option works, confirm the receiver you wish to connect is compatible with the wireless adapter (622,722,722K)
- Confirm the customer has broadband and a wireless router or gateway
- Confirm the customer has the password to their network (WEP or WPA encryption key or WPA2 pass phrase)
- Let the customer know you will need them present during parts of the installation

Installing the Wireless Adapter

1. Complete the receiver installation and initial software download before attempting to connect the wireless adapter.

2. Plug in the Wi-Fi adapter to the rear USB port on the receiver using the USB extension cable. Never insert the adapter directly into the receiver, always use the supplied cable. This will allow you to position the adapter for the best possible reception.
3. Do not secure with the plastic cradle and Velcro until after you have completed the wireless setup. You will need to reposition the adapter once setup is complete to get the strongest possible signal.
4. Once the receiver recognizes the adapter the following screen will be displayed. Select Setup to enter the wireless adapter setup Wizard.



5. The wireless setup wizard will start. First, it will scan for available networks.

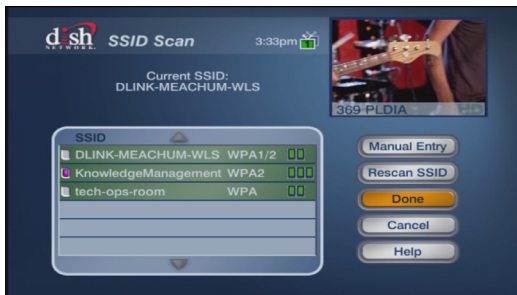
Wireless Adapter

11-4a

Wireless Adapter

11-4b

6. Wireless networks displaying two or three bars are preferable. Networks only displaying one bar will not provide the best customer experience due to slower connection rates.
7. Select the name (SSID) of the desired wireless network from the list and select Done. You will need to confirm with your customer which network is the correct one if more than one option appears.



To proceed with this next step the customer must be present. The customer will need to have their Job Aid WEP or WPA encryption key or WPA2 pass phrase available, if any.

Do not enter this data yourself. The customer must enter it to ensure their network remains secure.

8. Have your customer enter the encryption key or passphrase using the remote and onscreen keypad. Advise them the password is case sensitive.

Version 3.1

9. Once the customer has input the wireless network encryption key, select Done.



10. The system will begin testing the network onnection. The following screens will be displayed.





11. When testing is successfully completed, the following screen will be displayed. Select Done. If this test fails, refer to the troubleshooting section of this Job Aid.



12. The wireless adapter signal strength screen will display

13. Move the USB adapter to achieve the maximum signal strength. If the signal strength is below 40, skip ahead to the 'If there are signal strength issues' section of this job aid.

14. Once the signal strength is acceptable (maintaining higher than 40) select OK.



15. Next, perform send status to ensure your connection is

Wireless Adapter

11-4c

Wireless Adapter

11-4d

working properly

- o Menu
- o System Setup
- o Diagnostics
- o Analysis
- o Send Status

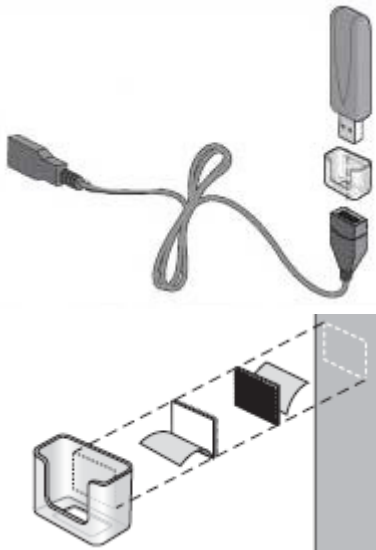


16. Click Send Status



17. If send status fails go to the troubleshooting section of this job aid

18. Once signal is at an acceptable level and send status is completed, obtain the customers permission and secure the plastic mini-cradle using the included Velcro. Do not secure to a finished surface or to the customer's television.



Disconnecting the Adapter

If the wireless adapter is disconnected during setup, a popup will be displayed.



When the wireless adapter is reconnected, the following popup will be displayed.

Select Setup to proceed, you will be taken to the wireless setup screens again.

Signal Strength Issues

If you cannot achieve signal strength of at least 40 at the time of connection, do not continue with the wireless adapter option.

Use another connectivity solution for the customer if possible and fill out the Connectivity Tracker to capture your experience.

Wireless Adapter

11-4e

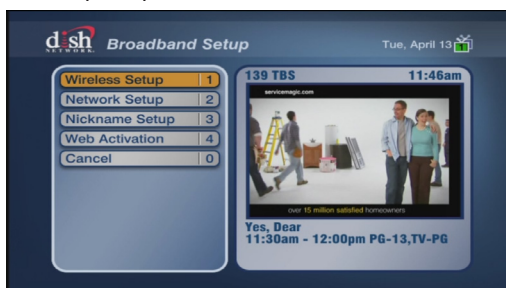
Wireless Adapter

11-4f



If you need to access the Wireless Setup menu at a later time select:

1. MENU button
2. System Setup – Option 6
3. Installation – Option 1
4. Broadband Setup – Option 8
5. Wireless Setup – Option 1



Troubleshooting

Adapter not recognized

If the adapter isn't recognized or you don't have the wireless set up option it means the receiver does not have the most current software version.

Wireless test fail

If the wireless test fails, go through the wireless setup process one more time to make sure the correct network was selected and the correct passwords were entered. If the test fails again, perform the following steps:

- Reset the router
- Reset the modem
- If you complete these steps and test again and it still fails, the wireless adapter is not a good solution for this customer. Connect using a different connection method.

Send status fail

If send status fails, follow the same steps as the wireless test fail

Connectivity Troubleshooting Matrix

Broadband Troubleshooting

1	Check Broadband Configuration	Check that the wiring between your DISH receiver and your broadband source is configured properly using dish.com/wiring.
2	Reset Receiver	If the issue is only on ONE receiver, unplug the DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.
3	Reset Broadband Router/ Modem	Unplug your broadband router or modem for 10 seconds and plug back in.
4	Check LED lights	Check the DSL light is steady green and the Internet light is steady or flashing green. If there is no light or the light is red, have the customer contact their ISP.
5	Perform "Send Status"	MENU 6 - "System Setup", 3 - "Diagnostics" and select "Analysis" and "Send Status". Check for confirmation of call out success or a confirmation code from STBH Live with all circles under "Status" showing green.
6	Access Internet Using Home Computer	For DISHOnline, Sling, or DISH Remote Access issues, have the customer access the IP based feature from their home computer.
7	Transfer to Broadband	Transfer the call to Broadband.
8	Try different port on Router	Connect the Ethernet cable from the current port on the router to a different known working port.
9	Bypass Router and Connect to Modem	Bypass the router and connect the computer directly to the modem; if the computer cannot access the Internet, have the customer contact their ISP.
10	Check the LAN connection is enabled	Windows: Start - Settings - Network Connections - verify Local Area Connections is enabled; if the connection shows Disabled, right click on the connection icon, and select Enable. Mac: System Preferences - Network Preferences - Built in Ethernet is disp
11	Contact Manufacturer	Contact the manufacturer of the device directly if you are unable to resolve the issue.

Connectivity Troubleshooting Matrix

11-21

Connectivity Troubleshooting

11-22

Broadband Troubleshooting — Wireless Adaptor

1	Check Adapter Connected to Receiver	Check that wireless adapter's extension cable is connected to the DISH receiver's USB port.
2	Check Connected to correct Network	Verify the DISH receiver is connected to the correct wireless network.
3	Reset Receiver	If the issue is only on ONE receiver, unplug the DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed..
4	Reset Broadband Router/ Modem	Unplug your broadband router or modem for 10 seconds and plug back in.
5	Check LED lights	Check the DSL light is steady green and the Internet light is steady or flashing green. If there is no light or the light is red, have the customer contact their ISP.
6	Check Another Port on the DISH Receiver	Connect the Wireless Adaptor's Extension Cable to another port on the DISH receiver.
7	Access Internet Using Home Computer	For DISHOnline, Sling, or DISH Remote Access issues, have the customer access the IP based feature from their home computer.
8	Connect Hard Wire to Router	If you are able to do so, direct connect the DISH receiver to the home network's router using an Ethernet cable.
9	Perform "Send Status"	MENU 6 - "System Setup", 3 - "Diagnostics" and select "Analysis" and "Send Status". Check for confirmation of call out success or a confirmation code from STBH Live with all circles under "Status" showing green.
10	Transfer to Broadband	Transfer the call to Broadband.
11	Connect Wireless Adaptor to your Home Computer	Connect Wireless Adaptor to your Home Computer and test for connectivity.
12	Create Wireless Adaptor RA	Create RA for Wireless Adaptor.

SlingLink

Installation Considerations

- When using a SlingLink you must test the circuits you will be using the Home Plug Tester as you have been trained to do already
- If a surge protector is used, it must be approved for use with SlingLink (or HomePlug), and the adapter or satellite receiver must be plugged into the SlingLink outlet of the surge protector
- You may also use the 3-Plug Outlet Adapter (Outlet Splitter - P/N 156672) to provide additional plugs on the circuit if required.
- The SlingLink and any networked receiver must be on the same home electrical circuit to work
 - o In some homes, customers have multiple electrical circuits (more than one electrical breaker box in the house)
 - o A single SlingLink may not always crossover multiple home electrical circuits

Connecting Receivers Using SlingLink

1. Test the outlet in question using the Home Plug Adapter to ensure the SlingLink will work
2. Connect one end of an Ethernet cable to an available ETHERNET (LAN) port on the router, gateway, or Ethernet switch
3. Connect the other end of the Ethernet cable to the ETHERNET port on the SlingLink
4. Plug the SlingLink into an electrical outlet located near the router
 - o The SlingLink and the DISH Network satellite receiver's power cord should both be plugged directly into an electrical wall outlet
 - o Do not plug the adapter or satellite receiver into an outlet that is controlled by a wall switch or into GFI electrical outlets

SlingLink

12-7

SlingLink

12-8

5. Verify function by checking adapter lights
6. Plug the receiver

Configure Receiver into the Network

1. How to Configure the Receiver into the Network
2. Using the DISH Network remote control for the receiver that is connected to the home network, access the Network Setup screen by pressing MENU, selecting System Setup, Installation, Broadband Setup, and then Network Setup
3. Verify the IP address is populated (not all 0s)
 - o If the IP address is all 0s, select Reset Connection
 - o An Attention 875 message will display briefly, and then you will return to the Network Setup screen
4. Verify the Connection Status on the Network Setup screen shows Connected Online, and that the IP address does not show all 0s
 - o If the IP address shows all 0s or the Connection Status shows Not Connected, refer to the Installer Reference Handbook
5. Select Done to exit the Network Setup screen
6. Verify the receiver can successfully connect to DISH Network by pressing MENU on the remote control, selecting System Setup, then Diagnostics
7. Select Connection to test the Internet connection
 - o The Connection option also tests the phone line, if connected. The results should display Broadband Connection OK
 - o If a phone line is not connected to the receiver, connection results will display Phone Connection Failure. This is OK

Sling Adapter

Sling Adapter Installation

1. Connect the USB connector on the Sling Adapter to the back of the DISH Network receiver
2. The Sling logo on the top of the Sling Adapter should illuminate to indicate it is powered on
3. Click OK on any on-screen messages
 - o If you do not receive this message, ensure the ViP722 DVR or ViP722k DVR has the latest software
4. Set the Sling Adapter on the top of the receiver

Note: The Sling Adapter can also be connected to the front USB connection on the DISH Network receiver. This should be the last installation option used as it is not aesthetically pleasing.

Using Remote Viewing

Using their computer customer should:

- Log in to My Account on dish.com
- Click on DISH Remote Access (located at the left of the screen)

Note: If the customer does not have an account, then assist them to create one.

Once logged in, there are a few initial steps to complete before watching live TV.



Sling Adapter

12-9

Sling Adapter

12-10

1. Ensure the receiver with the Sling Adapter connected is listed at top of the screen, if not, select the appropriate receiver
2. Click Watch Live TV (located at the top of the screen)
 - o This button appears once the Sling Adapter is connected to the DISH Network receiver
3. Click Accept on the Terms of Use
4. Follow the on-screen instructions to download the plug-in
 - o On-screen instructions can change without our knowledge but should always be followed and read completely
 - o Setup example: Click the yellow bar and select Install Active X Control

Note: This bar may not appear depending on the customer's computer settings

5. Click Install
6. Select the desired program via EPG or on-screen controls
 - o Click Watch on Web

Educate the customer on how they access TV Everywhere features on their compatible mobile device.

Customers must:

- Download the DISH Remote Access App to their compatible mobile device:
 - o iPhone / iPod touch – iTunes Store
 - o Blackberry – link available on dish.com/tveverywhere/remotearchive
 - o Android – Droid App Market
- Log into the DRA app using the same login to access their DISH account on dish.com
- Select a live or DVR event to remote view on their mobile device

Sling Adapter FAQs

Q: What receiver models are compatible with the Sling Adapter?

A: Only the 722 and 722k are compatible; the 622 model is not compatible with the Sling Adapter.

Q: If I have a Sling Link am I ready for remote viewing?

A: No, a Sling Link (which is an Ethernet through power-line adapter, also known as a HomePlug) is a connectivity device. The Sling Adapter is an additional device that is needed for Remote Viewing.

Q: Can existing customers order a Sling Adapter for the Technician to deliver and install?

A: No, the Sling Adapter must be ordered through the CSC or at www.Dish.com. The product will then be shipped to the customer for self installation. Do not call to modify an existing customer work order.

Q: Can I modify a New Connect work order to add a Sling Adapter?

A: Yes, New Connect work orders are the only work orders that can be modified to add the Sling Adapter. Once the modification is complete the Technician may deliver and install the product.

Q: Is it possible to use both a Wi-Fi adapter and a Sling Adapter at the same time?

A: Yes, there are front and rear USB ports on the 722 and 722k receivers. Both of these ports may be used simultaneously for a Wi-Fi adapter, a Sling Adapter, or external hard drive.

Q: Can a USB hub be connected to the USB port of a 722 or 722k to connect multiple accessories?

A: No, USB hubs are not currently supported for connection to DISH Network receivers.

Receivers and Remotes

Limited Mode

Power Scan Limited Mode

1. Hold TV Mode button until all mode lights flash
2. Enter 5001# using number pad
3. Perform powerscan as normal

Easy Limited Mode

1. Ensure remote is programmed to TV
2. Press and hold TV Mode button until all Mode lights flash
3. Press Page Up once then #

Standard Limited Mode

1. Identify Remote Code
2. Enter TV Code and add a 1 to the end (7-4-2-1)

Retrieve Remote Code

1. Hold Mode button until all lights flash
2. Press # # (Pound Twice)
3. Count blinking lights on selected mode button

Note: Fast Blink = 0 Slow Blink = 1

Receivers and Remotes

13-48a

Receivers and Remotes

13-48b

Disable Sat Auto-Tune Feature

1. Press and Hold Sat button until all mode lights Flash
2. Press * - Volume Up - #

Set Recover Button

1. Hold down TV button until all Mode lights flash
2. Press * - then the 3-digit channel number - # (*-0-6-0-#)

Programming the Aux Button

1. Retrieve code from User's Manual
2. Hold Aux Mode button until all mode lights flash
3. Press 0 for a second TV, 1 for a second VCR, 2 for a tuner or amplifier
4. Enter device code from manual
5. Press #

Extend Remote Address (17-31)

Open the system info screen on the receiver

6. Press and hold SAT button until all mode buttons flash
7. Press # then press the channel up arrow key

Version 3.1

Aux Volume Control

4. Hold Aux Mode button until all mode Lights flash
5. Press #
6. Press Volume up
7. Press 0
8. Press #

TV Volume Control

1. Hold TV Mode button until all mode Lights flash
2. Press #
3. Press Volume up
4. Press 0
5. Press #

Enable Sat Auto-Tune Feature

1. Program remote to TV
2. Program Recover Button
3. Press and Hold Sat button until all mode lights Flash
4. Press * - Volume Up - #

8. Input a number between 1 & 15 (the remote automatically adds 16 to the result), Example: 1 = 17, 2 = 18, 3 = 19, 4 = 20, etc.
9. Press # then press the RECORD key

Using the Learning Remote

1. Place Dish Network remote and original equipment remote on a Flat Stable Surface
2. Press and hold the Mode button for the device you are teaching until all Mode lights Flash
3. To start learning commands for this remote
 - If a code is programmed into the remote press and release RECALL then hold RECORD for three seconds
 - If you have not programmed a code for that device, press and hold RECORD for three seconds
4. Point the front of the original device remote to the small square on the front, left-hand side of the Dish Network remote
5. On the Dish Network remote control press the button you want to teach

-
-

2/28/2011

6. On the original device remote control, press and hold the button you want learned
 - If the Dish Network remote learns the command, the mode light blinks off and then back on
 - If the mode light blinks three times or remains lit, the Dish Network remote did not learn the command
7. Repeat steps 5 & 6 until all commands have been learned
8. To end the learning sequence
 - Press one of the mode buttons, this saves all of the commands
 - To cancel learning process, do not press any buttons for 30 seconds, this will cause the remote to time out

Receivers and Remotes

13-48c

Receivers and Remotes

13-48d

DISH Satellite Locations

	80XXX				
	Clear View				
	MIN	Point Azimuth	MIN	Elevation	Skew
DISH 500					
DISH 1000.2					
DISH 500+					
DISH 1000+					
Dish 1000.4					

Wing Dish (all skews 90) Use DISH 500 With I Bracket

	Point Azimuth	Elevation	Skew
61.5°			
72.7°			
77°			
110°			
119°			
129°			

The minimum thresholds on the new dish point screen are:

	14	15	16	21
Transponder				
SAT – 119°				
SAT 110°				

Remote Control Audio/Visual Restoration Table

DISH Network remote controls have many features to enhance customers' viewing experience. Being able to select the most beneficial feature(s) to setup and discuss them with your customers is key to improving their satellite TV enjoyment.

Use the table on the following pages to select which feature(s) to enable, configure and educate your customers on, based on the Audio/Video connections used.

Dual Tuner Receiver Installation	Setup and Education Action		
	SAT Auto-Tune	Recover	Limited Mode
TV1 viewing location			
Customer has a SD Receiver and connects with:			
Coax Connection	X		X*
RCA Connection		X	X*
S-Video Connection		X	X*
Customer has a HD Receiver and connects with:			
Coax Connection	X		X*
Component		X	X*
DVI/HDMI		X	X*
TV2 viewing location			
TV2 Home Distribution	X		X*

* Enable Limited mode if customer is NOT able to manually recover from A/V loss

AV Restoration Table

13-48a

AV Restoration Table

13-48b

Single Dual Tuner Receiver Installation	Setup and Education Action		
	SAT Auto-Tune	Recover	Limited Mode
Customer has a SD Receiver and connects with:			
Coax Connection	X		X*
RCA Connection		X	X*
S-Video Connection		X	X*
Customer has a HD Receiver and connects with:			
Coax Connection	X		X*
Component		X	X*
DVI/HDMI		X	X*

* Enable Limited mode if customer is NOT able to manually recover from A/V loss

Extending UHF and UHF Pro Remote Control Range

This section provides ways of extending UHF and UHF Pro remote control range to make remote controls work reliably in difficult installations, where attempts to improve remote control range have been unsuccessful using easier methods.

The solutions shown use additional approved parts to “back-feed” the remote control antenna onto the same cable as the HOME DISTRIBUTION (CH 21-69 or 73-125) Out or CH 3-4 Out for the distant TV location. This allows the remote control antenna to be placed in the room with the TV, extending the range of the UHF or UHF Pro remote control.

Installation Diagrams

The following installation diagrams are the approved configurations for extending the UHF and UHF Pro remote control range. Choose the diagram that best matches your installation and follow it closely.

Note: If an over-the-air antenna is installed, the remote control signal cannot be combined onto the same cable as the over-the-air signal.

Extending UHF and UHF Pro Remote Control Range

13-50a

Extending UHF and UHF Pro Remote Control Range

13-50b

Diagram 1:

Dual-tuner, two-TV receiver with remote control antenna combined with HOME DISTRIBUTION (Ch 21-69 or 73-125) output.

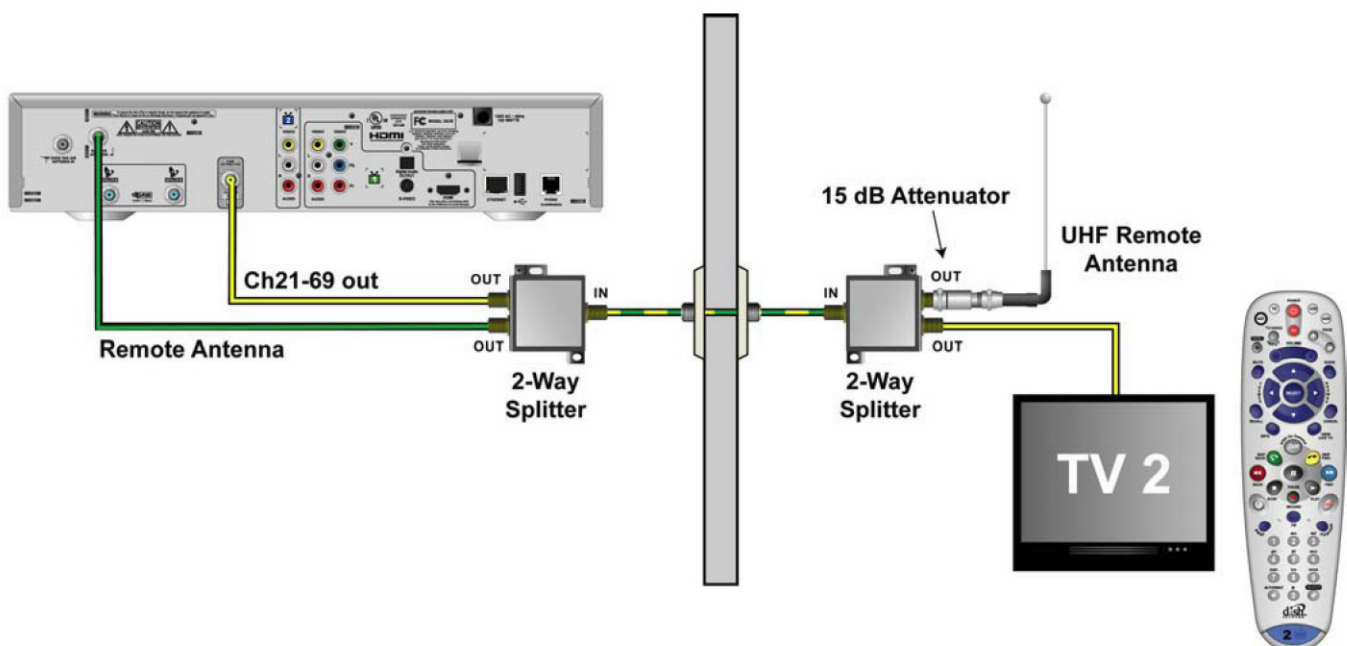
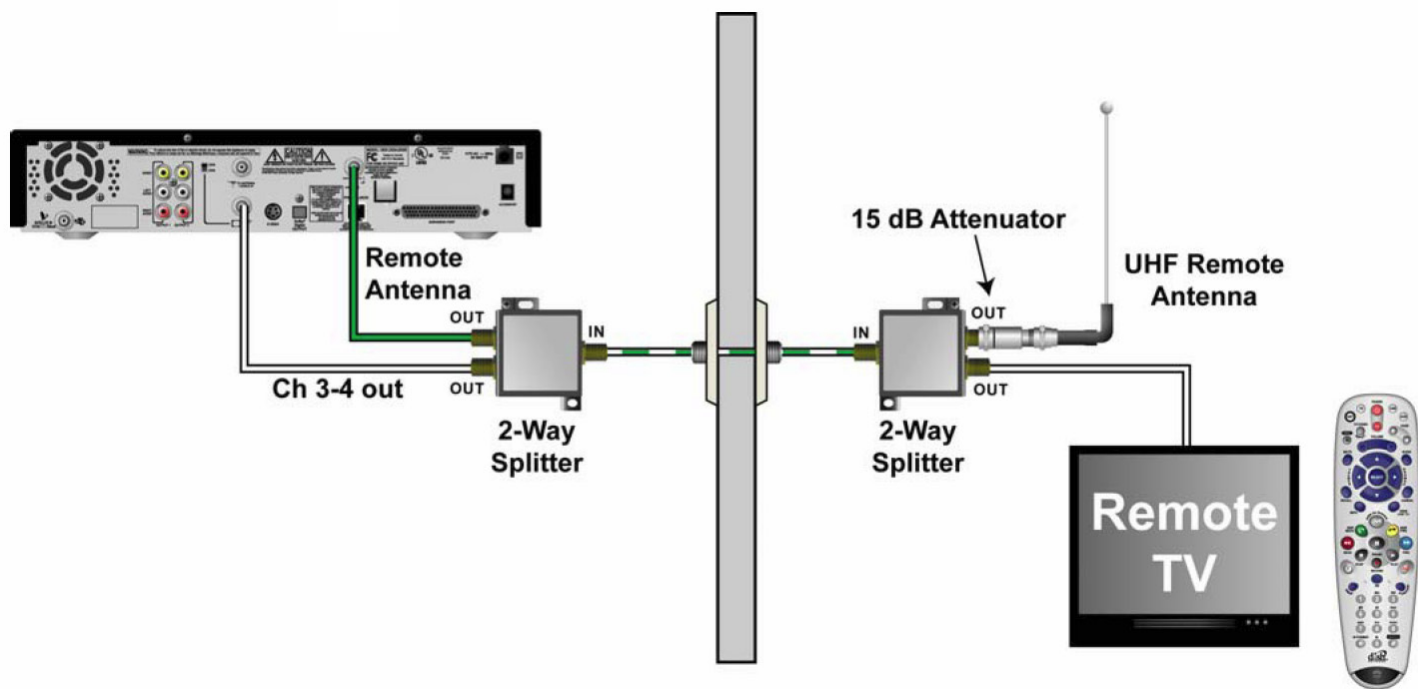


Diagram 2:

Single-TV receiver with UHF or UHF Pro Remote Control and remote control antenna combined with CH 3-4 output .



Extending UHF and UHF Pro Remote Control Range

13-50c

Extending UHF and UHF Pro Remote Control Range

13-50d

Diagram 3:

Dual-tuner, two-TV receiver with remote control antenna, HOME DISTRIBUTION (Ch 21-69 or 73-125) output, and Satellite In combined on a single cable.

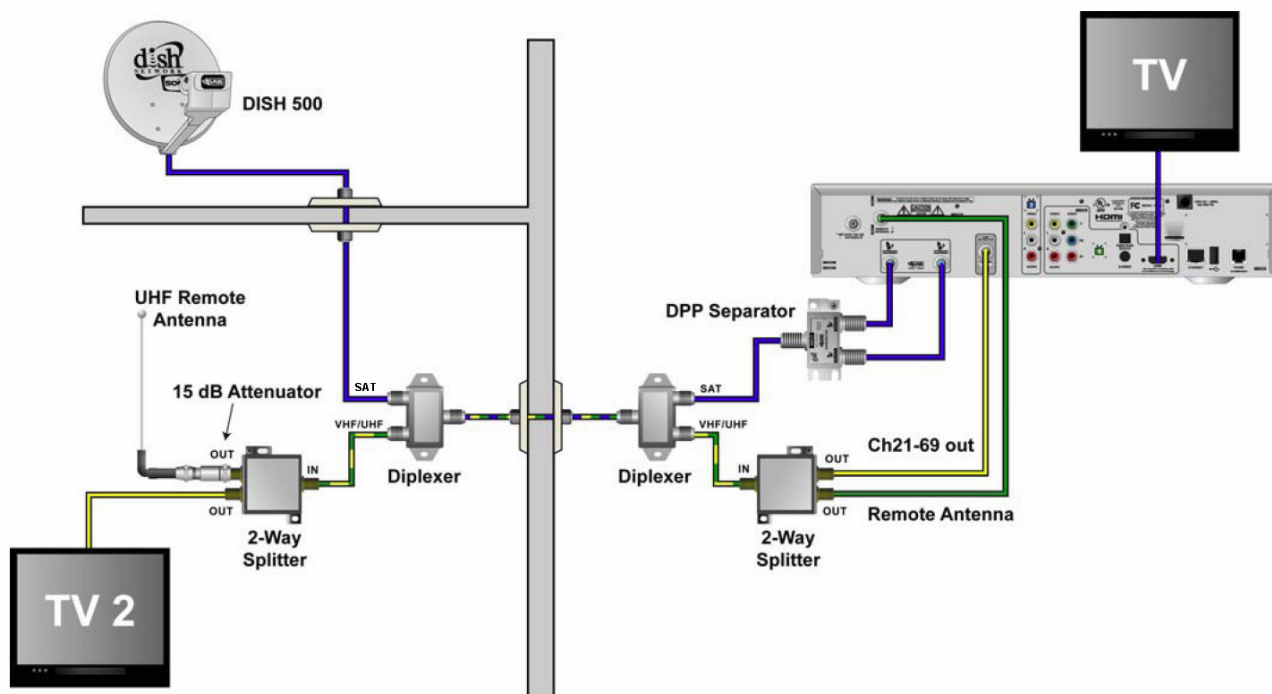
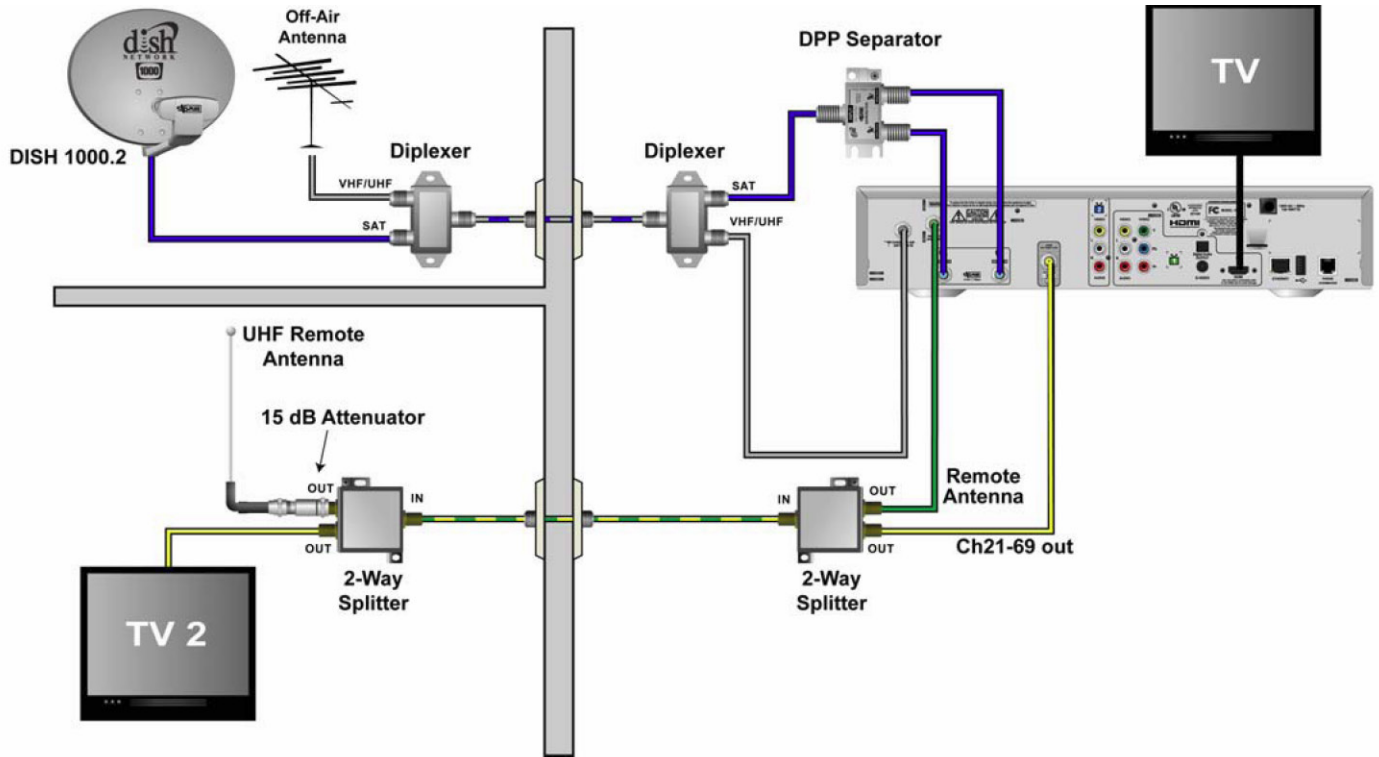


Diagram 4:

Dual-tuner, two-TV receiver with remote control antenna combined with HOME DISTRIBUTION (Ch 21-69 or 73-125) output. Over-the-Air antenna and Satellite In combined using diplexers on a separate cable.



Extending UHF and UHF Pro Remote Control Range

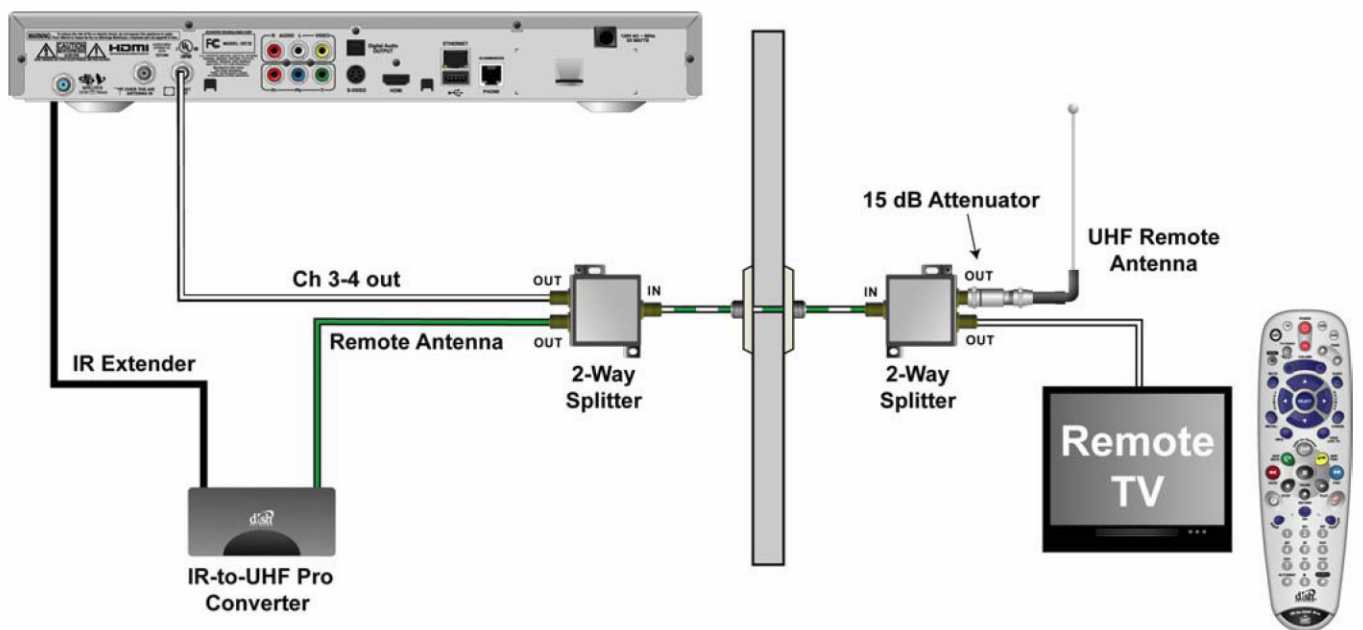
13-50e

Extending UHF and UHF Pro Remote Control Range

13-50f

Diagram 5:

Single-TV receiver using IR-UHF Pro or IR-UHF Upgrade Kit and remote control antenna combined with CH 3-4 output



UHF Remote Interference

If an approved external device is connected to a DISH Network ViP receiver and you notice degradation in the response of the receiver to the UHF remote control, try the following steps, in the order presented, to correct the issue.

After performing each step, try using the remote again to see if operation has improved.

1. Placement and Cables

Placement:

External devices should not be placed on top of the receiver, as close proximity can cause UHF remote interference. Move the external device away from the receiver and the UHF remote antenna connection points.

- o Increase the separation between the receiver and the external device
- o Place the device on a separate shelf from the receiver
- o Place the Sling Adapter flat on the rubber feet off to the side of the receiver
- o Do not position an accessory so that it will block the ventilation openings on the receiver

As a general rule, the further apart you can get the attached device and the UHF antenna the better.

USB Extension Cables:

Sling Adapter and External Hard Drive:

- o USB extension cables can increase interference if used on a Sling Adapter or an external hard drive
 - Do not use USB extension cable with these devices
 - Wi-Fi Adapter
 - The USB extension cable can be used with the Wi-Fi Adapter
 - One USB extension cable is included with the device
2. Change the frequency band for the UHF remote control to use UHF Pro Band B as follows:
- o On a 6.3 or 6.4 remote control:

UHF Remote Interference

13-50g

UHF Remote Interference

13-50h

- Remove the battery cover and slide the small switch inside the compartment to position B, changing the transmitted RF characteristics of the remote control
- Replace the battery cover and re-link the remote with the receiver using the System Information screen
- See the Remote Control User Guide for detailed instructions
- o On a 21.0 remote:
 - Select an even-numbered remote address (for example, address 2, 4, or 6) which sets this remote to Band B and re-link the remote with the receiver using the System Information screen
 - See the Remote Control User Guide for detailed instructions
 - Note: This step does not apply to ViP211 or ViP211k receivers. It applies to the ViP612 DVR receiver only if a UHF remote control is being used

3. UHF Remote Antenna

Move the UHF antenna away from the externally connected device and the receiver using a UHF remote-antenna extension cable

- o Use a coaxial jumper cable to relocate the antenna
 - RG-6 or RG-59 cable
 - This jumper should be four to six feet in length
 - Use a barrel connector to attach the UHF antenna to the jumper
 - o You may need to try several locations for the UHF remote antenna to find the one that works best in your installation
 - Route the cable and place the antenna in such a way that it is aesthetically pleasing to the customer
 - Remember when relocating the UHF antenna to be careful not to damage the customer's furnishings
4. USB Port
- o If an external device is connected to the USB port on the receiver's rear panel, try plugging the device into the front-panel USB port instead
 - Make sure the IR sensor on the front of the receiver is not blocked
5. Customer Education
- o Educate the customer on the actions you have taken to improve their Remote Control's operation
 - o Inform the customer that the interference could re-occur if they rearrange the devices

6. If none of these actions corrects the problem, refer to your manager.

Remote Key Overview

The available keys are shown and explained in the following chart. It's important to note that the 6.2/6.3/6.4 tabs are not interchangeable with 4.0/6.0 tabs. So in the instance where a customer receives a 6.4 tab to replace their 6.0 tab, they can not use the original tab on the new remote.



Receivers	211, 211k, 411, 222, 322, 522, 625 TV1	222, 222k, 622, 722, 722k, only TV1	322, 522, 625 only TV1	222, 522, 622, 625, 722, TV2	501, 508, 510	381, 612
Color	Green key with green 1	Green key with black 1 and UHF Pro icon	Green key with green 1 and UHF Pro icon	Blue key with black 2 and UHF Pro icon	Black key with UHF icon	Silver key with UHF Pro icon
SAT mode Sends Out:	IR	UHF Pro only	UHF Pro only	UHF Pro only	UHF & IR	UHF Pro only
SAT In AUX Mode Sends Out:	IR	UHF & IR	UHF & IR	UHF & IR	UHF & IR	UHF & IR

- The tabs can be broken down into the following:
- TV1 IR: Used for any IR configuration.
- TV1 UHF Pro: Used for TV1 of duo receivers when there is something preventing an IR remote from working correctly; this can include instances of IR interference or a customer having the receiver in a different room from the TV. There are two different

Remote Troubleshooting

13-59

Remote Troubleshooting

13-60

TV1 UHF Pro tabs. Green '1' and UHF Pro Icon: This tab should be used for setting up TV1 UHF Pro on a 322, 522 or 625 only. This tab sends out the same signals as a TV2 tab, relying on the receiver's TV1 UHF PRO Setup to recognize it as a TV1 command.

- Black '1' and UHF Pro Icon: Used for setting up TV1 UHF on VIP Duo receivers. No menu setup is required.
- TV2 UHF Pro: Used to program a remote for TV2 on any Duo receiver.
- UHF Pro: Used for any uhf pro receiver. This should normally be used for UHF Pro solo receivers, but can also be used for duo receivers; this should be avoided so as to prevent confusion stemming from the lack of numbers on the tab.
- IR/UHF: Used for receivers that support UHF rather than UHF Pro. With this tab, the remote sends out both UHF and IR signals in satellite mode. This allows the remote to be used with any IR receiver if we are unable to locate the TV1 IR tab.

Remote A/B Switch Overview

- The internal A/B switch allows selection between two frequencies to help in instances of UHF interference; this can include conflicts with another UHF Pro remote or UHF interference in general. The A/B toggle is located in the battery compartment of the remote control.
- Band A: In band A, the remote uses the 369.5 MHz frequency for TV1, while using 375.3 MHz for TV2. This is the band of UHF Pro recognized by all Dish Network UHF Pro receivers. With 21.0 remotes, odd remote addresses use band A. For this reason, when addressing a remote to a non-VIP receiver we need to ensure the switch is in the 'A' position or if we are using a 21.0 remote we need to ensure we use an odd remote address.
- Band B: In band B, the remote uses the 394.3 MHz frequency for TV1, while using 388.3 MHz for TV2. With 21.0 remotes, even remote addresses use band B. This band is only recognized by VIP series receivers.



Mobility Tablet Guidelines

Components and Functionality of Tablet

Indicator lights

- Indicator lights display status of the battery
- Power indicator light is to left of indicator lights

Function keys

- Function keys allow access to most used applications at the touch of a button
 - o F1 - touch screen keyboard
 - o F2 - show desktop
 - o F3 - battery indicator
 - o F4 - mouse trap

Touch Screen

Within touch screen, the icons you need are:

- DishNAV
- TechConnect
- VZAccess

Mobility Tablet Guidelines

16-1

Mobility Tablet Guidelines

16-2

- Power management system activates to save battery life when tablet is not getting external power
 - o After 20 minutes – Standby

Only when ignition is turned off will power management standby sequence initiate.

Log On

Remember User Names and Passwords are NOT to be shared outside of the company.

The tablet automatically connects to Internet through VZAccess Manager and TechConnect opens to the login screen.

Use

- Wireless connection speeds will vary based on geography
- Tablet operates like any PC based computer regarding opening, resizing, and closing windows
- There are several applications available, to open one double tap the appropriate icon

Note: DishNAV opens automatically when the van is in motion, so get all data entered before you are ready for voice instructions.

Processes may vary from location to location. Be sure to verify all processes with your FSM.

Bottom Panel

- Bottom panel as power plug and cradle holes, insert tablet in van cradle correctly, it charges as you drive

Stylus

- Orange stylus is located at back of case, use stylus or finger only to select items on screen

Side Panels

Left Side Function Button

- Toggles between full screen DishNAV to other windows in the background

Right Side Function Button

- Opens volume control tool

Power Switch

- Power on/off button is on left side of case.
- Click and hold power button for one second before letting it go
 - o Power on requires 1.5 second
 - o Standby recovery requires 0.5 second

Beginning of Day

- Complete sign out paperwork
- Perform morning functionality confirmation

End of Day

Tablets must be completely powered off each night unless notification has been received that the tablet updates are being sent out.

Check in mobile computer:

- Shut down computer
 - o Tap Start, select Shut Down
 - o Tap drop-down, select Shut Down, tap OK
- Complete sign in paperwork
- Store tablet in a secure area during charging
- Confirm:
 - o Charging cable secure
 - o Blinking light

Note: Remote technicians will not sign out daily, but will bring in from the van and charge at night in a secure area.

Troubleshooting

No Connectivity

- Check connectivity
 - Tap on VZ Access Manager
 - Check number of bars
 - No bars indicates no connectivity
 - Continue to status, pending transactions are stored and sync when connectivity is restored
 - Activation requires connectivity
- Return to using mobile computer when in signal range

Not Charged

- Dock mobile computer and turn on van
- Proceed with computer in dock and allow it to charge
- If unable to status while it charges, seek dispatch support until functional

Tablet not Functioning: Hardware or Application Issue

Prior to departure from office

- Notify FSM and obtain replacement

Mobility Tablet Guidelines

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Mobility Tablet Guidelines

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- Ensure tablet is never dropped
- Keep liquids away from tablet at all times
- Only use stylus or finger tip on LCD touch screen
- Don't expose tablet to rain, snow, sleet, hail, sun, etc.

Power Requirements

- Tablet will only charge when vehicle's ignition is on
 - Tablet should be docked at all times, when vehicle's ignition is on
 - DishNAV only functions while driving with tablet properly docked
 - Connectivity LED on docking cradle lights a solid color when connection is established
 - Secure tablet by connecting to AC power supply for charging overnight

When updates are provided overnight, leave tablets powered on, but logged off Windows
FSM will alert you when this is needed

Security Requirements

- Ensure tablet is in your possession or properly secured at all times throughout day
- After arriving at customer's home, place tablet in Standby

If not working once in field

- Contact Mobility Support Desk, option 8, obtain ticket #
- If tablet not charged, dock properly and turn on van
- If tablet is charging proceed with the tablet in dock
- Contact FSM if no Mobility Support Desk resolution within 10 minutes
 - FSM approves manual process
 - FSM resumes troubleshooting

System Issues

- Reboot computer
- Check connectivity
- Contact Mobility Support Desk, option 8, obtain ticket #
- Contact FSM if no Mobility Support Desk resolution within 10 minutes
 - FSM approves manual process
 - FSM resumes trouble shooting

General Rules

- Handle with CARE
- Don't place anything on top of tablet

mode by double tapping Standby icon

- To place table in Standby mode manually
 - Remove tablet from mount and place in charging station bin in back of the vehicle
 - Tap Start menu in bottom left corner of tablet screen
 - Select Shut Down
 - Tap drop down box, select Standby, tap OK
- When installation is complete and system requires activation (NC/RC), retrieve tablet from vehicle and bring into customer's home
- Return tablet to front vehicle mount before departure, after completion of the work order
- Do not leave tablet in van overnight (including remote technicians)

Other Usage Requirements

- Don't perform any data entry while vehicle in motion
- Don't use other electronic navigation devices (Garmin, TomTom, Magellan. etc.)
- Follow all procedures outlined in DNS Mobility Process

Care and Use Tips

Avoid Extreme Temperatures

Remove tablet from vehicle when:

- Outside temperature is 85 degrees or higher
- Outside temperature is 10 degrees or lower

If the tablet must be brought into the customer's home, it must be placed in a safe location while working.

Power Off the Tablet Nightly

Tablets must be completely powered off each night unless notification has been received that the tablet updates are being sent out.

Protect Power Ports

Power ports can easily be damaged by improperly forcing the tablet into the docking station in the van.

To avoid damage and ensure proper charging:

- Tighten the connector ring on the power cord
- Line up the keyed part of your power plug with the keyed power port
- Push the plug in until it is seated properly

Mobility Tablet Guidelines

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Mobility Tablet Guidelines

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Always Use Shoulder Straps

Every tablet must have a shoulder strap attached to avoid dropping the unit.

- Ensure all tablets have shoulder straps
- Use the strap to carry the tablet, ensuring the screen does not make contact with tools or supplies
- Report missing/damaged shoulder straps to your FSM

Prevent Spills

The tablets and docking station keyboard will not work properly if food or drink is spilled on them.

- Keyboards must be cleaned regularly
- If a spill does occur:
 - o Immediately unplug the keyboard
 - o Wipe the spill with a lightly damp cloth or paper towel
 - o Dry it thoroughly
- Once keyboard is dry, plug it back into docking station
- Report the spill to your FSM
- Report the issue to the Mobility Support Desk if functionality does not return

Version 3.1

- Turn the locking nut a quarter turn clockwise
- Lightly pull on the cord to ensure the power plug is locked onto the power port of the tablet
- Tightening the power port on the bottom of the tablet with a 1/2 inch socket when necessary

Check Dock Screws

Dock screws are critical to ensure the tablet will dock properly in the vehicle so it can charge throughout the day.

- Check dock screws weekly
- Report missing screws to your FSM for replacement

Safeguard Screen

The tablet's screen is not ruggedized and must be handled with care to avoid expensive repairs.

- Only the approved stylus or your finger should touch the screen
- Never use a pen or pencil on the screen
- Ensure screen is protected at all times
- Report to FSM when screen becomes scratched or worn for screen protector replacement

Secure External Battery

The external battery holds the majority of stored energy and if it isn't operational, the tablet's power will last approximately one hour.

- Ensure external battery is properly locked into place
- When replacing the battery, gently pull back the latch to avoid damaging the tablet or latch
- Report damaged external battery to your FSM

Ensure tablet bumpers are in good condition

The rubber bumpers on the sides of the tablet are crucial to the ruggedness of the tablet.

- Ensure the bumpers in the tablet are properly secured and not damaged
- Report damaged bumpers to your FSM for repair or replacement

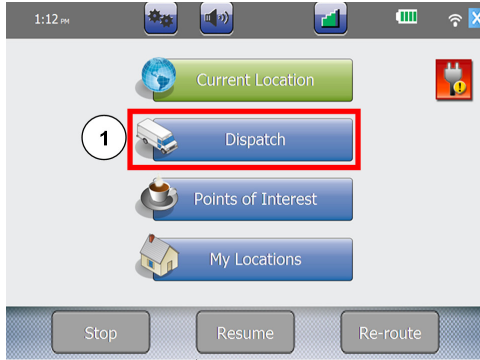
2/28/2011

DishNAV

Navigate to Address Procedure

Step 1

Select Dispatch



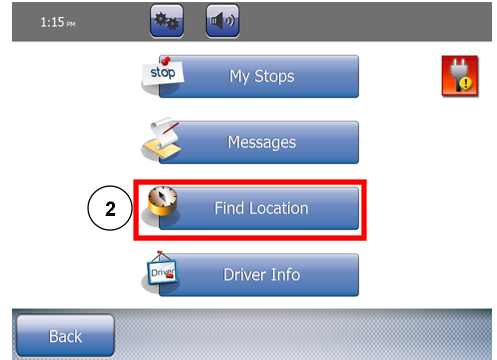
Step 2

Select Find Location



Step 3

Select ZIP Code



Step 4 & 5

Enter the ZIP Code and click OK



Mobility DishNAV

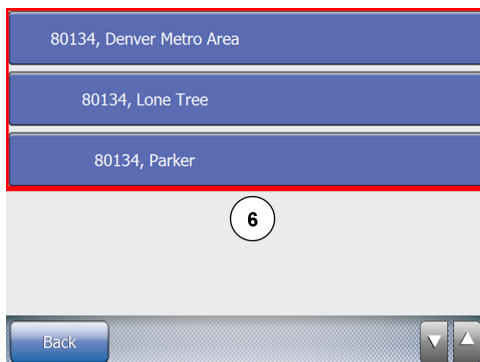
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Mobility DishNAV

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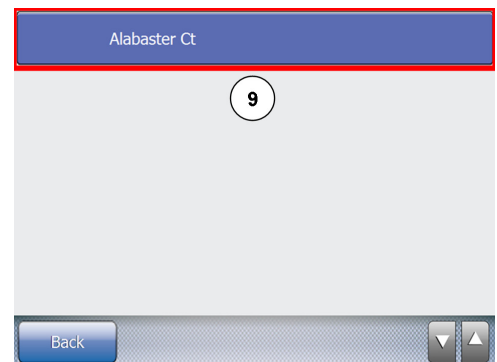
Step 6

From the displayed list, click the appropriate city.



Step 9

Select the appropriate street



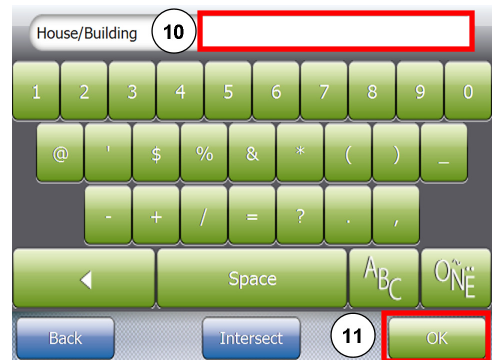
Step 7 and 8

Enter the street name and click OK



Step 10 and 11

Enter the house number and click OK



Step 12

Verify the address and click GO



Listen and drive



Mobility DishNAV

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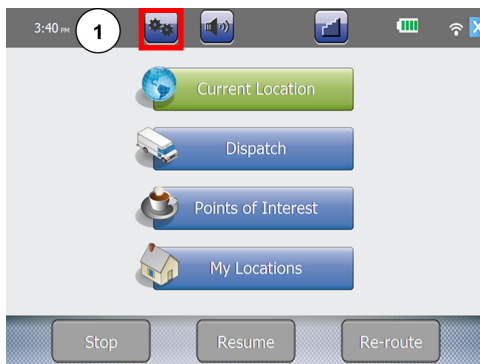
Mobility DishNAV

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Setting Route Preferences Procedure

Step 1

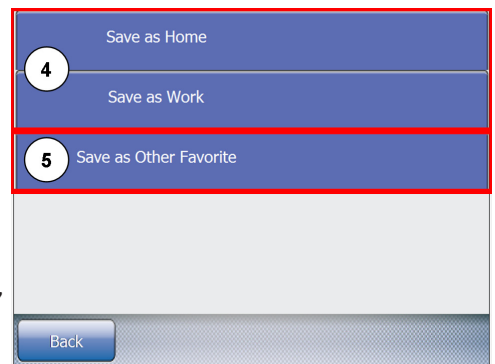
Click Settings



Step 3 and 4

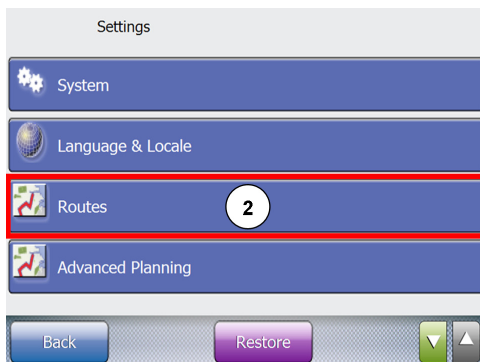
Toggle Use Route With from the Shortest Distance and Shortest Time

To customize the route to avoid certain road types, select Avoidances



Step 2

Click Routes



Step 5

To change a road type to avoid, click OK



DNS Standardized Notes

Business Rule	Definition	Recommended Note
Complete		XX:XX (time zone) Tech (number) CAO. (signature)
Completed TC		XX:XX (time zone) Tech (number) CAO. (Describe what was done to resolve)-TC Code (3-digit TC Code) (signature)
Hold-Aesthetics	Customer does not like how the installation will look	XX:XX (time zone) WO on hold per cust due to aesthetics, (describe aesthetic issue). FSM (name) app. (signature)
Hold-Bad	Address/Phone Cust address and/or phone number is incorrect	XX:XX (time zone) Wo on hold due to (describe address/phone issue). (describe steps taken to resolve) FSM (name) app. (signature)
Hold-Change Install Date	Customer wants to change date and time of appointment	XX:XX (time zone) Wo on hold per cust request, , cust not avail for scheduled date, cust will call to r/s. FSM (name) app. (signature)
Hold-Cust Changed Mind	Customer decides not to become a new customer or does not want upgrade ordered	XX:XX (time zone) Tech is on site. Cust changed mind. Gave number to loyalty. WO being placed on hold. FSM (name) app. (signature)
Hold-Cust Did Not Order	Customer claims they did not order Dish Network at all, or that they ordered something we do not offer (based on functionality or pricing)	XX:XX (time zone) Wo placed on hold due to cust did not order, conf with cust and gave number to loyalty, FSM (name) app. (signature)
Hold-Grounding SFU, Grounding MDU	Customer has no proper electrical ground for the dish being installed	XX:XX (time zone) Wo placed on hold due to no viable ground, cust lives in a MDU, FSM (name) app. (signature), XX:XX (time zone) WO place on hold due to no viable ground, cust lives in a SFU, FSM (name) app. (signature)

DNS Standardized Notes

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DNS Standardized Notes

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Business Rule	Definition	Recommended Note
Hold-House/Room Not Ready	Construction not completed, cannot get to TV's or outlets, etc.	XX:XX (time zone) WO placed on hold due to house not ready, conf with cust that house will not be ready for (how long). Adv cust to call 1-800-333-3474 when ready to r/s. FSM (name) app. (signature)
Hold-Inventory Not Available	Customer ordered product that is not in stock and there is no way to deliver it to the site on the scheduled date.	XX:XX (time zone) WO placed on hold due to equip needed to comp to wo is not avail. Warehouse is uncertain when equip will be avail. Will call cust to r/s when equip is avail. FSM (name) app. (signature)
Hold-Labor/ Hardware Cost	Customer does not want to pay additional cost of hardware or labor required to meet their needs	XX:XX (time zone) WO placed on hold due to cost of install/receiver. Gave cust number to loyalty. FSM (name) app. (signature)
Hold-Landlord Permission	Customer does not own their home or building, and has not obtained landlord permission for installation.	XX:XX (time zone) WO placed on hold due to cust not able to receive LLP for install. Gave number to local dispatch to r/s once LLP is obtained. FSM (name) app. (signature)
Hold-MA Mismatch	The address on the work order does not match the zip code and/or management area.	XX:XX (time zone) WO placed on hold due to MA Mismatch. Cust address is in different MA. Contacted cust to conf address. Sent e-mail to CSC-Area Mismatch to correct. FSM (name) app. (signature)
Hold-NLOS MDU	Customer has no line of sight for the installation. A verification will be done, but could not be completed while original tech was on site	XX:XX (time zone) WO placed on hold due to NLOS, cust lives in MDU. FSM (name) app hold. Sent info to DNS office for verification. (signature)
Hold-NLOS SFU		XX:XX (time zone) WO placed on hold due to NLOS, cust lives in SFU. FSM (name) app. Sent info to DNS office for verification. (signature)

Business Rule	Definition	Recommended Note
Hold-No Cust Equip	Customer has no TV's on site.	XX:XX (time zone) WO placed on hold due to cust does not have (TVs/Receiver) needed for the install. Cust will call 1-800-333-3474 after equip is on site to r/s. FSM (name) app. (signature)
Hold-Power Outage	No electrical service to the customer's home.	XX:XX (time stamp) WO placed on hold per cust request. Cust has no power at this time. Cust will call once power is restored to r/s. FSM (name) app. (signature)
Hold-Prog Unavailable	Customer does not want their job completed until a programming issue has been resolved	XX:XX (time zone) WO placed on hold per cust req. Cust is not able to receive (describe) in their area. Gave number to loyalty. FSM (name) app. (signature)
Hold-Tech Missed Appt	Technician arrived after scheduled time slot or did not arrive at all	XX:XX (time zone) WO placed on hold. There were no internal techs or subs that would arrive in the time frame and cust was unable to wait. Cust will call to r/s. FSM (name) app. (signature)
Hold-Unavailable/ Not Home	Customer is not at their home at that time of installation, or the account holder is not available at the time of installation.	XX:XX (time zone) WO placed on hold due to cust not home. (Describe measures used to reach customer). (3 descriptions of residence). FSM (name) app. (signature)
Hold-Weather	Weather is preventing completion of work order	XX:XX (time zone) WO placed on hold due to weather. Tech not able to travel/access dish due to ice/wind/snow/rain. Will call cust to r/s once weather has cleared. FSM (name) app. (signature)
Pole Mount Installation Work Order Process		XX:XX (time zone) Cust req dish be installed on pole. Dig Rite/Blue Stake (#) to be completed by (date). Temp mount comp. tech will return on (Date AM/PM) to install PLMT. (signature)

DNS Standardized Notes

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DNS Standardized Notes

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Established DISH Network Abbreviations

A		BLK	Black
AC	Additional Contact #	BUS	business
ACCT	Account		
ACT	Activation	C	
ADV	Advised	C/B	Call back
AFTR	After	CA	Change of Address
ALT	Alternate	CAO	Completed as Ordered
APP	Approve	CATV	Cable TV
APV	Appointment Verification Call	CBL	Cable
ARR	Arrived	CC	Change of Contact #
Attn	Attention	CCI	Customer Called In
ATR	Advance Technical Representative	CDT	Central Daylight Time
AUTH	Authorize	CE	Change of Equipment
AV	Audio video DNS	CH	Service Change
AVAIL	Available	CHNL	Channel
AZ	Azimuth	CHRGD	Charged
		CI	Called in
B		CNR	Hold - Customer Not Ready
B/W	Black and white	CONF	Confirmation
BK	Back	CONFIG	Configuration
BLDG	Building	CONN	Connection(s)

CONUS Continental United States
 CP Chang of Programming
 CSR Customer Service Representative.
 CSC Customer Service Center
 CST Central Standard Time
 Cust Customer
 CXL Cancel

 D
 D300 DISH 300
 D500 DISH 500
 D1000 DISH 1000
 DECL Declined
 DEPT Department
 DGRID Dispatch Grid
 DHA Digital Home Advantage
 DHP Digital Home Plan.
 DHPP DISH Home Protection Plan
 DISCO Disconnect
 DISP Dispatch
 DLNB Dual LNBF
 DM Dispatch Manager
 DMA Designated Market Area/local network channels

DNS DISH Network Service
 DSUP Dispatch Supervisor
 DSHMVR Dish Mover
 DWN Down
 DVR Digital Video Recorder

 E
 E East
 E* EchoStar
 EDT Eastern Daylight Time
 EQUIP Equipment
 ERR Error
 ERT Executive Resolution Team
 ESC Escalate
 EST Eastern Standard Time
 ETA Estimated Time of Arrival
 ETC Estimated Time of Completion
 EXST Existing

F
 FAQ A list of frequently asked questions and their answers about a given subject.

DNS Standardized Notes

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DNS Standardized Notes

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FR Front
 FSM Field Service Manager

 G
 GM General Manager

 H
 HDMI High Definition Multimedia Interface cable
 HDTV High Definition Television
 HR Hour

L
 L1 Line 1/Primary Number
 L2 Line 2/Secondary Number
 LM Left Message
 LNB (or LNBF) Low Noise Block Converter with Integrated Feed
 LLP Landlord Permission
 LOS Line of Sight
 LSC Local service center
 LY Saved by Loyalty Team

I
 IM Installation Manager
 INET Internet
 INSTLR Installer
 IR Infrared
 IVR Our automated phone system

M
 MA Management Area
 MC Must Carry
 MDL Model
 MDT Mountain Daylight Time
 MST Mountain Standard Time
 MDU Multiple Dwelling Unit
 MNTH Month

J
 JIJ Jobs in Jeopardy
 K
 KPI Known Product Issue
 KRI Known Receiver Issue

N
 N North
 N/A Non Applicable

NA No Answer/No Voicemail
 NC New Connect
 NE Northeast
 NGRND No ground
 NLOS No Line Of Sight
 NFOC National Field Operations Center
 NPF No problem found
 NR/AO Not Rated / Adult Only
 NW Northwest

O
 OBST Obstruct/obstruction
 OJT On the Job Training
 OPID Operator ID

P
 PDT Pacific Daylight Time
 PH Phone
 PI Promotion Incorrect
 PLZ Please
 PRBLM Problem
 PROG Programming
 PST Pacific Standard Time

PWR Power
 Q
 QAM Quadrature Amplitude Modulation
 QAS Quality Assurance Supervisor
 QLNB Quad LNBF

R
 R# Receiver number
 R.A. Return Authorization
 REP Representative
 REPL Replace
 REQ Request
 RESCHD Researched
 RFRD Referred
 RMT Remote
 RS Reschedule
 RSTRT Restart

S
 S South
 SAT Satellite
 SC Smart Card

DNS Standardized Notes

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DNS Standardized Notes

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SCHED Scheduled
 SDTV Standard-Definition Television
 SD SuperDISH
 SE Southeast
 SFTY Safety reasons
 SIG Signal
 SLNB Single LNBF
 SRVC Service
 STB Set top box
 SUB Subcontractor
 SUP Supervisor
 SW Switch
 SYS System

TSR Technical support representative
 TWOS Time Without Service
 U
 UU Unauthorized/Unavailable
 W
 W West
 W/ With
 W/B or WNBACK Loyalty Team
 WO Work Order
 WOV Work Order Verification
 WRNTY Warranty
 WTHR Weather

T
 TBD To Be Determined
 TBLSHT Troubleshoot
 TC Trouble Call
 TECH Technician
 TMRW Tomorrow
 TLNB Twin LNBF
 TST Test

X Y Z
 XFER Transfer
 XDR Transponder
 X-Streets Cross streets
 YR Year
 ZIP ZIP Code

Standardized Customer Education

All sections of Customer Education MUST be completed in the order below on every install!

1. Hand Customer Remote

- Show “Getting Started with Dish” guide (GSG) and reference throughout education

2. Remote Layout

- Explain remote key 1 or 2 on bottom of remote
- Point out remote sticker on back of remote
- Explain tip about SAT mode

3. Turning your TV On and Off

- **Have customer:** turn TV On and Off
- Explain screensaver that appears (receiver is off but TV still on)
- **Have customer:** turn TV back On

4. Turning your Receiver On and Off

- **Have customer:**
 - o Turn the receiver On and Off
 - o Turn receiver back on

Standardized Customer Education

17-1

Standardized Customer Education

17-2

- o Press GUIDE button and use PAGE DOWN button to get to 110 (Food Network)
- o Explain how PAGE UP and PAGE DOWN buttons work

8. Selecting a Favorites List to Display on Your Program Guide

- Explain Favorites Lists
 - Explain 3 pre-programmed Favorites Lists
 - **Have customer:**
 - o Press GUIDE button to display Favorites List Options screen
 - o Select All Sub favorites list
 - o Select All Chan favorites list
- ## 9. Exiting On-Screen Menus
- Explain VIEW LIVE TV button
 - Explain Cancel button
 - **Have customer:**
 - o Exit a MENU screen using the VIEW LIVE TV button
 - o Exit a MENU screen using the Cancel button

5. Staying on the Correct TV Input or Channel

- Explain the importance of being on the correct input or channel
- Show the correct input or channel on the GSG and show remote sticker
 - o Show what the incorrect input or channel looks like

6. Fixing a Black, Blue, or Snowy Screen

- **Have customer:**
 - Get back onto correct input or channel
 - Press SAT mode button to ensure the TV is in SAT mode

7. Changing Channels

- Explain the 3 ways to change channels
- **Have customer:**
 - o Press 110 (Food Network) on the keypad
 - o Press CHANNEL UP until on 112 (HGTV)
 - o Press CHANNEL DOWN until on 110 (Food Network)
 - o Press GUIDE button and use the CHANNEL UP button to get to 120 (History Channel)

Additional Tips

- Ask customer if they are interested in Parental Controls or closed captioning
- If so, program settings for them and point out in GSG where steps are located

If customer does not have a DVR, skip to Troubleshooting

1. Using your DVR while Watching Live TV

- Explain what a DVR is and show “Getting Started with your DVR” guide
- **Have customer:**
 - o Press PAUSE to pause live TV
 - o Press PLAY to resume watching TV
 - o Press SKIP BACK to jump back 10 seconds
 - o Press SKIP FWD to jump ahead 30 seconds
 - o Press VIEW LIVE TV to get back to live TV

2. Recording a TV Program

- Explain that you can record a program now or in the future
- Explain the record frequency (all episodes, new episodes, once)
- **Have customer:**

- o Press RECORD to record program that is currently on
 - o Press STOP to stop recording program
 - o Use GUIDE to record a program in the future (create a scheduled timer)
 - o Choose recording frequency
3. Watching a Recording
- **Have customer:**
 - Access my recordings by pressing the DVR button
 - View program that was just recorded
4. Deleting a Recorded Program
- **Have customer:**
 - Access my recordings by pressing the DVR button
 - Delete program that was just recorded
5. Deleting a Scheduled Timer (Future Recording)
- **Have customer:**
 - o Access My Recordings by pressing the DVR button
 - o Select schedule, then select timers
 - o Delete scheduled timer that was just created

6. Troubleshooting

- Explain that 75% of all calls received for technical issues are solved with the 5 troubleshooting steps:
 - **Have customer:**
 - o Press the SAT mode button (**Step 1**)
 - o Get the TV back on the correct input or channel (**Step 2**)
 - o Change the Favorites List from one to another (**Step 3**)
 - o Explain that removing objects obstructing the signal to the dish (only when safe) or waiting for a storm to pass could solve the issue (**Step 4**)
 - o Explain that resetting the receiver by unplugging it from the wall for 10 seconds could solve the issue (**Step 5**)
7. Ask customer if they have any questions
8. Staying on the Correct TV Input or Channel on TV2 (or other TVs)
- Take customer to TV2 and show the correct Input or Channel on the GSG
 - Show remote sticker and point out that TV2 is on a different Input or Channel than TV1
 - Show what the incorrect Input or Channel looks like
 - Have customer: get TV2 back to the correct Input

Quarterly Snapshot

Programming

America's Top Packages NEW

Package	America's Top 120	America's Top 120+	America's Top 200	America's Top 250	America's "Everything" Pak
Price	\$44.99 /mo	\$49.99 /mo	\$59.99 /mo	\$69.99 /mo	\$104.99 /mo
HD Free for Life*	\$0.00/mo	\$0.00/mo	\$0.00/mo	\$0.00/mo	\$0.00/mo
HD Add-on	\$10.00/mo	\$10.00/mo	\$10.00/mo	\$10.00/mo	\$10.00/mo

DishLATINO Packages NEW

Package	DishMÉXICO	DishLATINO Clásico	DishLATINO Plus	DishLATINO Dos	DishLATINO Max
Price	\$19.99 /mo	\$32.99 /mo	\$37.99 /mo	\$44.99 /mo	\$57.99 /mo
HD Free for Life*	NA	NA	NA	\$0.00/mo	\$0.00/mo
HD Add-on	NA	NA	NA	\$10.00/mo	\$10.00/mo

HD Only Packages NEW

DISH America	DISH America Silver	DISH America Gold
\$34.99 /mo	\$49.99 /mo	\$59.99 /mo

Local channels are included in all package prices.
Add DISH Platinum to any HD package for \$10.00/mo.

* Requires 24-month agreement and AutoPay with Paperless Billing OR \$99 One-Time HD Programming Upgrade. \$240 Cancellation Fee (prorated at \$10/month) applies to HD Free for Life.

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Quarterly Snapshot 2/1/2011

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SD Equipment

Receiver/ TV Support	DHA24		DHA		Flex24		Flex		Additional Receiver Fee
	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	
Solo (311) 1 SDTV	\$0	\$0	\$0	\$0	\$0	\$49	\$99	\$149 MSRP	\$7/month
Duo (322) 2 SDTVs	\$0	\$0	\$0	\$0	\$0	\$49	\$99	\$149 MSRP	\$14/month
Solo DVR (512) 1 SDTV	\$0	\$0	\$0	\$0	\$0	\$49	\$99	\$149 MSRP	\$10/month
DuoDVR™ (522, 625) 2 SDTVs	\$0	\$0	\$0	\$0	\$0	\$49	\$99	\$149 MSRP	\$17/month

HD Equipment

Receiver/ TV Support	DHA24		DHA		Flex24		Flex		Additional Receiver Fee
	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	Primary	2 nd or 3 rd	
HD Solo (211) 1 HDTV	\$0	\$0	\$0	\$0	\$99	\$149	\$149 MSRP	\$149 MSRP	\$7/month
HD Duo (222, 222k) 1 HDTV & 1 SDTV	\$0	\$0	\$0	\$0	\$149	\$199	\$199 MSRP	\$199 MSRP	\$14/month
HD Solo DVR (612) 1 HDTV	\$0	\$99	\$0	\$99	\$199	\$449	\$449 MSRP	\$449 MSRP	\$10/month
HD DuoDVR™ (622, 722, 722k) 1 HDTV & 1 SDTV	\$0	\$99	\$0	\$99	\$199	\$449	\$449 MSRP	\$449 MSRP	\$17/month
SlingLoaded™ DVR* (ViP® 922) 1 HD, 1 SD, 1 Mobile <small>NEW</small>	\$199	NA	\$199	NA	\$599	NA	\$599	\$649 MSRP	\$17/month

* Only one leased ViP922 SlingLoaded DVR is allowed per account. Additional ViP922 receivers are purchased at MSRP of \$649. Check for availability.

Equipment

Key Points	DHA24	DHA	Flex24	Flex
Agreement	24-month	None	24-month	None
Activation Fee	\$0	\$99	\$99	\$149
Cancellation Fee	\$420	NA	\$420	NA
SSN or Tax ID	Required	Required	Required	NOT Required
Credit / Debit Card	Required (\$1 Hold)	Required (\$1 Hold)	Required (\$1 Hold)	NOT Required
Payment Collection	1 st Bill Upfront	1 st Bill Upfront	1 st Bill Upfront	1 st Bill Upfront
Equipment within Plan	Lease up to 3 Receivers (6 Tuners)	Lease up to 3 Receivers (6 Tuners)	Lease up to 3 Receivers (6 Tuners)	Own up to 1 Receiver (2 Tuners)
Installation	Free Up to 6 Tuners	Free Up to 6 Tuners	Free Up to 6 Tuners	Free Up to 6 Tuners

Offers	NEW DHA24	NEW DHA	NEW Flex24	NEW Flex
Showtime, DISH Platinum, and Playboy require AutoPay with Paperless Billing. HD Free for Life requires 24-month agreement and AutoPay with Paperless Billing OR \$99 One-Time HD Programming Upgrade.	\$20/15/10 off per mo. for 12 mos (Based on programming) \$20: AT200, AT250, AEP \$15: AT120, AT120+, Dos, Max \$10: All DISH America, Clásico, Plus Showtime, DISH Platinum, & Playboy Free for 3 Months Service Plan Free for 6 Months HD Free for Life	Showtime, DISH Platinum, & Playboy Free for 3 Months Service Plan Free for 6 Months HD Free for Life	\$20/15/10 off per mo. for 12 mos (Based on programming) \$20: AT200, AT250, AEP \$15: AT120, AT120+, Dos, Max \$10: All DISH America, Clásico, Plus Showtime, DISH Platinum, & Playboy Free for 3 Months Service Plan Free for 6 Months HD Free for Life	Showtime, DISH Platinum, & Playboy Free for 3 Months Service Plan Free for 6 Months HD Free for Life

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Quarterly Snapshot 2/1/2011

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Premium Packages	2 Premium Packages	3 Premium Packages	4 Premium Packages
HBO \$16.00 Cinemax \$13.00 Showtime \$13.00 Starz \$13.00	\$24/mo Save \$2 or more when you subscribe to any 2 premium packages.	\$33/mo Save \$6 or more when you subscribe to any 3 premium packages.	\$42/mo Save \$13 or more when you subscribe to any 4 premium packages.

Buy-Through Packages	Arabic Elite Super Pack	\$39.99	German Language Plus	\$29.99	Pan-African Bouquet	\$24.99
Customers must subscribe to one of these Buy-Through Packages to qualify for international packages (unless they subscribe to America's Top or DishLATINO programming). International Basic \$10.00 Chinese Basic ... \$10.00	Arabic Elite Pack	\$34.99	Greek Elite Pack	\$24.99	Polish Super Pack	\$29.99
	Arabic Enhanced Pack	\$29.99	Hindi Mega Pack	\$49.99	Polish Premium Pack	\$29.99
	Bangla Elite Pack	\$34.99	Hindi Super Pack	\$39.99	Luso Package	\$29.99
	Bangla Mega Pack	\$29.99	Hindi Elite Pack	\$34.99	Punjabi Pack	\$24.99
	Bengali Prabasi Pack	\$19.99	Hindi Movie Pack	\$24.99	Russian Mega Pack NEW	\$24.99
	Brazil Elite	\$34.99	Israeli Select Package	\$34.99	Taiwanese Mega Pack	\$29.99
	Great Wall TV NEW	\$22.99	Panorama Italiano	\$19.99	Taiwanese Elite Pack	\$19.99
	Chinese Elite Pack	\$19.99	TV Japan	\$24.99	Tamil Mega Pack	\$29.99
	Pinoy Mega Pack	\$24.99	Kannada Mega Pack	\$19.99	Telugu Pack	\$29.99
	French Bouquet	\$19.99	Korean Tiger Pack	\$19.99	PAK Mega Pack	\$34.99
	Eurochannel	\$19.99	Malayalam Mega Pack	\$29.99	and more!	

Additional Services

DVR Service Fee: \$6/month or \$10/month for accounts with a ViP922 (Charged once per month per account with a DVR)
DVR Integration Fee: \$4/month (Charged once per month per account with a Logitech Revue with Google TV)
Service Plan: \$6/month (Free for 6 months for new customers with DHA24, DHA, Flex24, or Flex)

Standard/Custom Work

Category	Standard Work (what's included)	Custom Work (additional charges may apply)
Status Customer	<ul style="list-style-type: none"> Email an order confirmation with appointment date and arrival window (if accurate email is provided). Place reminder call the evening prior to the appointment. Update arrival time status by phone on day of appointment. 	
Review Order and Set Up Plan	<ul style="list-style-type: none"> Review the order and set-up plan at the start of the appointment, prior to performing any installation work. 	
Set Up Dish	<ul style="list-style-type: none"> Mount dish on outside wall, balcony, or roof to achieve best line of sight (dish must generally face to the south). Mount dish on pole (up to five feet) if necessary. A second appointment would be required after utility lines are marked. 	<ul style="list-style-type: none"> Bury more than 50' of cable for pole mount or other purposes (as measured from dish to point of entry into home). Relocate dish due to customer request (aesthetics, new roof, construction etc.) after set-up and appointment is complete.
Set Up Wiring	<ul style="list-style-type: none"> Run DISH-approved RG-6 coax cable from dish to receiver(s) up to 150'. Once inside the home, cabling may be run through attics or unfinished basements to the receiver outlet. Neatly dress any installed exposed cabling. 	<ul style="list-style-type: none"> Run cable from dish to receiver(s) greater than 150'. Fishing cable beyond what is required to route cable from the attic/unfinished basement to the receiver outlet.

Standard/Custom Work

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Standard/Custom Work

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Standard/Custom Work

Category	Standard Work (what's included)	Custom Work (additional charges may apply)
Set Up DISH Receivers	<ul style="list-style-type: none"> Connect each receiver to one TV. If a Duo receiver is installed, connect each tuner to one TV. Connect HD receiver to HD TV using HDMI cable. Connect receiver to broadband or phone line. Activate receivers. 	<ul style="list-style-type: none"> Mirror TV (connect more than one TV per tuner). Relocate receiver due to customer request (aesthetics, remodel, construction etc.) after set-up and appointment is complete. Re-cable to customer relocated TV (aesthetics, remodel, construction etc.) after set-up and appointment is complete. Configure changes to home stereo system, custom remotes or other equipment. (DISH does not currently perform this custom work).
Set Up Remote Controls	<ul style="list-style-type: none"> Program each DISH remote control to applicable DISH receiver and TV. 	
Educate Customer	<ul style="list-style-type: none"> Provide <i>Getting Started with DISH Guide</i> including 20 minute training. 	
Wrap Up	<ul style="list-style-type: none"> Clean up all work sites, including removal of boxes and packaging. Review customer paperwork and obtain required signatures. 	

Custom Work

Custom Task	Code	Description
Set Up Mirrored TV	N=	Install more than 1 TV per tuner Eligible for Duo receivers only. Always leave an additional remote for the mirrored TV.
Relocate Dish	{?	Relocate dish due to customer request (aesthetics, remodel, new roof, construction) after setup and appointment is complete. The relocation is not due to signal issue resulting from the initial installation.
Relocate Receiver	{#	Relocate receiver due to customer request (aesthetics, remodel, construction) after setup and appointment is complete. The relocation is not due to signal issue resulting from the initial installation.
Set Up Customer/Relocated TV	\$1	Re-cable to TV due to customer relocating their TV (aesthetics, remodel, construction) after setup and appointment is complete.
Set up Wallfish	:7	Fishing cable beyond what is required to route cable from the attic/unfinished basement to the receiver outlet.
Bury cable over 50 ft	S+	Bury more than 50' of cable for pole mount or other purposes (as measured from dish to point of entry into home).
<p>* Task fee of \$50 for each task. Truck roll fee of \$15 or \$95 applies if the task is the reason for the work order. * If at the time of the appointment the technician determines that the work required to restore a system is due to the customer moving the TV, receiver or dish, custom work charges may apply.</p>		

Standard/Custom Work

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Logitech Revue with Google TV

Pre-Installation

Ensure customer is aware of the requirements to install the Logitech Revue during the pre-installation walk through.

1. Identify all requirements are met
 - ViP 622 model family receiver (per work order)
 - o Broadband or DSL internet service installed and active
 - o Router with wireless connectivity
 - If router does not have wireless capability ensure two open ports on router with direct Ethernet connectivity to Logitech Revue and receiver
 - If modem ONLY (no existing router or gateway): provide the DNS router in accordance with router install guidelines and this job aid

NOTE: If direct Ethernet connection is not possible from the DNS router to Logitech Revue and receiver, activate the router's wireless function to establish connectivity.

2. Review requirements for connecting the Logitech Revue
3. Gain customer agreement before integrating the Logitech Revue with their receiver and home network
4. Determine connection method for Logitech Revue and receiver
 - Wirelessly using the Logitech Revue, ensuring Ethernet cable is connected between the Revue and receiver

NOTE: The receiver recognizes this connection as a direct Ethernet connection.

- Direct Ethernet from router to Revue and receiver, ensuring both are on the same network

Logitech Revue with Google TV

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Logitech Revue with Google TV

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Before setting up the Logitech Revue, request that the customer gather the following information (as applicable to their setup):

- o Wireless network name and password
- o TV brand and model
- o Stereo receiver brand and model

Ensure the customer is present when installing the Logitech Revue

Installation Steps

1. Complete the dish installation and receiver download before proceeding with Logitech Revue installation
2. Remove the connection between the receiver and HDTV
3. Connect the receiver to the Logitech Revue with an HDMI cable (HDMI Out on the receiver and HDMI In on the Logitech Revue)
4. Connect Logitech Revue and HDTV with an HDMI cable (HDMI Out on the Logitech Revue and HDMI In on the HDTV)
5. Connect the Logitech Revue to broadband wirelessly or by direct Ethernet

IMPORTANT: Using a SlingLink solution will NOT work with the Logitech Revue, as it is NOT HomePlug compatible even when two SlingLinks are used

6. Connect Logitech Revue to power source
7. Set up TV & AV

Logitech Revue with Google TV Troubleshooting

When troubleshooting the Logitech Revue is required, be sure to follow the Connectivity Escalate Process:

1. Perform normal troubleshooting by following the steps in this job aid.
2. When you cannot resolve the issue, contact your FSM for further guidance.
3. If there is no resolution, call DASH (866-688-3274) to reach a specialty agent.
 - a. Select Option 5
 - b. Be prepared to provide the Logitech Revue serial # from the sticker on the bottom of the device.
 - c. Additional direction will be provided by the specialty agent.

Video Issues - Black, Blue, Snowy Screen

Step	Troubleshooting	How To
1	Verify HDMI Connections	Verify HDMI cables are connected from the DISH receiver HDMI Out to the HDMI In of the Revue, and the HDMI Out of the Revue to the HDMI In of the TV.
2	Reset Revue and DISH Receiver	Unplug both the Revue and DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.
3	Check Receiver-to-TV Configuration	Check that the wiring between the DISH receiver and TV is configured properly.
4	Secure Receiver-to-TV Connections	Check that the connections between your DISH receiver, the TV, and any component(s) (VCR, DVD Player, etc.) in between are secure.
5	Bypass Revue	Bypass the Revue and directly connect the DISH receiver to the TV using an HDMI cable.

Logitech Revue with Google TV Troubleshooting

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Logitech Revue with Google TV Troubleshooting

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Video Issues - Distorted Video

Step	Troubleshooting	How To
1	Change Format	For Video Format Issues: Access "HOME" , select "SETTINGS" , then "PICTURE & SOUND" . Select "RESOLUTION" and choose the picture format that matches the TV setting.
2	Reconfigure Screen Size	For Video Size Issues: Access "HOME" , select "SETTINGS" , then "PICTURE & SOUND" . Select "PICTURE SIZE" to reconfigure the screen size so it fills up the entire TV screen. Note: The Revue will reboot once this step is completed.
3	Reset Revue and DISH Receiver	Unplug both the Revue and DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.
4	Verify Revue HDMI	Verify HDMI cables are connected from the receiver to the HDMI In of the Revue, and the HDMI Out of the Revue to the TV.
5	Bypass Revue	Bypass the Revue and directly connect the DISH receiver to the TV using an HDMI cable.

Video Issues - Frozen Video

Step	Troubleshooting	How To
1	Verify Keyboard is On	Verify the keyboard's power switch is in the "ON" position.
2	Check that Front Panel Can Change Channels	Press the up/down buttons on the front panel of the DISH receiver (some may be inside front panel door) to see if the receiver changes channels.
3	Reset Revue and DISH Receiver	Unplug both the Revue and DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.
4	Bypass Revue	Bypass the Revue and directly connect the DISH receiver to the TV using an HDMI cable.

Connectivity

Step	Troubleshooting	How To
1	Verify DISH Receiver and Revue Connections	Check that the wiring between the DISH receiver and the Revue is configured properly.
2	Confirm Network Connections	Access " HOME ", select " SETTINGS ", then " NETWORK CONNECTION ". Confirm the status for Wi-Fi Connection. Select " WI-FI SETTINGS ". Confirm connected to the correct wireless network. Select " NETWORK INFORMATION ", then " REFRESH ". If not, troubleshoot wireless or Ethernet.
3	Reset Revue and DISH Receiver	Unplug both the Revue and DISH receiver for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.
4	Reset Broadband Router/ Modem	Unplug the broadband router or modem for 10 seconds and plug back in.
5	Check LED Lights	Verify the DSL light is steady green and the Internet light is steady or flashing green. If there is no light or the light is red, have the customer contact their Internet Service Provider (ISP).
6	Access Internet Using Home Computer	Ensure the Internet connection is working correctly by accessing the Internet on a computer. If unable to access the Internet on a computer, have the customer contact their Internet Service Provider (ISP).
7	Verify Call Out Success	Using the DISH remote control, access " DIAGNOSTICS ". Select " ANALYSIS ", then " SEND STATUS ". Check for confirmation of call out success or a confirmation code from STBH Live with all circles under " STATUS " showing.
8	Connect Receiver to Router	Directly connect the DISH receiver to the home network's router using an Ethernet cable.

Unable to Pair DISH Receiver

Step	Troubleshooting	How To
1	Verify UPnP Enabled	Using the DISH remote control, access " BROADBAND SETUP ", select " IP DEVICES ", then " SETTINGS ". Verify UPnP is " ENABLED ".
2	Pair Revue with DISH Receiver	Attempt to pair the Revue with the DISH receiver.

Logitech Revue with Google TV Troubleshooting

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Logitech Revue with Google TV Troubleshooting

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Setup Wizard

1	Turn On Keyboard	Turn on keyboard controller; navigation overview steps will be provided for assistance.
2	Adjust Screen Size	Use the keyboard's navigation keys to adjust the screen size until the black box covers the blue background, select " NEXT ". If the blue background is still visible, select " START OVER ".
3	Select Type of Network Connection	Select " ETHERNET " or " WI-FI " (Wireless) based on the home network connection then select " NEXT ".
4	Choose a Wireless Network	For Wi-Fi connection only: Choose the wireless network you want to connect to, select " NEXT ". If the wireless network is not listed, select " ADD WIRELESS NETWORK ". If required, enter the network password for the wireless network chosen.
5	Verify Revue Connections	If unable to connect, verify the connection from the Revue to the home's router. If wireless network, verify that the wireless network is functioning properly with another wireless device.
6	Install System Update	If a system update is installed, the Revue will reboot and the Setup Wizard will start over. If not, the Setup Wizard will continue.
7	Log In to Google Account	Have customer log in to their Google account. If they do not have a Google account, select " CREATE AN ACCOUNT ". For login support visit http://www.google.com/support/accounts/ .
8	Participate in Google TV Bug Reporting	Select the option " HELP MAKE GOOGLE TV BETTER ". Bug reports will automatically be sent to Google for research if the customer wishes to participate in Google TV bug reporting.
9	Accept Legal Notice	Accept the Logitech legal notice.
10	Enter Zip Code	Enter the customer's Zip Code.
11	Select Type of TV Service	Select the " I HAVE CABLE, SATELLITE OR OTHER TV SERVICE... ".
12	Verify Video	Verify video is displayed, select " NEXT ".
13	Select DISH Receiver	Select the DISH receiver connected to the Revue. If only ONE receiver is recognized, select " YES ".
14	Log In to Google Account to Activate Google TV Service	If the Pairing message appears: Have the customer log in to their account at http://www.dish.com , then select " ACTIVATE GOOGLE TV SERVICE ".

Step	Troubleshooting	How To
15	Accept DISH Network Agreement	Accept the DISH Network agreement.
16	Enter Confirmation Code	Enter the confirmation code displayed on the set-top-box pop up.
17	Sync to Keyboard	For TV Setup: Enter the make and model of the TV to sync the keyboard. For AV Receiver Setup: Enter the make and model of the AV Receiver to sync the keyboard.

Loss of Keyboard Functions with Revue

Step	Troubleshooting	How To
1	Verify Keyboard is On	Verify the keyboard's power switch is in the "ON" position.
2	Verify Keyboard's Batteries are Fresh	Verify the keyboard has fresh batteries installed.
3	Press Pairing Button	Press and release the pairing button on the back of the Revue.
4	Power Keyboard On/Off	Power the keyboard on and off and test functionality.

Loss of Keyboard Functions with TV or AV Equipment

Step	Troubleshooting	How To
1	Verify Keyboard is On	Verify the keyboard's power switch is in the "ON" position.
2	Verify Keyboard's Batteries are Fresh	Verify the keyboard has fresh batteries installed.
3	Access TV & AV Receiver	Access "HOME", select "SETTINGS", then "TV & AV RECEIVER".
4	Power Keyboard On/Off	Power the keyboard on and off and test functionality.
5	Sync to Keyboard	For TV Setup: Enter the make and model of the TV to sync the keyboard. For AV Receiver Setup: Enter the make and model of the AV Receiver to sync the keyboard.

Logitech Revue with Google TV Troubleshooting

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Logitech Revue with Google TV Troubleshooting

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Features

Step	Troubleshooting	How To
1	Verify Features Setting	Verify the features setting are correct using the Community reference page.
2	Verify Revue Connected to Home Network	Verify the Revue is connected to the home network.
3	Reset Revue	Unplug the Revue for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.

Cannot Access Applications

Step	Troubleshooting	How To
1	Verify DISH Receiver is Active and Receiving Programming	If the application is DISH branded, verify the DISH receiver is active and receiving programming.
2	Access the Applications Web Site	If the application is not DISH branded, have the customer access the corresponding web site for the application from their computer; if the site does not work, advise the customer the issue is with the web site.
3	Verify Revue Connected to Home Network	Verify the Revue is connected to the home network.
4	Reset Revue	Unplug the Revue for 10 seconds and plug back in. It may take up to 5 minutes for the reset process to be completed.

Logitech Revue FAQs

Q: What receiver models are compatible with the Logitech Revue™ with Google TV?

A: Only the 622, 722, and 722k are compatible. Note that any set top box with an HDMI connection may be connected, but only these 3 models support full integration with the Logitech Revue™.

Q: Can existing customers order a Logitech Revue™ for the Technician to deliver and install?

A: No, the Logitech Revue™ must be ordered through the CSC or at www.Dish.com. The product will then be shipped to the customer for self installation. Do not call to modify an existing customer work order.

Q: Can I modify a New Connect work order to add a Logitech Revue™?

A: Yes, New Connect work orders are the only work orders that can be modified to add the Logitech Revue™. Once the modification is complete the Technician may deliver and install the product.

Q: What's the best way to connect the Logitech Revue™ and the DISH receiver to the customer's home network?

A: The best way to connect both devices is to connect a single Ethernet cable between the DISH receiver and the Logitech Revue™ and then set up the Logitech Revue™ to access the customer's Wi-