

Non-Penetrating Mounts

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OVERVIEW

Mounting Tools

- Stud finder
- Marking tool
- Drill
- 7/32" drill bit
- Level
- 1/2" nut setter
- 1/2" socket wrench
- 7/16" wrench

Notes

- Key steps bolded
- All tags must be tightened snug plus a 1/4 turn

RAIL

Supplies

- Mount
- Hardware

Process

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 that is rusted, bent, or cracked, has deficient or broken welds/connections to top or bottom horizontal rails, or is 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 1/4" x 20 x 1 1/2" 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



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- Adjust two plates so as to lightly clamp opposing edges of plate assembly to vertical rails and then tighten securely four 1/4" x 20 x 1 1/2" 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
- Insert slots of plate #3 onto 1/4" x 20 bolts from plate #1/#2 assembly
- Level plate #3 and secure mount to railing by threading onto 1/4" x 20 x 1 1/2" bolts, provided 1/4" x 20 serrated hex nut
- Securely tighten hardware on assembly and ensure both rail mount and railing are structurally sound

5. Seat mounting foot (not included) onto plate #3 using the 1/4" x 20 x 1/2" bolts with the external tooth lock washer and securely tighten

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NON-PEN

Supplies



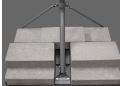
- Mount
- Hardware
- Mat
- Bricks

Assembly Process

1. Take out mount
2. Attach mast/footplate to mount

Installation Process

1. Locate suitable location
2. Transport mount and bricks
3. Place mat on mounting location
4. Place mount on mat
5. Place bricks on mount
6. Level mast and tighten hardware with 7/16" wrench
7. Place dish on mast
8. Take out appropriate number of blocks

Dish	Number of Capped Blocks	Image
D500 1000.2	6	
1000.4	7	
D500+/ D1000+/ Super Dish	9	

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VERSATILE

Supplies

- Mount
- Hardware

Installation Process

1. Lift the tile in the row above
2. Slide the support tongue onto the tile
3. Lower the tile
4. Repeat with other support tongue
5. Place the base in selected location
6. Lift the tile in the row below
7. Slide hooks under the tile
8. Place stiffener bar on top of the tongue
9. Insert the hardware
10. Attach the footplate
11. Level mast and tighten hardware with 7/16" wrench
12. Place dish on mast



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PATIO

Supplies

- Mount
- Mat
- Bricks

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Dish	Number of Capped Blocks
D500	6
1000.2	6
1000.4	9
D500+/D1000+/Super Dish	9



Assembly Process

1. Take out mount
2. Take out appropriate number of blocks
3. Assemble the mount base

Installation Process

1. Locate suitable location
2. Transport mount and bricks
3. Place mat on mounting location
4. Place mount on mat
5. Attach mast/footplate to mount
6. Place bricks on mount
7. Level mast and tighten hardware with 7/16" wrench
8. Place dish on mast

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POLE MOUNTS

POLE MOUNTS

Technicians may install a pole mount as one of the last mounting options. A pole mount is one of the most intensive mounts to install, and if not done correctly, has the greatest potential to result in a Trouble Call (TC). Before a pole mount can be installed, it is required from both a legal and safety standpoint to contact underground utilities (811) to mark the lot for buried utilities lines. To provide the Subscriber with video and/or broadband service while they wait for their permanent pole mount, a temporary mount must be installed.

Benefits

- Although it is one of the last options available, a pole mount may be a Subscriber's only option
- Following the correct procedures will ensure a safe and efficient installation

Requirements

- A pole mount can only be installed after the underground utilities have been marked
- If underground utilities are not marked, contact the underground utilities marking company (visit <http://www.call811.com/state-specific.aspx> or dial 811)
- Understand any state-specific digging requirements (visit www.call811.com)
- Install a temporary mount using a non-pen mount

POLE MOUNT INSTALLATION PREPARATION

1. Verify sketch and the underground utilities are marked clearly and there are no obstructions in the way
If the utilities have not been marked, follow the Temporary Mount Cannot Be Completed process
If the utilities have been marked, but they conflict with the proposed mount site or route, adjust to be at least 18" away from any utility marking
2. Remind the Subscriber about what a pole mount entails and double check that there are no other mounting options available
3. Unplug all receivers, modem, and TV2 connections from power
4. Remove all but one cap block off of the non-pen temporary mount and bring back to the vehicle
 - Leaving one block prevents the non pen from tipping over
 - When bringing the blocks back to the vehicle, bring other items to the mount site
 - 2 x 50 lb bags of concrete
 - Shovel
 - Post hole digger
 - Bucket
 - Sweep(s) (1 or 2)
 - Jumper
 - Dust mask (and other PPE)
 - On the last trip, bring tool belt
5. Ask the Subscriber permission to use their hose to fill up your bucket and to clean your hands when finished working with concrete
Fill up the bucket almost half way (5 gallon bucket, need 2 gallons)
6. Take the reflector off of the mast and set it to the side

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7. Remove tool belt and leave at work area
8. Take the last block and non-pen mount back to the vehicle
9. Follow the **Pole Mount Installation Process**
10. Clean up the work space (trash, tools, utility flags, etc.)
11. Plug all receivers and TV2s back in and perform a check switch

POLE MOUNT INSTALLATION PROCESS

1. Using the shovel and post hole digger, dig a hole
 - Do not dig within 18" of utility markings
 - Hole must be 3' deep and at least 7" wide at the bottom
 - If in an 8' pole market, then the hole must be 4' deep
 - Depending on your location, a breaker bar may be needed to break up the ground prior to digging
 - Keep dirt in a neat pile near the hole to fill in later
2. Place the flat end of the pole into the center of the hole
3. Pour one 50 pound bag of fast-setting concrete into the hole
 - It is recommended to wear a dust mask when working with concrete
4. Pour one gallon of water into the hole
5. Pour the second 50 pound bag of concrete into the hole
6. Pour the remaining gallon of water into the hole
7. Gently stir with the pole
 - Be careful not to pull the pole out
8. Put the level on the pole and level it
 - At two locations (90 degrees apart)
9. Immediately wash your hands after working with concrete using Subscriber's hose

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10.	<p>Check the level readings every 10 minutes while the concrete is drying</p> <ul style="list-style-type: none">• The concrete will take at least 30-45 minutes to set• It's important to ensure that the pole remains level, because once the concrete has set, if the pole is not level, it can't be adjusted
11.	<p>While the concrete is drying, dig a trench starting from the house and moving toward the pole mount location</p> <ul style="list-style-type: none">• Dig trench at least 6" deep and underneath the sod (where applicable)• Do not dig within 18" of utility markings• Dig carefully as sprinkler lines will not be marked
12.	<p>Route the burial cable through a sweep at the house (if grass is present)</p> <ul style="list-style-type: none">• If no grass, the sweep at the house is not needed
13.	<p>Route the burial cable through trench covering with dirt and/or sod</p>
14.	<p>Once the concrete is dry, verify the pole is still level</p> <ul style="list-style-type: none">• The concrete needs to be set before applying any pressure, such as attaching the cables or a dish assembly (30-45 mins)
15.	<p>Disconnect the burial cable from LNBF</p>
16.	<p>If this is for a dishNET installation, install the adapter on the pole</p>
17.	<p>Place the assembled dish onto the pole</p> <ul style="list-style-type: none">• Must be sure the concrete has completely set
18.	<p>Attach a jumper cable to the LNBF and reattach the LNBF to the bracket of dish</p>
19.	<p>Point and peak the dish</p>
20.	<p>Remove LNBF and disconnect the jumper</p>
21.	<p>Run burial cable through a sweep</p>
22.	<p>Attach sweep to the pole with zip ties where the cable enters the ground</p>

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23. Route the cable up the pole using zip ties
24. Attach a ground strap to the pole and connect the messenger wire
25. Create a service loop
26. Feed burial cable through the arm
27. Trim any excess cable and install new connectors
28. Reattach cable(s) to LNBF
29. Reattach LNBF to bracke
30. Fill the hole with dirt
 - Enough to bury the sweep

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