

Grounding & Cabling

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GROUNDING

Every DISH installation is required to be grounded based on NEC requirements. There are 5 main steps needed to ground a DISH installation. See below for the steps, components, and how to use them.

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1. Dish Bonding

- **Messenger wire must be attached to foot plate with either a dual terminal ground lug or green self-tapping ground screw**
 - If dual ground lug is used, scrape the paint on the foot plate to ensure metal to metal contact and connect the messenger wire to an open port
 - If self-tapping green ground screw is used, it must be tightly secured to the foot plate
- **If using a wing dish:**
 - Must use a dual ground lug on the first dish
 - Attach a 10-gauge green ground wire from the wing dish's dual ground lug or green ground screw to the first dish's dual ground lug

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2. Dish to Ground Block Wiring

- **Messenger wire must be a continuous run from the foot plate to the ground block or switch**
- **Wire CANNOT be spliced**
 - Maximum total cable run of 200 ft. between LNBF and receiver must be taken into consideration

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3. Ground Block Wiring

- **The ground block must be placed on the exterior of the home and within 20 ft. of the ground source**
- **One ground block can be used to connect up to two receivers**
 - Receivers can be any combination of single or dual tuners
- **If multiple ground blocks are needed:**
 - The ground blocks must be bonded together with a small piece of 10-gauge ground wire
 - Each ground block must be secured to the structure with its own two screws
- **The following switches can also be used as a ground block if they have the UL or ETL stamp:**
 - DP34 switch
 - DPP33 switch
 - DPP44 switch
 - Single node
 - Dual node

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- Solo hub
- Duo hub

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4. Ground Block to Ground Source Wiring

- **Run 10 gauge green copper ground wire from the ground block to the ground source**
 - Ground wire must be as straight as possible
 - Ground wire CANNOT exceed a maximum of 20 ft. from the ground block to the ground source

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5. Ground Source Bonding

There are six possible sources to bond a DISH installation to ground. They are listed in order of easiest to install/locate

Intersystem Bonding Terminal (Must be Used if Available)

- The intersystem bonding terminal is a terminal that is provided as a grounding site by the electrician that wires the house.
- Commonly found near the exterior meter box and cable/phone distribution located on the side or rear of the home
- Ground wire can be directly connected to one of the open terminals

Meter Box, Service Equipment/Power Service Enclosure

- The meter box, service equipment, and power service enclosures include any metal enclosure, as long as it is connected visually with rigid conduit to the meter or breaker box.
- Commonly found on the exterior side or rear of the home
- Grounding component or wire cannot impede the opening/closing of the enclosure

Rigid Electrical Conduit

- The rigid electrical conduit is a metal enclosure housing electrical wiring.
- Commonly found in various locations on the exterior of the home and near the meter box
- Conduit Must be continuous to meter or breaker box

Grounding Electrode Conductor

- The grounding electrode conductor is typically a #6 copper or aluminum wire or larger running from the grounding electrode to the meter box.
- Commonly found near the exterior meter box on the side or rear of the home

Interior Grounded Cold Water Pipe

- The interior copper cold water pipe is part of the home's water distribution system.
- Commonly found near the home's utilities which could be in the basement or utility closet
- Ground location must be on the interior of the building within 5 ft. of the water pipes entrance (there must not be any plastic couplings between your connection and where the pipe enters the structure)
- External water spigots are not an acceptable ground source

Building Grounding Electrode or Conductor

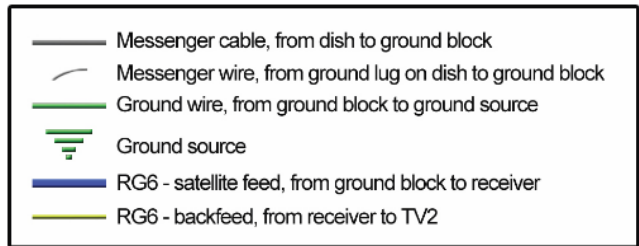
- The building ground electrode system includes the ground rod and metal structural frame of the structure.
- Usually difficult to locate and rarely exposed
- The ground rod - Minimum of 1/2 inch diameter and buried 8 ft. into the earth
- Commonly found near the exterior meter box and grounding electrode conductor
- The structural mainframe of a building - Metallic I-beams (must be electrically connected to the main ground)
- Commonly found in the basement, crawl space or under a mobile home

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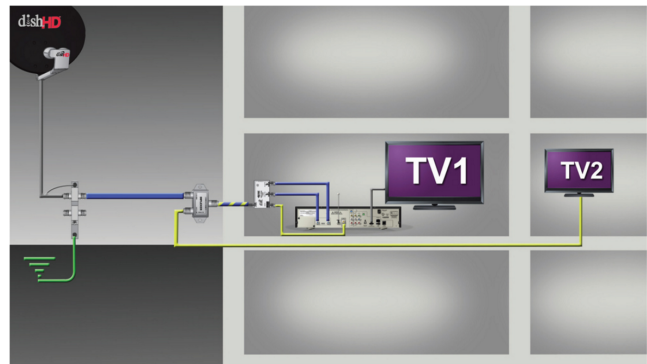
CABLING

Cable Configuration: ViP Tech Steps

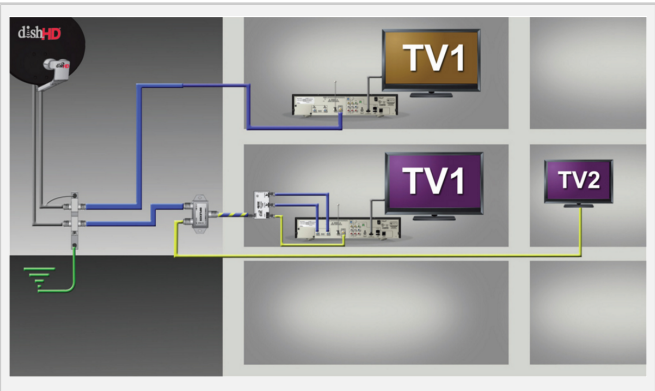
- 1 Dual Tuner
- 1 Dual Tuner and 1 Single Tuner
- 2 Dual Tuners
- 1 Single Tuner
- 2 Dual Tuners and 1 Single Tuner
- 3 Dual Tuners
- 1 Dual Tuner and 2 Single Tuners
- 2 Single Tuners



1 Dual Tuner

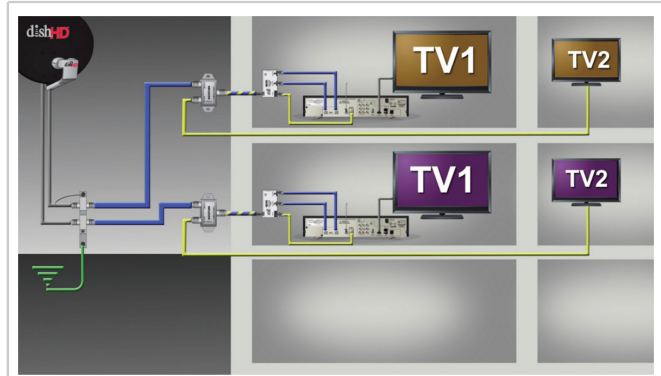


1 Dual Tuner and 1 Single Tuner

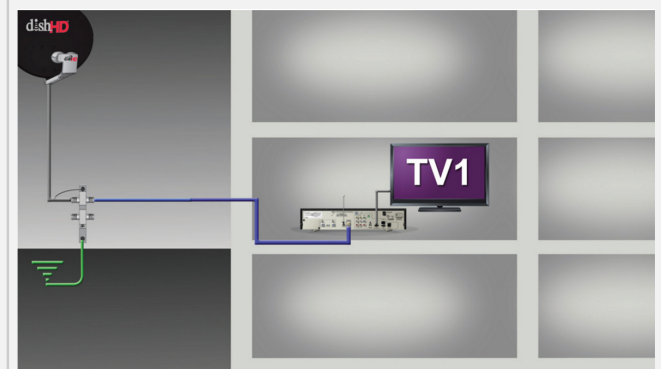


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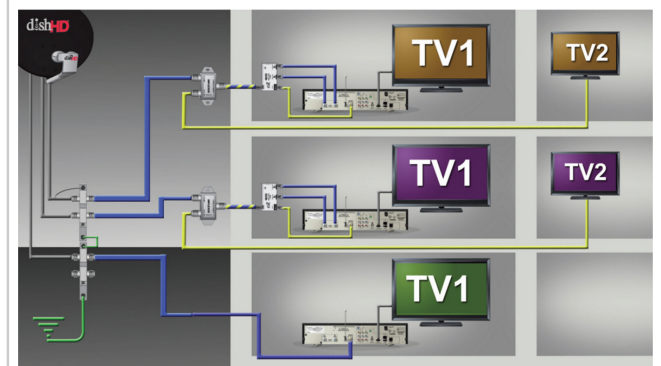
2 Dual Tuners



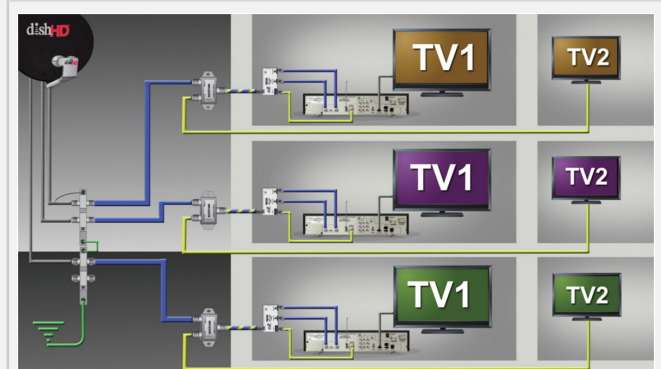
1 Single Tuner



2 Dual Tuners and 1 Single Tuner

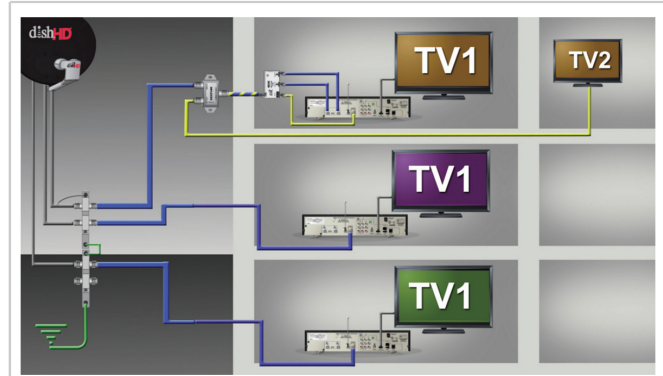


3 Dual Tuners

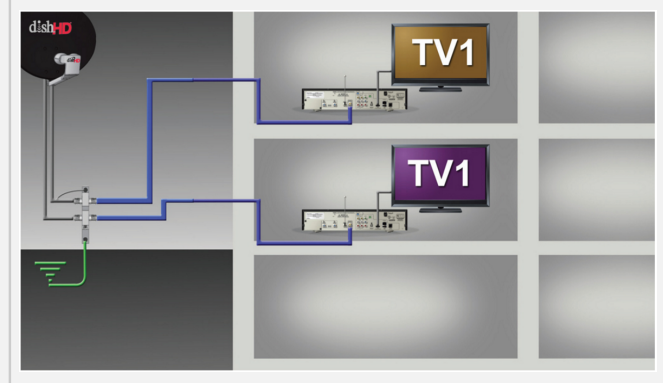


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1 Dual Tuner and 2 Single Tuners



2 Single Tuners



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