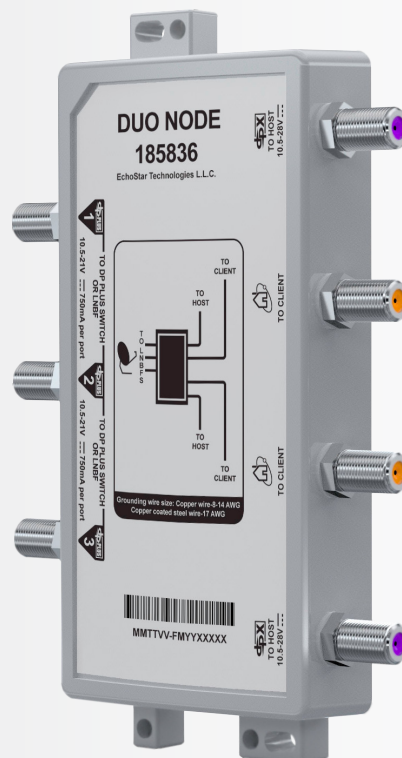


Hopper or Hopper w/ Sling

Hopper host receivers connect to Joey client receivers through Nodes via coaxial cables. Hopper host receivers can share any content with any Hopper or Joey receivers installed in the system.

- Host receiver (main receiver)
- 3 tuners
- 2 Terabyte hard drive (Up to 250 hours of HD program recording)
- Up to three Joey client receivers supported
- One Super Joey client receiver supported
- Supports PrimeTime Anytime (PTAT)
- Only connects via a TO HOST port (host line)
- HDMI, RCA, and digital audio outputs are supported
- Ethernet port for broadband connectivity is supported
- Uses the 40.0 UHF 2G remote
 - Colored shortcut buttons for easy menu access
 - Increased distance and faster communication
- Picture-in-Picture and BLOCKBUSTER @ HOME supported
- USB port can be used for Wi-Fi adapter, external hard drive, or Sling adapter
- Built-in Wi-Fi and Sling (Hopper w/ Sling only)
- Transfer recordings to mobile devices (Hopper w/ Sling only)



Joey or Super Joey

Joey client receivers connect to Hopper client receivers through Nodes via coaxial cables. Joey client receivers can request any content from any Hopper installed in the system.

- Client receiver
- Requires a Hopper to work
- Must be paired with a Hopper
- Joeys only connect via TO CLIENT port (client line)
- Super Joey only connects to TO ADV. CLIENT port on Integrator
- Compact size is ideal for placement out of view (Joey only)
- Same user interface as a Hopper
- HDMI, RCA, and digital audio outputs are supported
- Internal remote antenna
- Uses the 40.0 UHF 2G remote
 - Colored shortcut buttons for easy menu access
 - Increased distance and faster communication
- Provides 2 additional tuners to a Hopper system (Super Joey only)

Solo Node

A Solo Node is the nearest component to the DPP LNBF or DPP switch in the Whole-Home HD DVR system. Nodes manage the transfer of programming between a Hopper and a Joey.

- Requires two DPP satellite inputs
 - One TO HOST port
- One TO CLIENT port supported
- Can be used to ground the DISH system

Duo Node

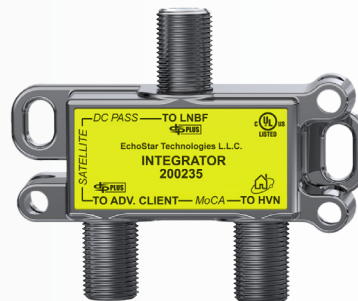
A Duo Node is the nearest component to the DPP LNBF or DPP switch in the Hopper system. Nodes manage the transfer of programming between a Hopper and a Joey.

- Requires three DPP satellite inputs
- Up to two Hopper host receivers supported
 - Two TO HOST ports
- Two TO CLIENT ports supported
- Can be used to ground the DISH system

Tap

Taps are used to create a host line (Hopper) and client line (Joey) from a single host line off of a Node.

- Limited to one Tap per host line
- One TO NODE port supported
- One TO HOST port supported
- One TO CLIENT port supported



Integrators

Combines satellite signal (DPP LNBF or switch) with a client line to supply signal to Super Joey

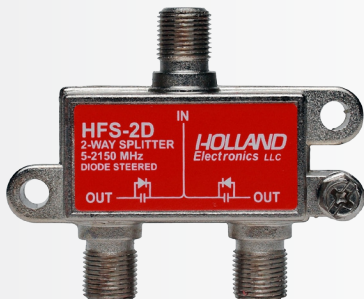
- One TO ADV. CLIENT port supported (connect directly to Super Joey)
- One TO HVN port supported (connect to client line on Solo Node)
 - Splitters supported between Integrator and client side of Solo Node

Splitters

Standard 2-way, 3-way, or 4-way splitters can only be used on a client line to support multiple Joey client receivers off of a single client line.

Example: Using a 2-way splitter from the TO CLIENT port on a Tap to support two Joey client receivers.

- Only use splitters on client lines
- 2-way, 3-way, 4-way splitters are supported



75 Ohm Terminator

Use 75 ohm terminators on any unused ports in a Hopper Joey System installation to prevent RF leakage or outside RF interference.

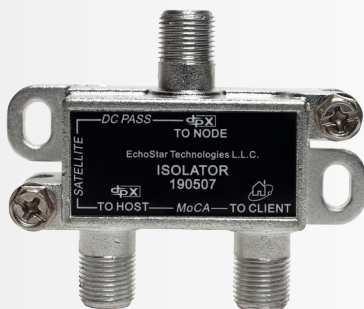
Isolators

Isolators are used to create a host line and client line from a single host line; Isolators disable the TO CLIENT ports on the Node.

Isolators prevent content from being shared between any Hopper and Joey receivers NOT on the TO HOST or TO CLIENT side of the Isolator.

Consider using parental controls prior to installing Isolators

- Must be used in pairs
- One TO NODE port supported
- One TO HOST port supported
- One TO CLIENT port supported



Hopper Internet Connector (HIC)

The HIC makes the Internet connection between the customer's router and the entire Hopper Joey System.

- Only use a HIC on client lines
- One Ethernet port supported
 - Used to connect to the customer's router
- One Home Video Network port supported
 - Carries the Internet connection to the entire Hopper Joey System

Installation Rules

Devices, Components, and Connections

Only 2 components can be between any 2 Hopper Joey System receivers

- Nodes, Integrators, and 75 Ohm Terminators do not count for this restriction
- Minimize the number of devices for installations

Nodes must be connected to a DPP LNBF or DPP switch

Do not install any non-Hopper Joey System components after the Node

Taps can only be installed on host lines

When using 2 Taps, the entire Hopper Joey System must use RG-6 coaxial cable

Isolators must be used in pairs

All unused ports must be capped with 75 Ohm Terminators

When using a power inserter, it must be installed before the Node

- Connect ports 2 - 4 on the switch to the Node and port 1 to the power inserter

Cabling Considerations

Maximum 200-foot cable length from LNBF to farthest Hopper

Maximum 200-foot cable length between any Hopper and Joey/Super Joey

Host lines must use RG-6 coaxial cable (Rated to 3 GHz)

Client lines can use either RG-59 or RG-6 coaxial cable

Advance Client lines must be RG-6 coaxial cable (Rated to 2150 MHz or higher)

Installation Rules

Client Receivers (Joey/Super Joey)

Always install, download, and activate the Hopper before plugging in any Joey receivers

Super Joey Requirements:

- Solo Node only (Single Hopper systems only)
- Must use an Integrator

If Solo Node is grounded to ground source, Integrator must be bonded to Solo Node

Only one Super Joey per Hopper System installation allowed

Advanced Client lines cannot have any component between the Super Joey and the Integrator

Do not use Wi-Fi Adapters or Ethernet cables in place of a coaxial connection on Joeyes

Connection Methods

Details

1

Direct Ethernet Connection to Hopper



- Direct Ethernet cable connection from router/switch to Hopper is always the preferred connection if the router is nearby
 - Hopper manages the features that are IP-dependent (IPVOD, On-Demand, etc.)
- Best performance for DISH Anywhere
- If Hopper is Ethernet connected, it shares connection with all linked Joeys so they can enjoy IP features as well, when bridging is enabled

2

Built-in Wi-Fi



- Built-in Wi-Fi offers convenient and fast connectivity for a Hopper w/ Sling
- Hopper w/ Sling shares connections with all linked Joeys so they can enjoy IP features as well, when bridging is enabled

3

USB Wi-Fi Adapter on Hopper



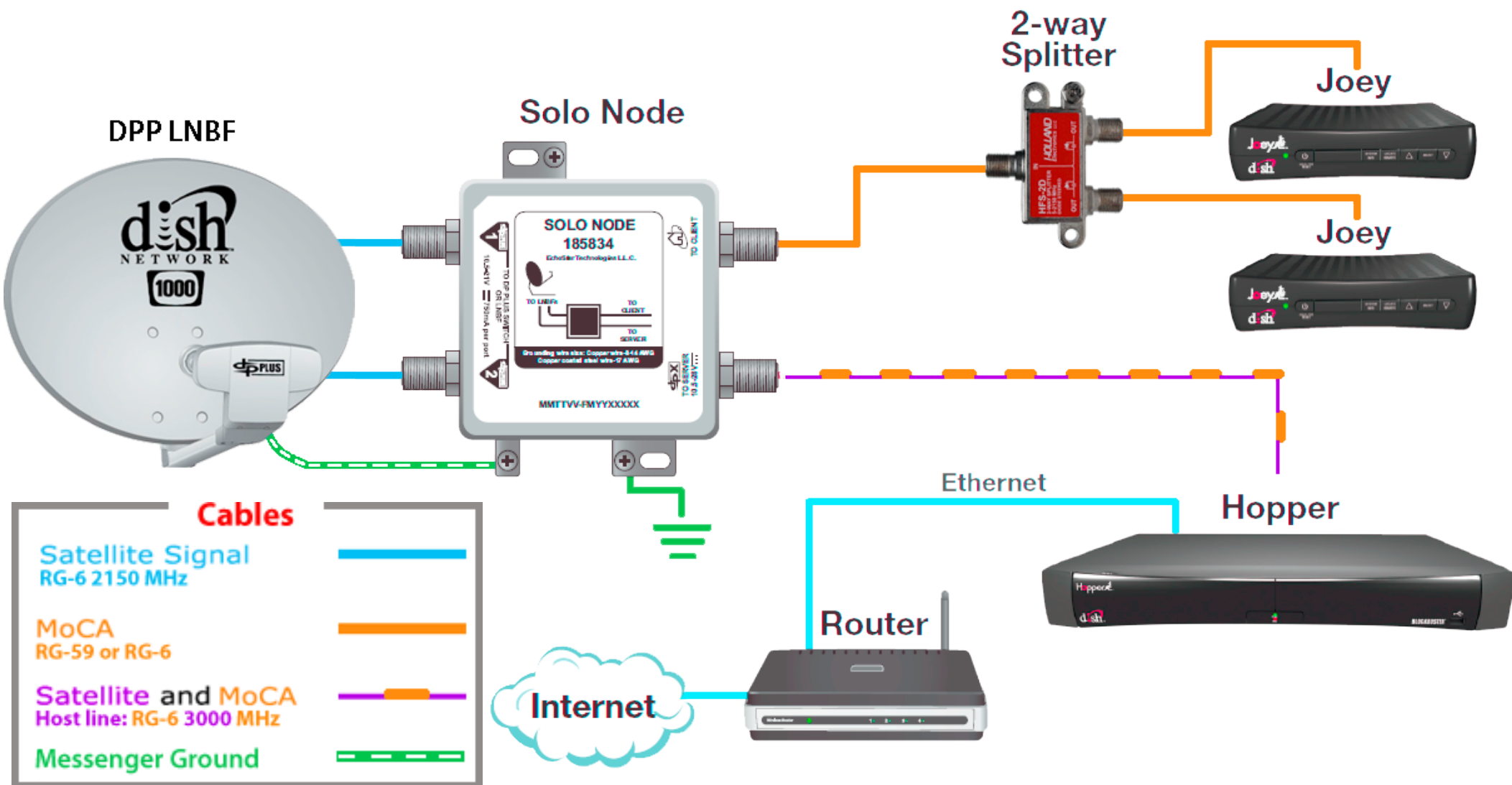
- Wi-Fi Adapter offers wireless connectivity for a Hopper
- Hopper shares connections with all linked Joeys so they can enjoy IP features as well, when bridging is enabled

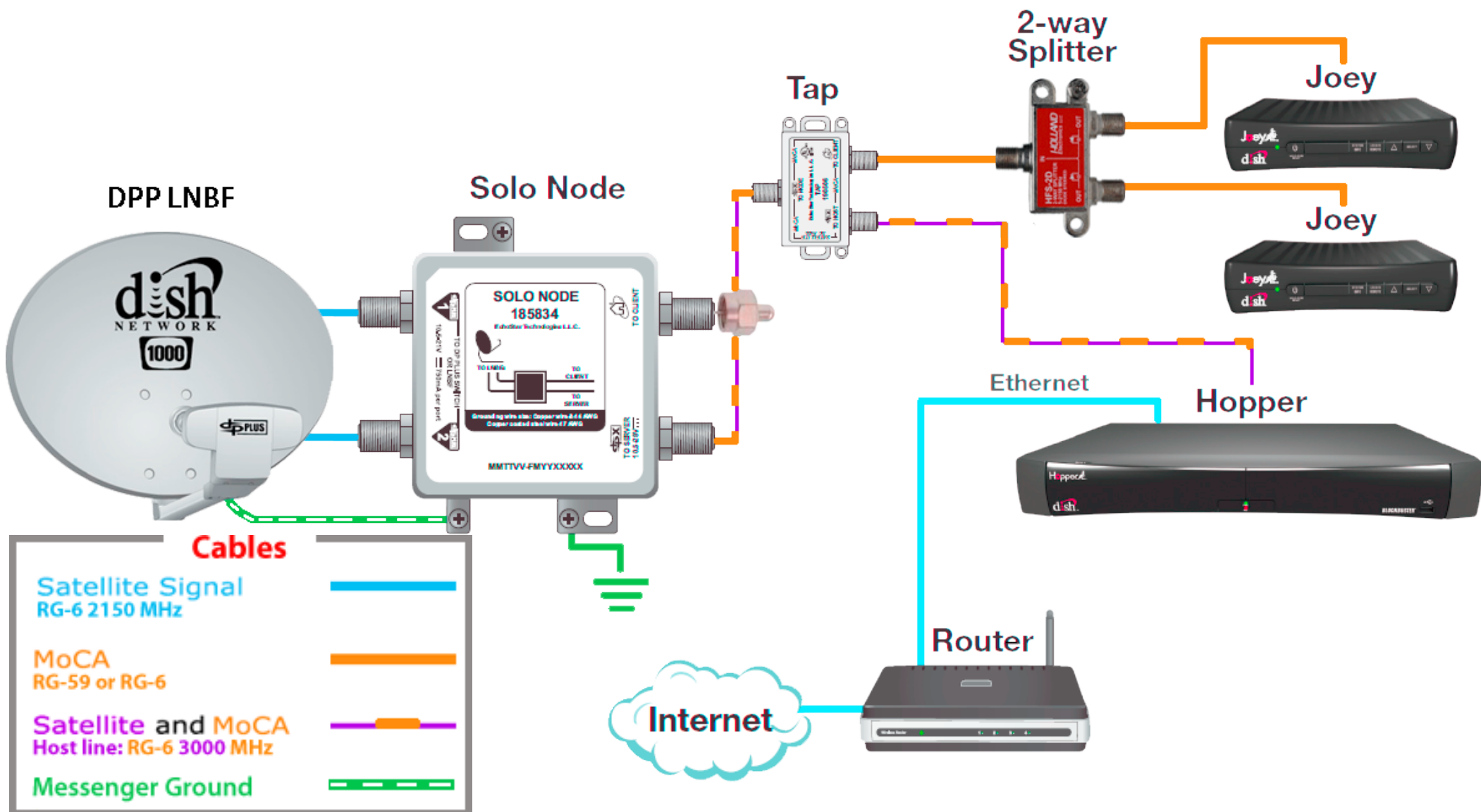
4





Hopper Internet Connector (HIC)

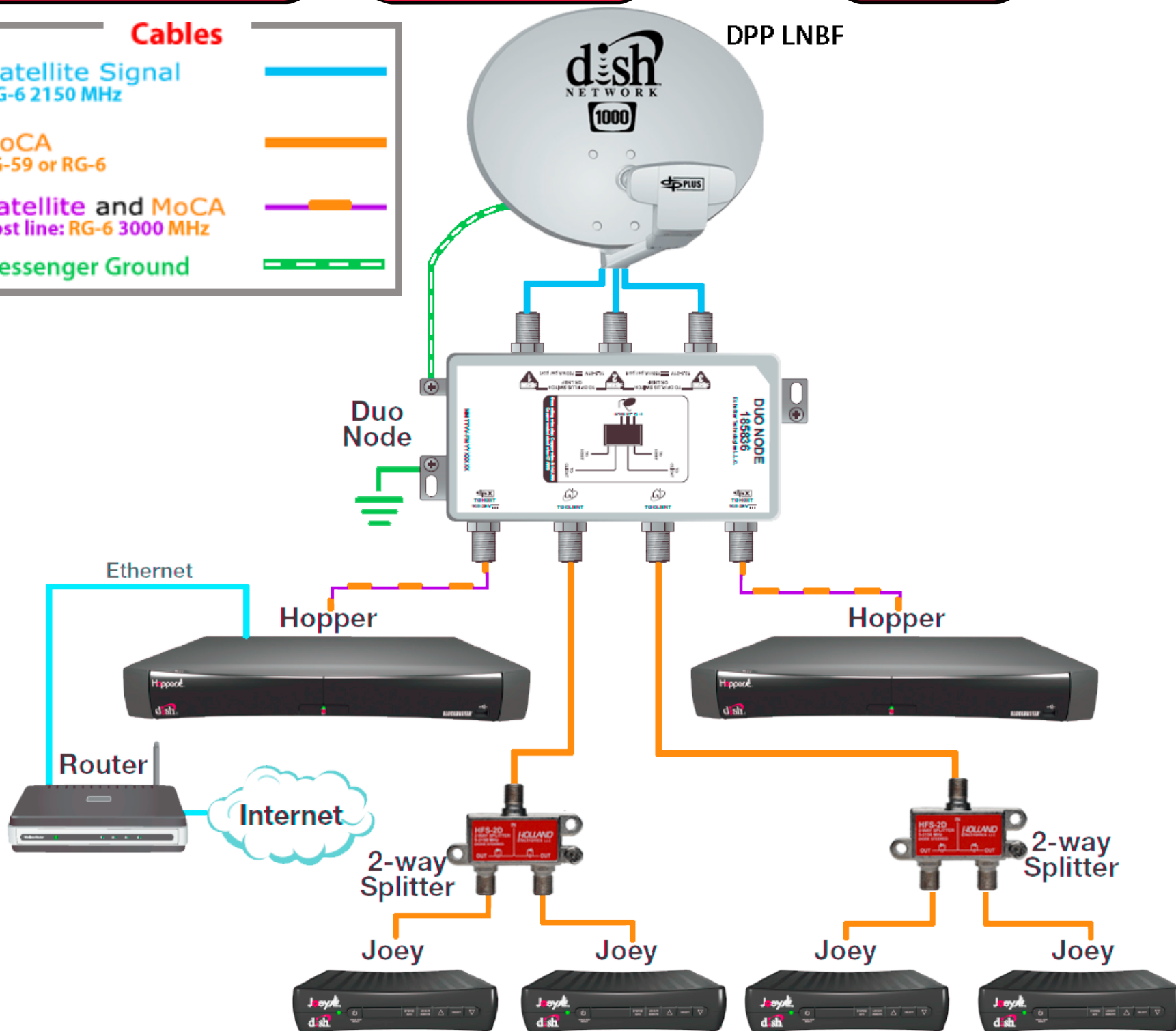


- Connectivity device that uses coaxial cables from Hoppers and Joeys to connect them to the Internet
- Connected in-line via the PASS-THRU using the coaxial cable at a Joey location
- Shares connections with all linked Joeys so they can enjoy IP features, it is not necessary to enable bridging





Cables	
Satellite Signal RG-6 2150 MHz	
MoCA RG-59 or RG-6	
Satellite and MoCA Host line: RG-6 3000 MHz	
Messenger Ground	



Cables

Satellite Signal
RG-6 2150 MHz

MoCA
RG-59 or RG-6

Satellite and MoCA
Host line: RG-6 3000 MHz

Messenger Ground



DPP LNBF

Duo Node

Tap

Joey

Joey

Tap

Hopper

Joey

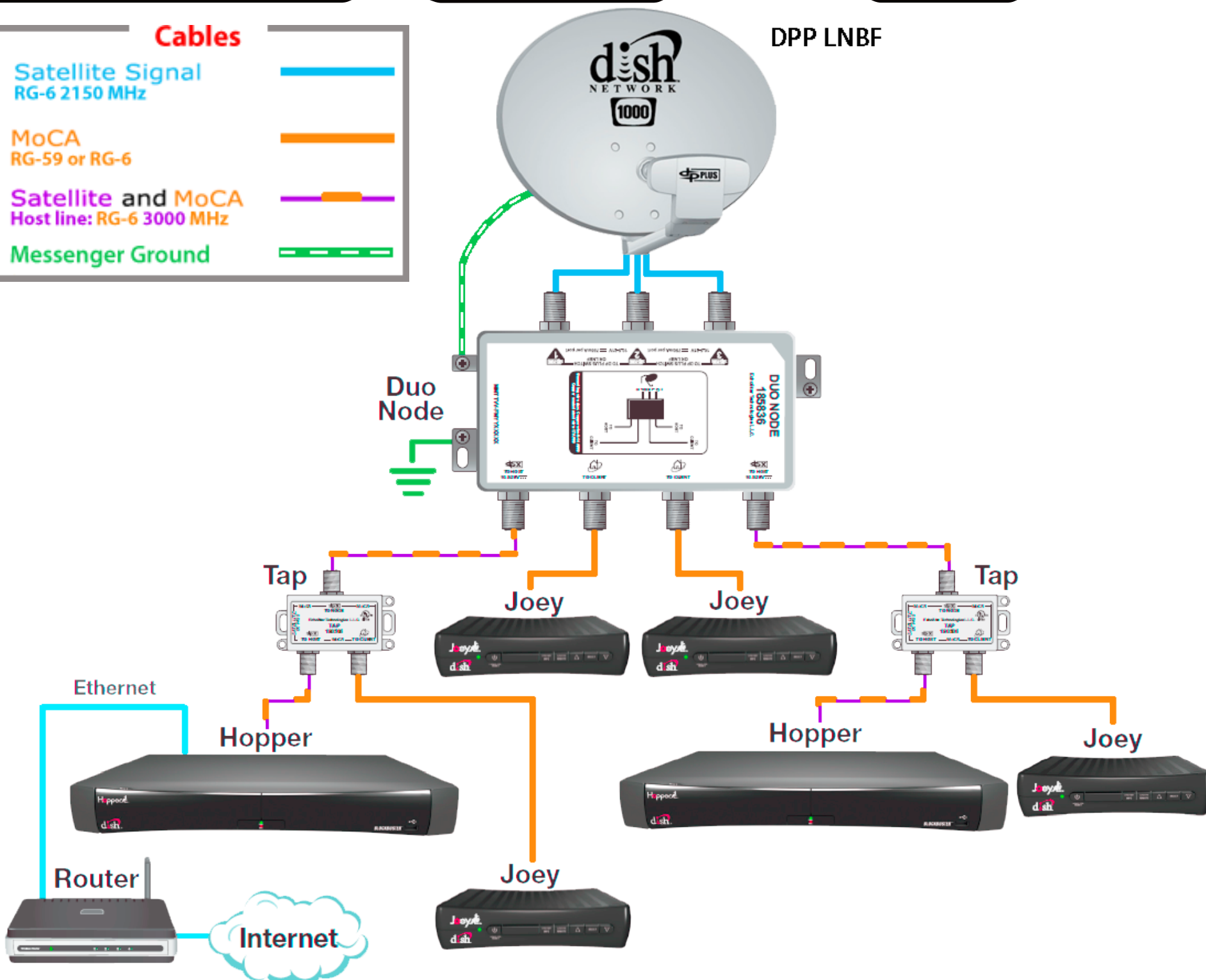
Hopper

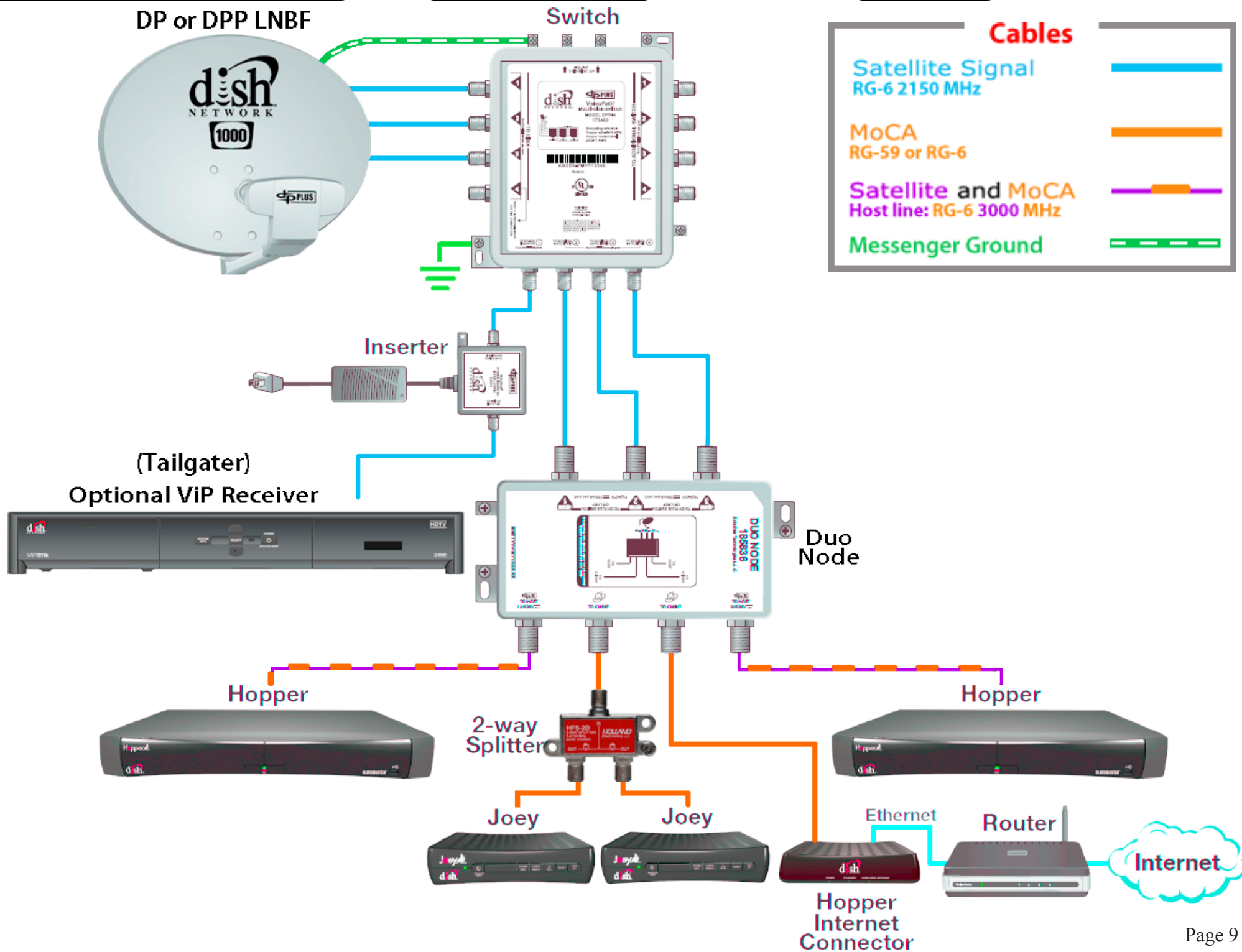
Joey

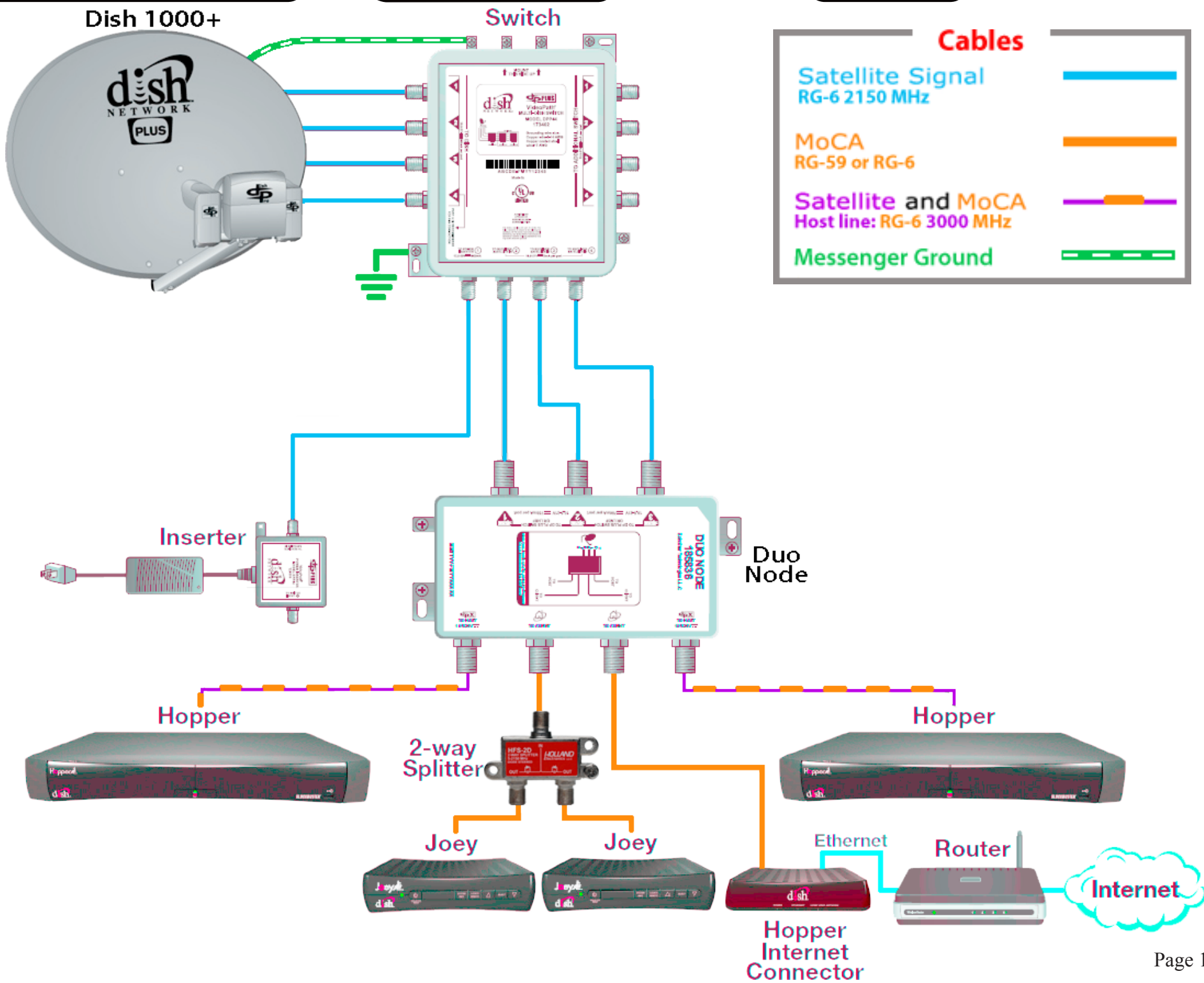
Ethernet

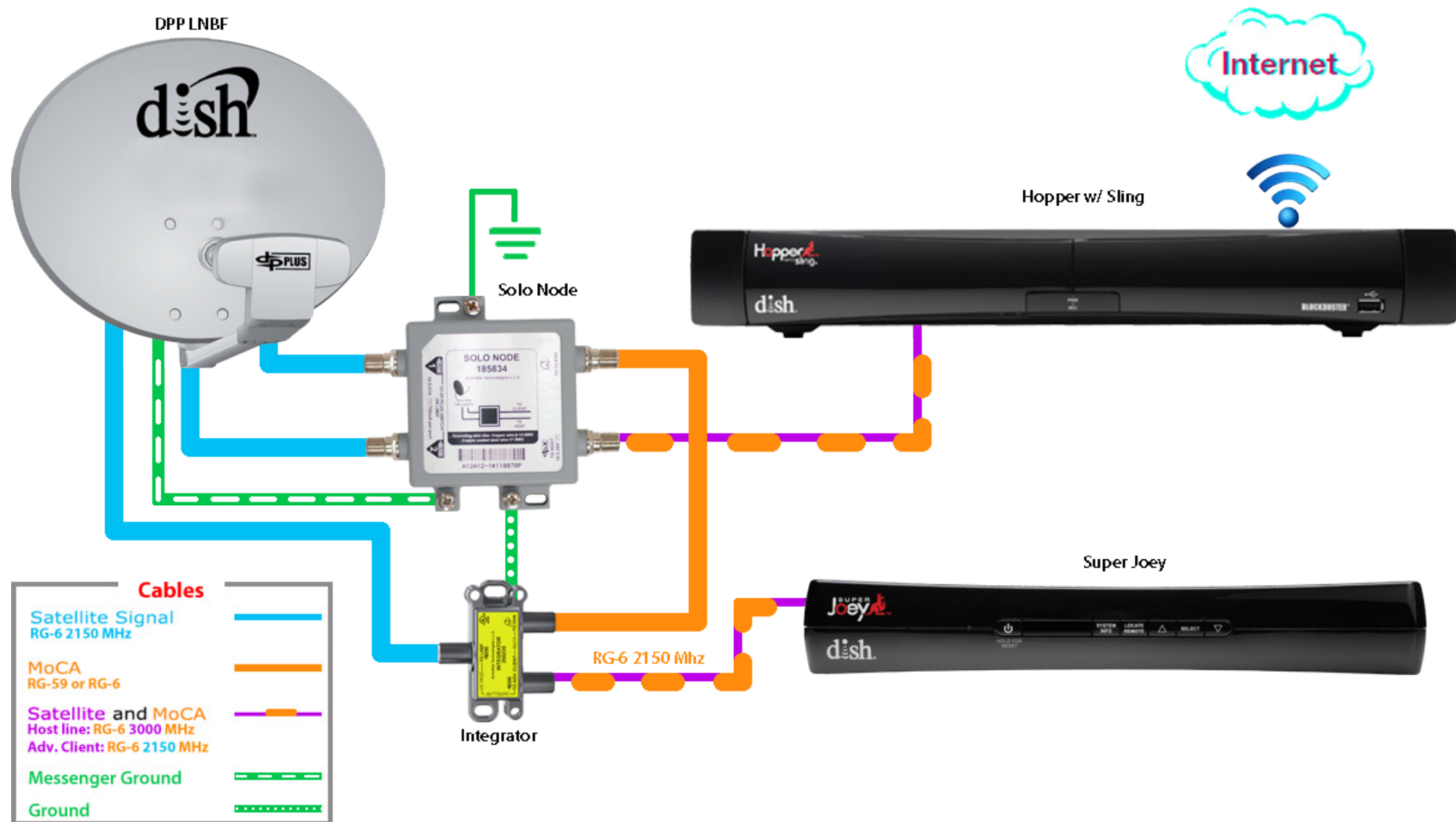
Router

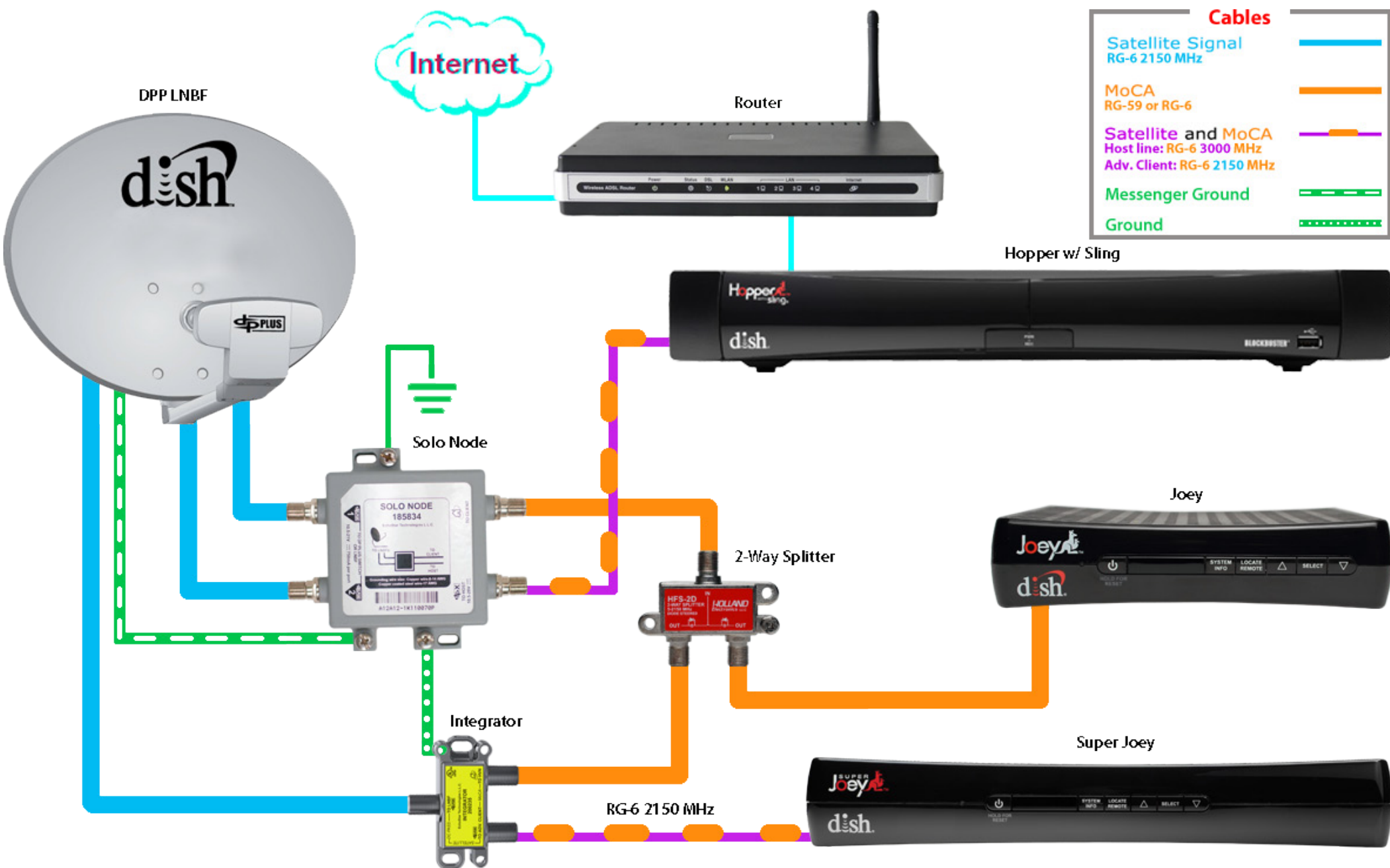
Internet

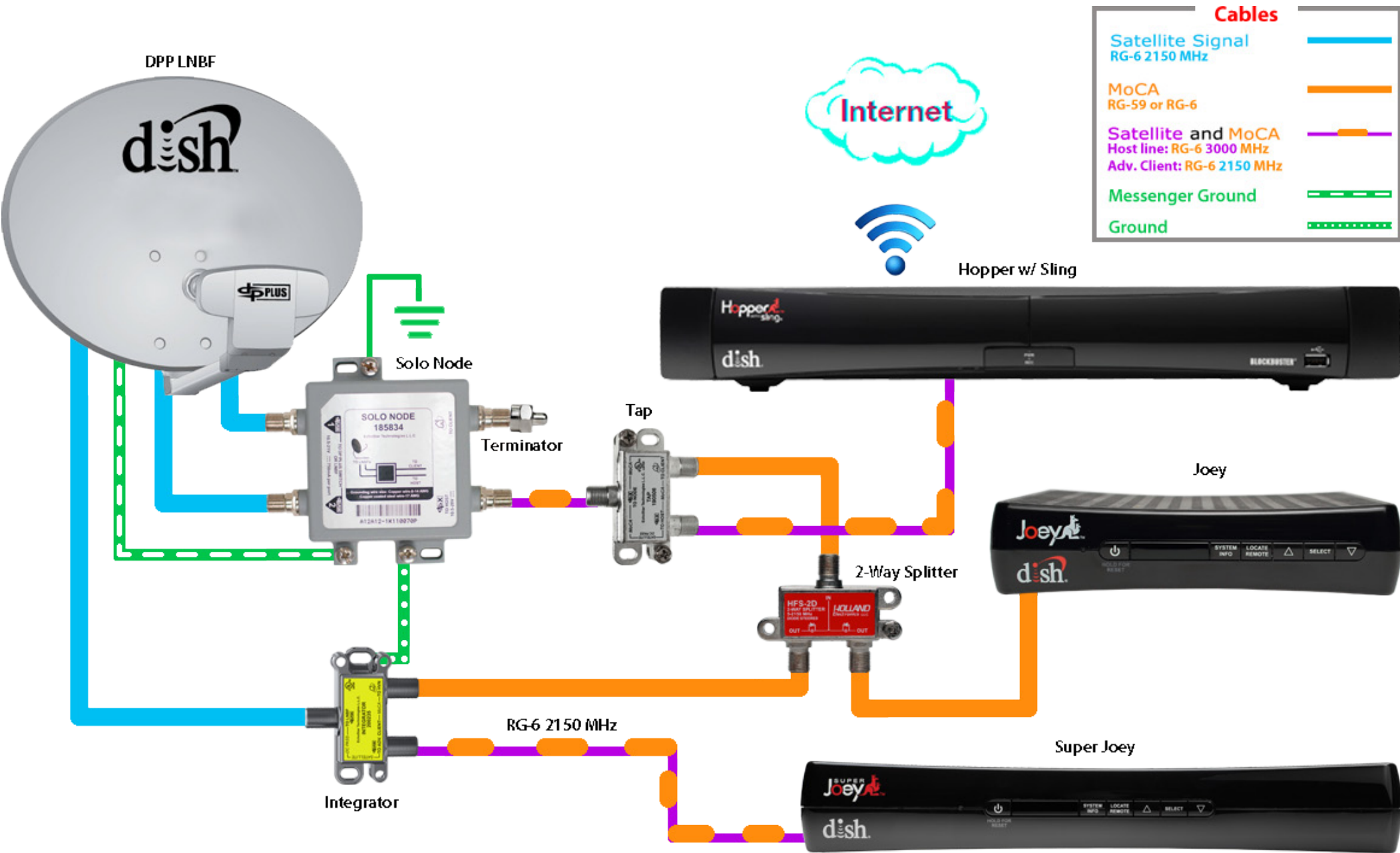




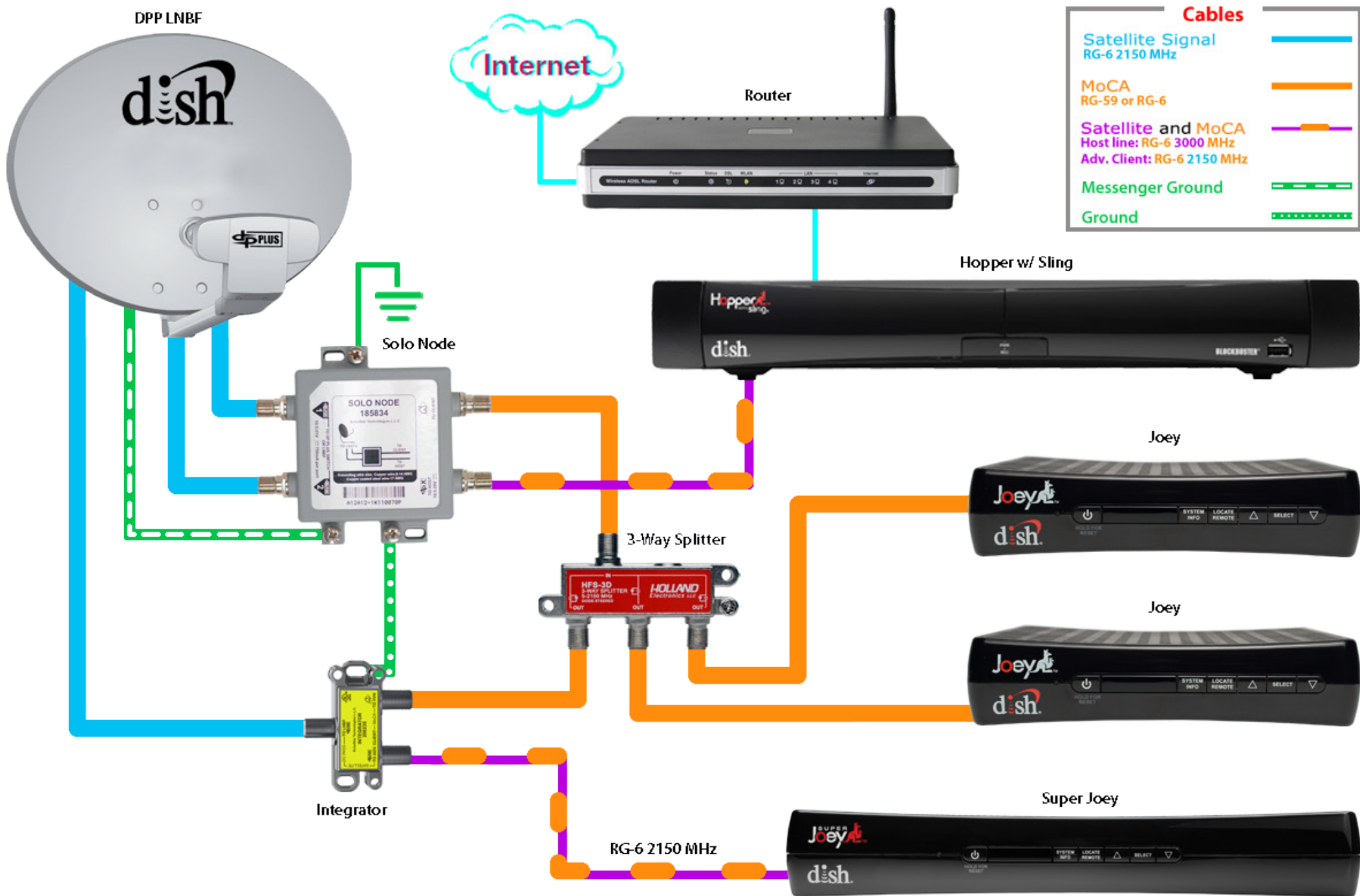




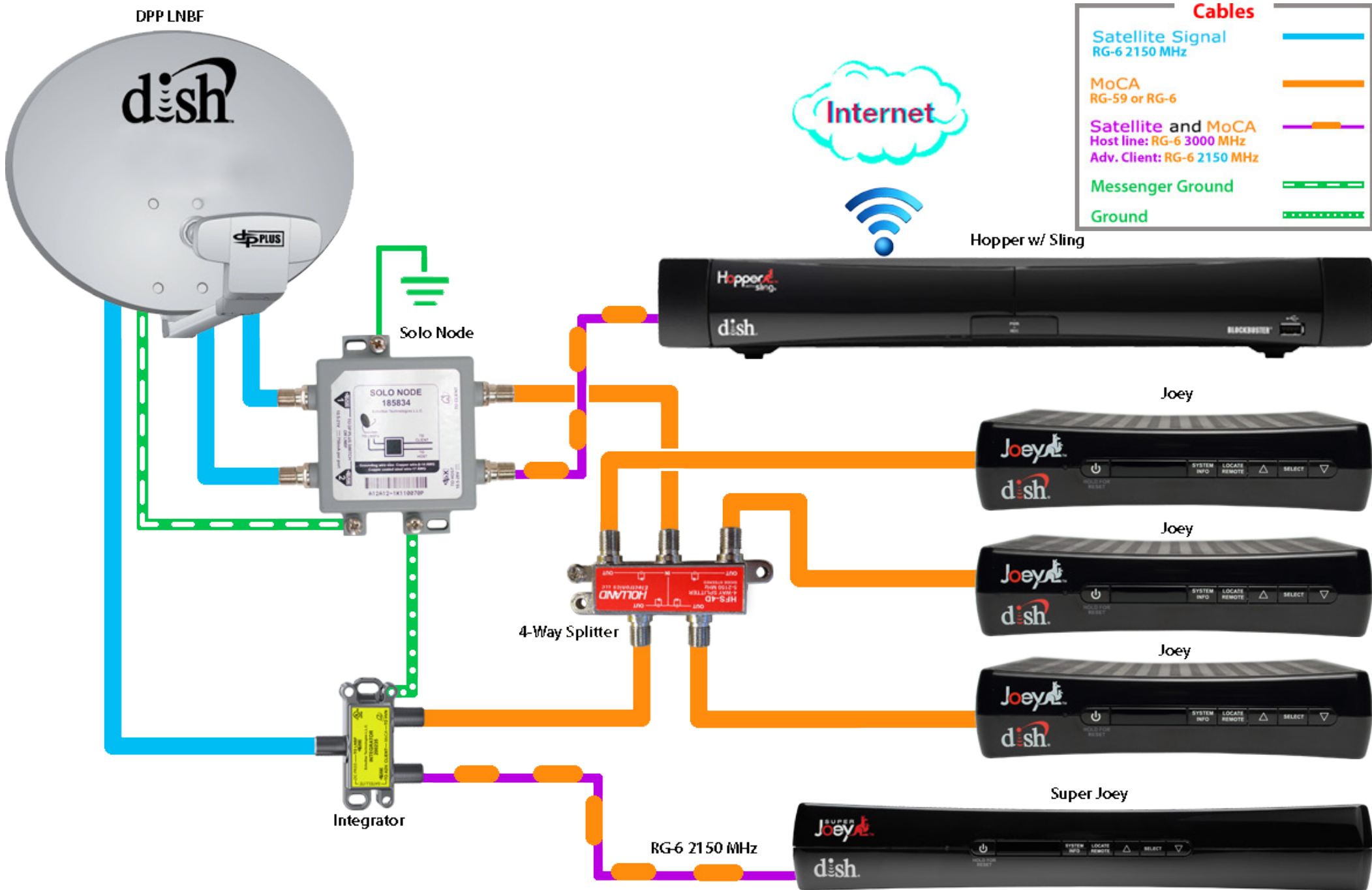




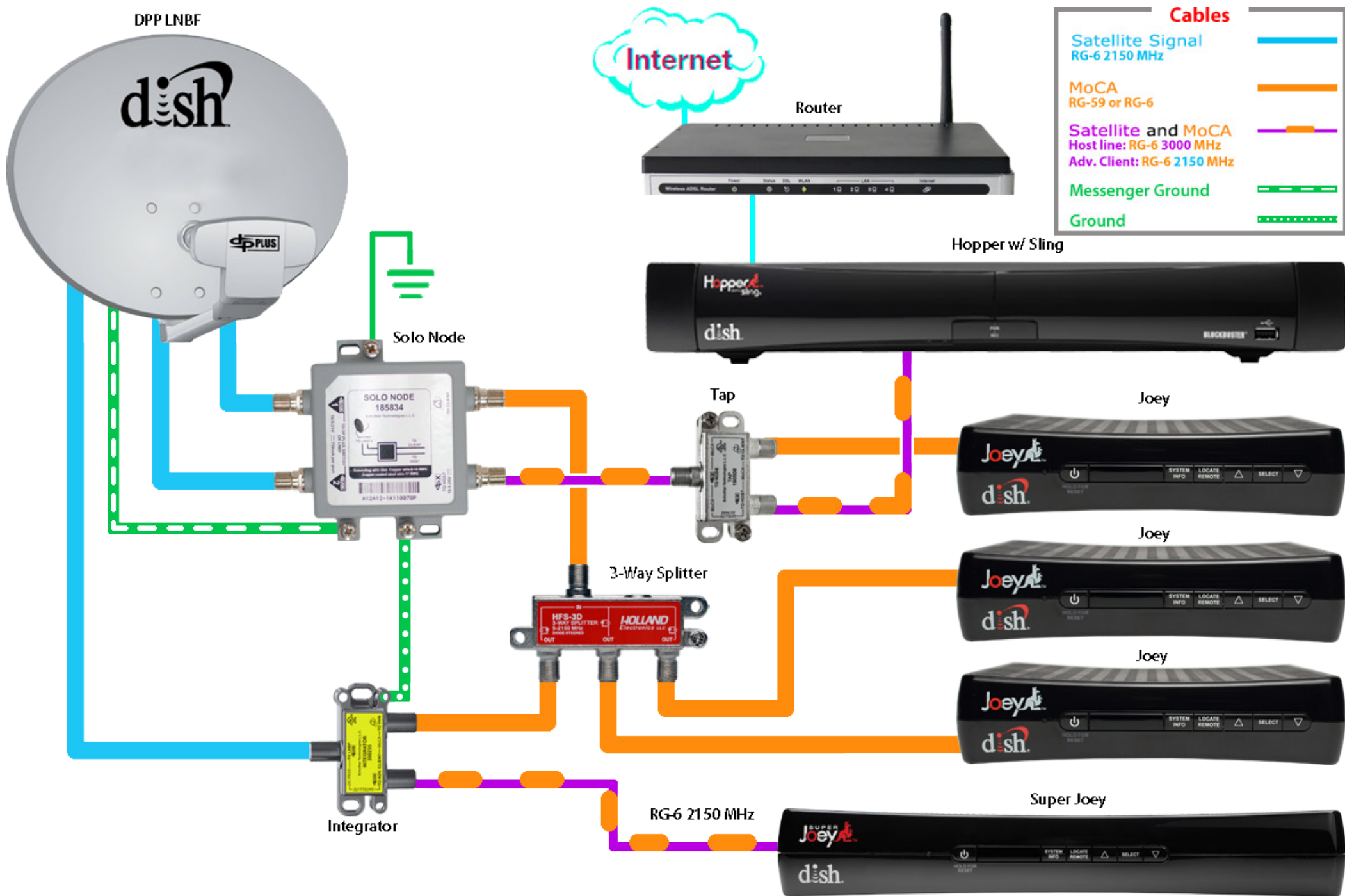
dish Solo Node, 1 Hopper w/ Sling, 2 Joey, 1 Super Joey w/ Splitter



dish Solo Node, 1 Hopper w/ Sling, 3 Joey, 1 Super Joey w/ Splitter



dish Solo Node, 1 Hopper w/ Sling, 3 Joey, 1 Super Joey w/ Tap



dish Solo Node, 1 Hopper w/ Sling, 3 Joey, 1 Super Joey w/ Splitter

