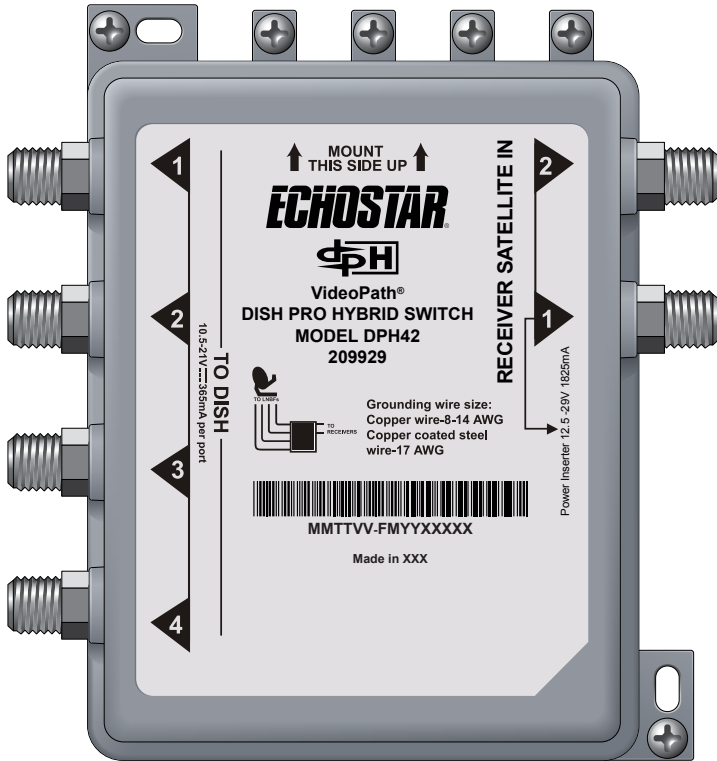


DISH Pro Hybrid 42 Switch Installation Guide



dish®

Safety Information

Warning and Attention Symbols

You must be aware of safety when you install and use the DISH Pro Hybrid 42 Switch. This document provides various procedures. If you perform some of these procedures carelessly, you could injure or kill yourself or damage equipment or property. Other procedures that require special attention are indicated by the following symbols:



Indicates a procedure where the following may happen:

- Personal injury or death may occur.
- Equipment or property may be damaged.



Indicates the following issues:

- Important operation or maintenance instructions follow.
- Special attention is required.

Important Safety Instructions

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use the apparatus near water.
- 6 Clean the apparatus only with a dry cloth.
- 7 Do not block any ventilation openings on the apparatus.
- 8 Install the apparatus in accordance with the manufacturer's instructions.
- 9 Do not install the apparatus near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 10 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades, with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 11 Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 12 The power plug must be readily accessible so that equipment can be easily disconnected from the AC power.
- 13 Only use attachments/accessories specified by the manufacturer.
- 14 Unplug the apparatus during lightning storms or when unused for long periods of time.
- 15 Refer all servicing to authorized service personnel. Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 16 The power inserter assembly shall not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, shall be placed on top of it.



WARNING: To reduce the risk of fire or electric shock, do not expose the power inserter assembly to rain or moisture.

Safety Information

Guidelines

Keep the following guidelines in mind when you install the DISH Pro Hybrid 42 Switch:

- Before you drill any holes in the building or residence, ensure that there are no wires or pipes near the holes.
- Install the equipment in accordance with local building and electrical codes. If you are unsure of the proper codes, call a licensed building inspector or electrician for help.
- Never install the equipment near power lines.
- Do not install the equipment on composite materials such as strand, chip, fiber, or particle board unless the fastener attaches securely to a wall stud, rafter, or other foundation material beneath the surface.

Table of Contents

Safety Information	2
Introduction	5
Installation Instructions	6
Wiring Diagrams	8
Cable-Runs for Channel-Stack Splitters	11
Limited Warranty	12
FCC Compliance	13
Copyright Notice	14

Introduction

This guide explains how to install the DISH Pro Hybrid 42 Switch (DPH42 Switch), which connects up to four satellite feeds from a DISH Pro (DP) or DISH Pro Plus (DPP) LNBF to Hopper®, Joey®, Wally®, ViP®, and DP receivers. Legacy receivers are not supported.

Note that the DPH42 Switch is not compatible with a DPH LNBF, despite the “DPH” similarity.

The DPH42 Switch is intended to support the following installation scenarios:

- Multiple Hopper, Joey, Wally, and ViP receivers, including a combination of two of these receiver types
- Alaska, Hawaii and Puerto Rico installations
- International customers
- Customers requiring multiple satellite dishes
- Multiple dwelling unit (MDU) customers

The *Dish* section of the Diagnostics screen will identify the DPH42 as “DPH42” as shown below:

The screenshot shows the DISH Diagnostics interface. On the left, a sidebar lists navigation options: Receiver, Status, Settings, Tools, Network, Dish (highlighted), and Whole Home. The main area displays the following information:

- Receiver: 1
- Node: N.C.
- Switch: DPH42 (highlighted in a yellow box)
- Reception: Verified
- Buttons: Test Installation 5, Details > 6
- SIGNAL STRENGTH: Tuner 1, Satellite 119, Transponder 19
- Signal strength bar graph: 0, 10, 25, 50, 75, 100, 125. Signal Strength: 62.
- SWITCH STATUS table:

Satellite	119	110	129
Tuner 1	✓	✓	✓
Tuner 2	✓	✓	✓
Tuner 3	✓	✓	✓
Tuner 4	✓	✓	✓

At the bottom, there is an 'Alternate' button set to 'Off'. A note at the bottom right says '▲ Press PAGE to scroll ▼'. At the bottom left, it says 'Satellite 119 · Locked'.

DPH42 Installation Requirements

- Power insertion from the DPH42 Power Inserter connected to port 1 of the switch
- RG-6 cable rated between 950–3000 MHz
- Weather caps—not terminators—for sealing off all unused ports on the switch. Weather caps have a flat top and are pre-installed on the switch.
- A Solo Hub or Duo Hub for all Hopper receivers; a Solo Node or Duo Node is not compatible.

Installation Instructions

Connecting the Switch

- 1 Ensure that the dish is receiving the strongest-possible signal.
- 2 Mount the DPH42 Switch onto a sturdy structure, such as the side of a building. Make sure that the mounting location is stable and that you fasten the switch tightly to the surface using suitable hardware for the mounting surface. See Figures 1 and 2 below for mounting examples.



Do not plug in the DPH42 Power Inserter until you have made all LNBF and receiver connections to the switch.



The DPH42 Switch can be installed outside a home or building because this device is designed for outdoor use.



You can run up to 200 feet of RG-6 cable between the farthest DP or DPP LNBF and a supported receiver. You must use RG-6 cable rated between 950–3000 MHz.

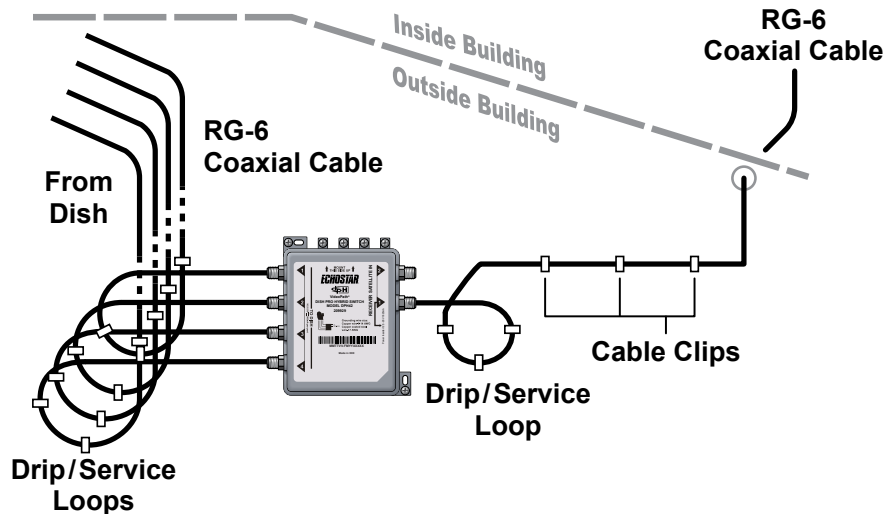


Figure 1: Horizontal Switch Mounting

Note: The DPH42 Switch can be mounted to a vertical or horizontal surface, as long as the To DISH and RECEIVER SATELLITE IN ports do not point up. Use drip/service loops on all coaxial cables to help prevent leakage of moisture into the switch.

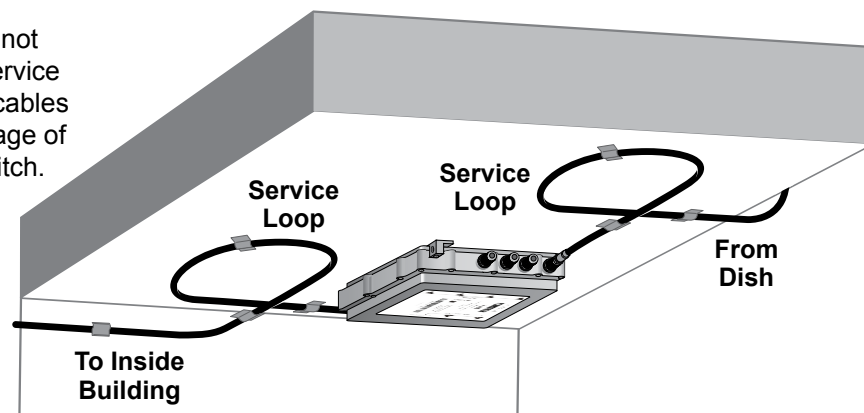


Figure 2: Vertical Switch Mounting

Installation Instructions

- 3 Ground the system in accordance with the National Electrical Code® (NEC) and all state and local electrical codes.

Note: The DPH42 Switch is UL-listed as an approved grounding block.

- 4 Connect RG-6 cables from the LNBF(s) to the To DISH ports on the DPH42 Switch. Refer to the *Wiring Diagrams* section on page 8.
- 5 Connect an RG-6 cable from the switch's RECEIVER SATELLITE IN 1 port to the power inserter's To SWITCH INPUT 1 port.



Any devices such as diplexers installed between the power inserter and the switch must support at least 50 volts and 2 amps of current. Devices not meeting these requirements may be damaged by power from the inserter.



The power inserter must be installed in the cable connected to the switch's To RECEIVER SATELLITE IN 1 port, or the switch will not work.



The power inserter must be installed indoors.

- 7 Connect an RG-6 cable from the power inserter's To RECEIVER SATELLITE IN port to a receiver, splitter, Separator, Triplexer, or Solo/Duo Hub. For a second receiver, connect an RG-6 cable from the switch's RECEIVER SATELLITE IN 2 port to a receiver, splitter, Separator, Triplexer, or Solo/Duo Hub. Each receiver output from the switch supplies signals from up to four satellite locations to the connected receivers.
- 8 Plug in the power supply for the power inserter to a non-switched outlet.

Setting Up Receivers

Warning: Do not install a Hopper 3 receiver unless it is preloaded with production software version U337 or later.

- 1 Power on each receiver in the installation.
- 2 Follow the on-screen prompts to complete each setup wizard, authorize each receiver, and view live TV.

Wiring Diagrams

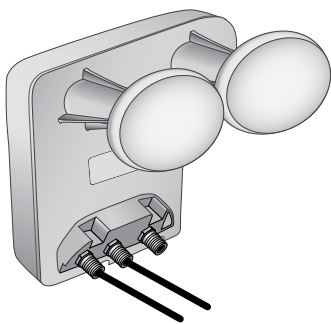
The diagrams on the following pages represent possible wiring configurations using the DPH42 Switch. Note that grounding and Internet connectivity have been removed for clarity.



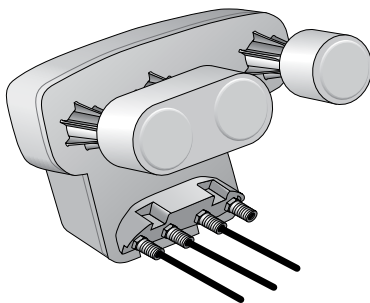
The wiring diagrams in this section omit cable drip/service loops and grounding. Use drip/service loops and ground the system in accordance with NEC®, state, and local electrical codes.

DPH42 Switch Configurations

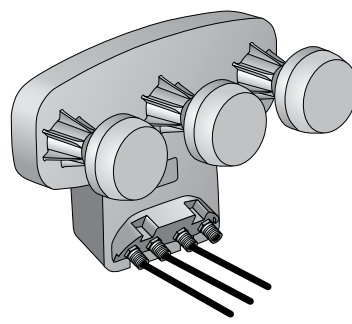
**DPP 1000.2
Eastern Arc LNBF**



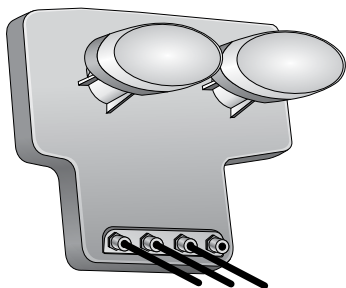
**DPP 1000.4
Eastern Arc LNBF**



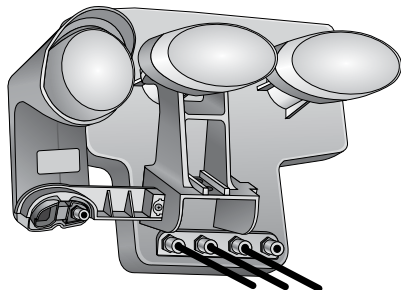
**DPP 1000.2/4
Western Arc LNBF**



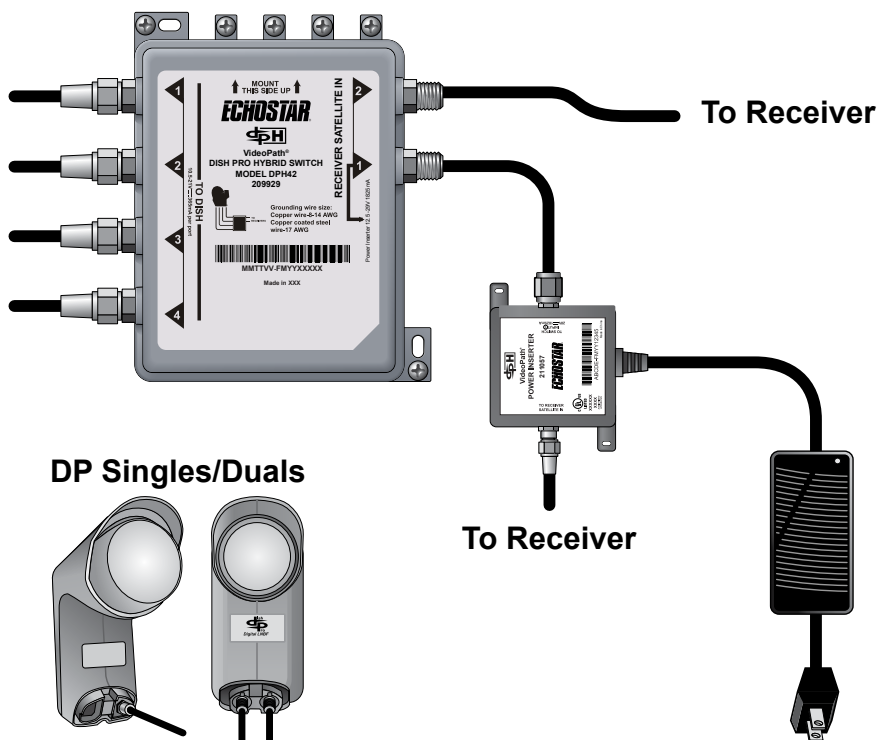
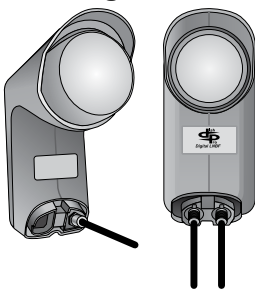
DPP 500+ LNBF



DPP 1000+ LNBF



DP Singles/Duals

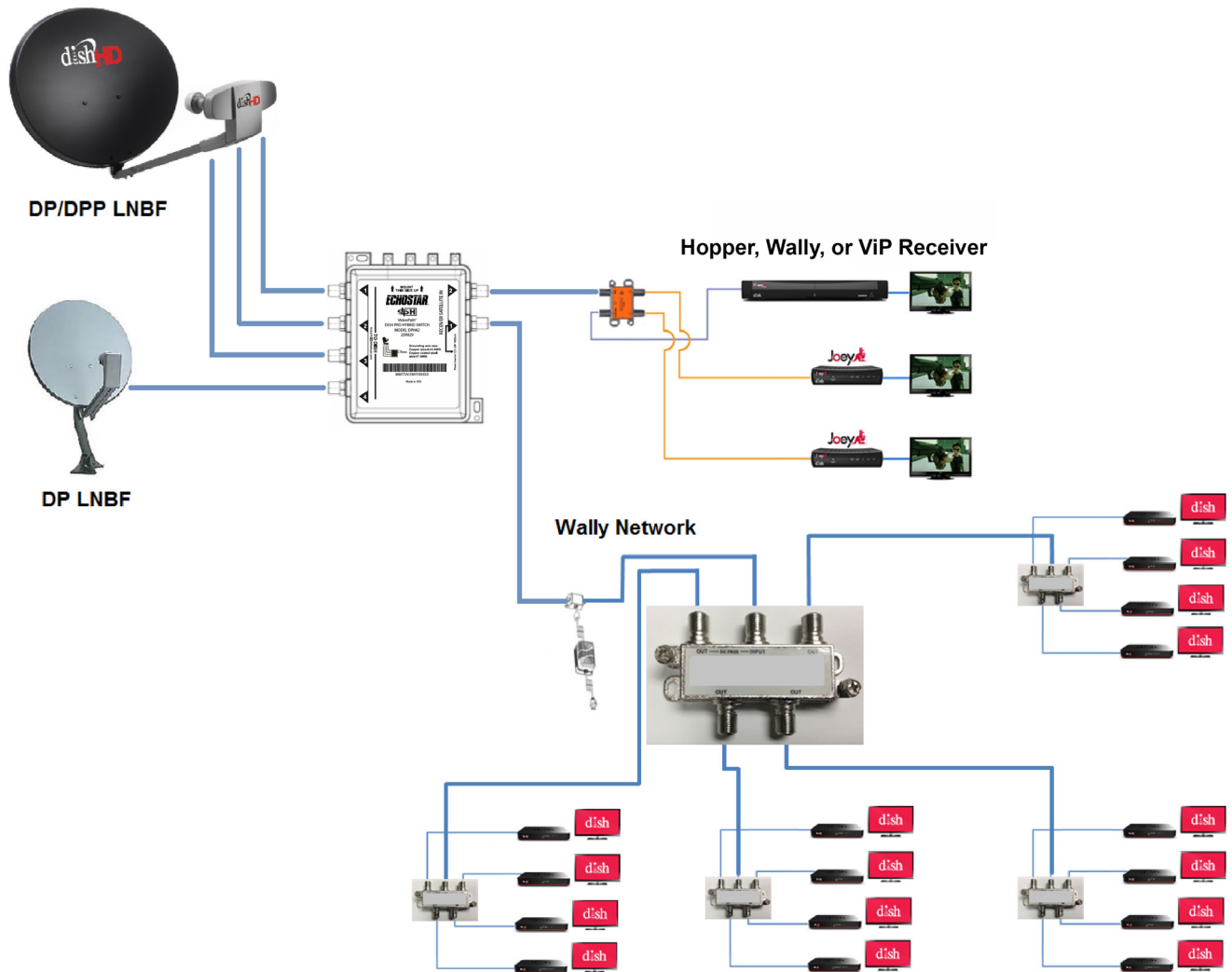


Wiring Diagrams

Mixed Receiver System

This diagram shows how to connect the DPH42 Switch in an installation that features different supported receivers.

Note: For multiple-Wally installations, the DPH42 Power Inserter must be installed between the switch and a splitter, as shown below. Also, cable-runs cannot exceed 140 feet between the farthest LNBF and the farthest receiver. See the [Cable-Runs for Channel-Stack Splitters](#) table on page 11 for more details.

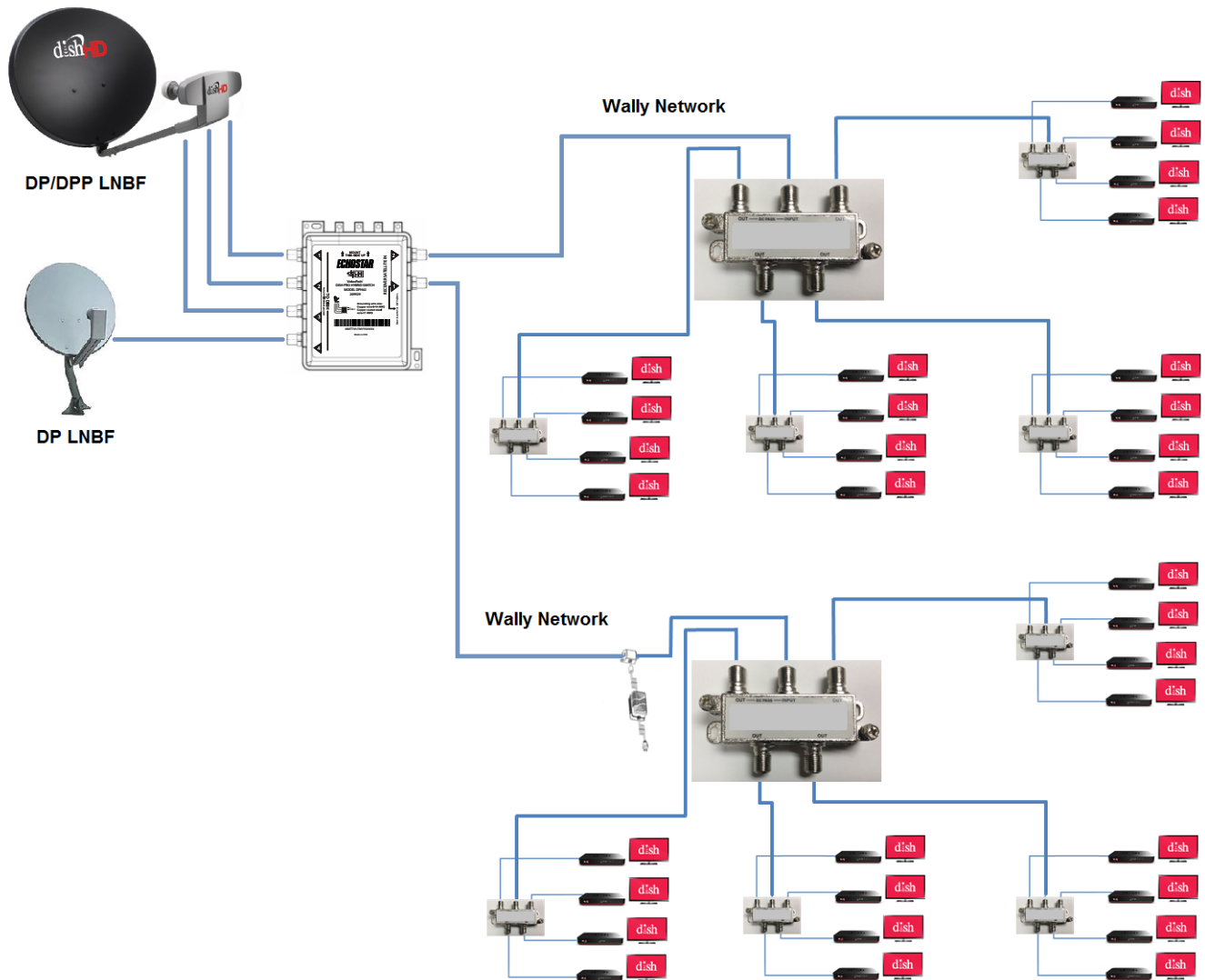


Wiring Diagrams

Multiple Dwelling Unit

This diagram shows how to connect the DPH42 Switch in an MDU installation.

Note: For multiple-Wally installations, the DPH42 Power Inserter must be installed between the switch and a splitter, as shown below. Also, cable-runs cannot exceed 140 feet between the farthest LNBF and the farthest receiver. See the [Cable-Runs for Channel-Stack Splitters](#) table on page 11 for more details.



Cable-Runs for Channel-Stack Splitters

Number of Receivers	2-Way Splitters	4-Way Splitters	Maximum Cable Length
2	1	0	200 ft.
3	0	1	200 ft.
4	0	1	200 ft.
5	1	1	185 ft.
6	2	1	185 ft.
7	3	1	185 ft.
8	4	1	185 ft.
9	0	3	140 ft.
10	0	3	140 ft.
11	0	4	140 ft.
12	0	4	140 ft.
13	0	4	140 ft.
14	0	5	140 ft.
15	0	5	140 ft.
16	0	5	140 ft.

Limited Warranty

This warranty extends only to the original user (“you,” “your”) of the DISH Network™ DISH Pro Hybrid 42 Switch and is limited to the purchase price of the switch. EchoStar Technologies Corporation and its affiliated companies (“we,” “our,” “us”) warrant this switch control against defects in materials or workmanship as follows.

For one year from the original date of purchase, if we find that the switch is defective subject to the limits of this warranty, we will replace the switch at no charge for parts or labor. We warrant any such work done against defects in materials or workmanship for the remaining part of the original warranty period.

This warranty does not cover installation of the DISH Network system; consumer instruction; physical set up or adjustment of any consumer electronic device; signal reception problems; loss of use of the equipment; unused programming charges due to equipment malfunction; cosmetic damage; damage due to lightning, electrical or telephone line surges, fire, flood, or other acts of Nature; accident; misuse; abuse; repair or alteration by other than our factory service; negligence; commercial or institutional use; improper or neglected maintenance; equipment sold AS IS or WITH ALL FAULTS; equipment removal or reinstallation; shipping damage if the equipment was not packed and shipped in the manner we prescribe; nor equipment purchased, serviced, or operated outside the contiguous United States of America.

REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY. ECHOSTAR SHALL NOT BE HELD LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ON THIS SYSTEM, NOR FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF, OR INABILITY TO USE, THIS SYSTEM. SOME STATES MAY LIMIT OR EXCLUDE THE FOREGOING LIMITATION, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL ECHOSTAR’S LIABILITY, IF ANY, EXCEED THE PURCHASE PRICE PAID FOR THIS SYSTEM. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS SYSTEM IS LIMITED IN DURATION TO THE PERIOD OF THIS WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG A STATUTORY OR IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ECHOSTAR RESERVES THE RIGHT TO REFUSE TO HONOR THIS WARRANTY IF ECHOSTAR DETERMINES ANY OF THE ABOVE EXCEPTIONS TO HAVE CAUSED THIS SYSTEM NOT TO HAVE PERFORMED PROPERLY. THIS WARRANTY SHALL BE VOID IF ANY FACTORY-APPLIED IDENTIFICATION MARK, INCLUDING BUT NOT LIMITED TO SERIAL OR CONDITIONAL ACCESS NUMBERS, HAS BEEN ALTERED OR REMOVED. THIS WARRANTY SHALL ALSO BE VOID IF THE RECEIVER HAS BEEN OPENED BY AN UNAUTHORIZED PERSON.

This warranty gives you specific legal rights which may vary from state to state. Some states do not allow the exclusion or limitations of incidental or consequential damages, or allow limitations on the duration of an implied warranty, so those limitations may not apply to you.

FCC Compliance

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference;
- and
- 2 This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by following one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make changes or modifications to this equipment. This could void the user's authority to operate the equipment.

If none of these remedies stops the radio interference, you should contact a licensed radio/television technician, your satellite dealer, or call the Customer Service Center at 1-800-333-DISH (3474), for assistance.

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