

## TECHNICAL INFORMATION BULLETIN

### Subject: DISH Pro Plus Twin LNBF Installation Information & Special Considerations

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#### Introduction

To prepare you for the upcoming release of the DP Plus Twin LNBF, this bulletin provides important information about this advanced LNBF. Before doing this installation, you should know how this LNBF is used, know its special considerations, and read the attached *DISH Pro Plus Twin LNBF User's Guide*. Please visit the Retailer Website for any updates to this guide.

#### How It Works

- This LNBF receives the 119° West and 110° West orbital locations and delivers them to up to two receivers. Either output port can feed on a single cable:
  - A DISH Pro single-tuner receiver
  - A DP Plus dual-tuner receiver with a DP Plus Separator
  - A Legacy receiver (without a DISH Pro Adapter)
- A third port labeled **LNB IN** supports reception of a third orbital location delivered from a DISH Pro compatible LNBF.

#### Special Considerations

Refer to the *DISH Pro Plus Twin LNBF User's Guide* for detailed installation instructions and for the special considerations below.

- DP Plus dual-tuner receivers require a software download to complete the installation. A special download procedure is included in the user guide.
- There is a 200' cable length limit for DISH Pro and DP Plus dual-tuner receivers with some additional limitations as detailed in the user guide.
- When connecting a Legacy receiver, a second receiver must also be connected to power the LNBF:
  - If the second receiver is DISH Pro or DP Plus, the DP Plus Twin will be fully functional.
  - If the second receiver is Legacy, the **LNB IN** port (for a second satellite dish) cannot be used.
- Legacy receivers will recognize the DP Plus Twin as an SW64 switch – this is normal.
- The DP Plus Twin may be connected to a DP Plus 44 switch, but not to DP21 switches or DP34 switches.
- A DP Plus Separator allows a DP Plus dual-tuner receiver to be fed by a single cable – it cannot be used to feed two single-tuner receivers.
- The DISH Player-DVR 921 cannot be installed using two cables directly connected to both DP Plus Twin ports at this time. The 921 software will be upgraded later to add this support.
- The DISH 721 does not have support for the DP Plus Twin at this time. The 721 software will be upgraded later to add this support.

# **DISH Pro Plus Twin LNBF Installation Instructions**



## Attention and Warning Symbols

You *must* be aware of safety when you install and use this system. This guide provides various procedures. If you do some of these procedures carelessly, you could *injure* or *kill* yourself or damage equipment or property. Some other procedures require special attention.



Marks a procedure where the following may happen:

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



Marks the following issues:

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

## Important Safety Instructions

You *must* keep safety in mind when you install and use the DISH Pro Plus Twin LNBF. Refer to the safety instructions in the installation instructions that came with your system. In this guide, the following notes tell you when you need to pay special attention:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.

Keep the following in mind when you install the DISH Pro Plus Twin LNBF:

- Before you drill any holes in your building, make sure there are no wires or pipes near the holes.
- Install the equipment in accordance with the local building and electrical codes. If you aren't sure, call a licensed building inspector or electrician for help.
- Never install the satellite dish near power lines.
- Don't install the satellite dish 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.

## Contents

|                                                                                           |    |
|-------------------------------------------------------------------------------------------|----|
| Introduction.....                                                                         | 2  |
| Installing with Single-Tuner Receivers and<br>Software-Upgraded Dual-Tuner Receivers..... | 3  |
| Installing with any Dual-Tuner Receiver.....                                              | 8  |
| Installing a Second Receiver.....                                                         | 12 |
| Connecting a Second Satellite Dish.....                                                   | 12 |
| Connecting to a Switch.....                                                               | 15 |
| Wiring Diagrams.....                                                                      | 16 |
| Troubleshooting Tables.....                                                               | 18 |
| Radio Interference.....                                                                   | 20 |

## Introduction

The DISH Pro Plus Twin LNBF features DISH Pro Plus Technology and provides reception from the 110 and 119 orbital locations. The device includes two receiver outputs and one input from an additional DISH Pro Single, DISH Pro Dual, or a DISH Network bandstacked FSS LNBF supporting a third orbital location.

This LNBF supports connection of up to two satellite receivers in any of the following combinations:

- Single-cable connection to DISH Pro Plus (dual-tuner) receivers, when each input is used with a DISH Pro Plus Separator.
- Single-cable connection to DISH Pro receivers.
- Single-cable connection to one Legacy (no DISH Pro or DISH Pro Plus label) receiver, without a DISH Pro Adapter. However, an additional satellite receiver must also be installed as follows:
  - For 110W/119W reception only, a second operating satellite receiver must be connected to provide power to the LNBF.
  - For 110W/119W reception plus satellite reception from an additional compatible LNBF, a DISH Pro or DISH Pro Plus receiver must also be installed to provide power to the LNBF.

Figure 1 shows the three ports provided on the DISH Pro Plus Twin LNBF. The ports marked **1** and **2** are used to connect two satellite receivers. The port marked **LNB IN** is used to connect to a DISH Pro Single, DISH Pro Dual, or a DISH Network bandstacked FSS LNBF.



**Figure 1. DISH Pro Plus Twin LNBF**

This guide contains instructions for professional installation of the DISH Pro Plus Twin LNBF directly to satellite receivers and to compatible DISH Pro Plus switches.

## Installing with Single-Tuner Receivers and Software-Upgraded Dual-Tuner Receivers

The following instructions describe how to install the DISH Pro Plus Twin LNBF on a DISH 500 antenna with DISH Pro and Legacy single-tuner receivers and with DISH Pro Plus dual-tuner receivers that have upgraded software, as shown in Table 1. For dual-tuner receivers that do not have upgraded software, you must instead use the instructions in *Installing with any Dual-Tuner Receiver* starting on page 8.

**Table 1. Software Required for Dual-Tuner Receiver Installation**

| Receiver                                  | Software Version                            |
|-------------------------------------------|---------------------------------------------|
| DISH 322                                  | L054 or later or current download           |
| DISH Player-DVR 522                       | L059 or later or current download           |
| DISH 721                                  | Supported with a future version of software |
| DISH Player-DVR 921                       | L052 or later or current download           |
| Future DISH Pro Plus Dual-Tuner Receivers | All                                         |

### Installation Instructions

Use the steps below while referring to Figure 6 on page 7 for this installation.



1 Locate and install the DISH 500 antenna using the instructions that came with the dish or satellite receiver.



2 Run RG-6 coaxial cables from the receiver location(s) to the DISH 500 antenna using Table 2 and the notes that follow:

**Table 2. Receiver Installation Options**

| Receiver to Install                |                                 |                               | Component Requirements  |                              |                    |                                     |
|------------------------------------|---------------------------------|-------------------------------|-------------------------|------------------------------|--------------------|-------------------------------------|
| DISH Pro Plus Dual-Tuner Receivers | DISH Pro Single-Tuner Receivers | Legacy Single-Tuner Receivers | DISH Pro Plus Separator | Cables to DISH Pro Plus Twin | Supports 119W/110W | Supports additional Compatible LNBF |
| 1                                  |                                 |                               | No                      | 2                            | Yes                | Yes                                 |
| 1                                  |                                 |                               | Yes                     | 1                            | Yes                | Yes                                 |
| 2                                  |                                 |                               | Yes                     | 2                            | Yes                | Yes                                 |
| 1                                  | 1                               |                               | Yes                     | 2                            | Yes                | Yes                                 |
| 1                                  |                                 | 1 <sup>a</sup>                | Yes                     | 2                            | Yes                | Yes                                 |
|                                    | 1                               |                               | No                      | 1                            | Yes                | Yes                                 |
|                                    | 2                               |                               | No                      | 2                            | Yes                | Yes                                 |
|                                    | 1                               | 1 <sup>a</sup>                | No                      | 2                            | Yes                | Yes                                 |
|                                    |                                 | 2 <sup>b</sup>                | No                      | 2                            | Yes                | No                                  |

a. Install a DISH Pro single-tuner or DISH Pro Plus dual-tuner receiver first.

- b. Connect and power both receivers before running **Check Switch**.

### Cable Limitations

- Only RG-6 coaxial cables rated for 950 to 2150 MHz can be used in this installation. Do not use existing cables such as RG-59. These other cables may cause signal loss. Also, be sure that any outdoor connections are made using waterproof F-connectors.
- Refer to Figure 13 on page 16 and the following for cable length limitations:
  - The length of the RG-6 cable must be 200 feet or less between any receiver and the farthest LNBF in the system including both cabling to the DISH Pro Plus Twin LNBF plus any cabling connecting an additional DISH Pro LNBF.
  - If you are connecting a Legacy receiver (no DISH Pro or DISH Pro Plus label), RG-6 cable length must be 150 feet or less to the DISH Pro Plus Twin LNBF.
  - Cable length between the DISH Pro Plus Twin LNBF and a connected compatible LNBF must be 80 feet or less.



Tighten all indoor coaxial cable connections to the receiver *only* by hand. If you use a wrench, you may over-tighten the connections and damage your equipment. Tighten all outdoor cable connections up to 30 inch/pounds maximum to ensure seal against moisture. Damage caused by over-tightening is *not* covered by the limited warranty.



Thread the RG-6 coaxial cables at the DISH 500 through the mast, support arm, and Y-bracket as shown in Figure 2. Connect at least one cable to Port 1, which will be used for dish peaking on 119W later in this procedure. If you have a second satellite receiver, connect its cable to **PORT 2**. Assemble the LNBF to the DISH 500 Y-bracket, and secure with screws as shown in Figure 3.

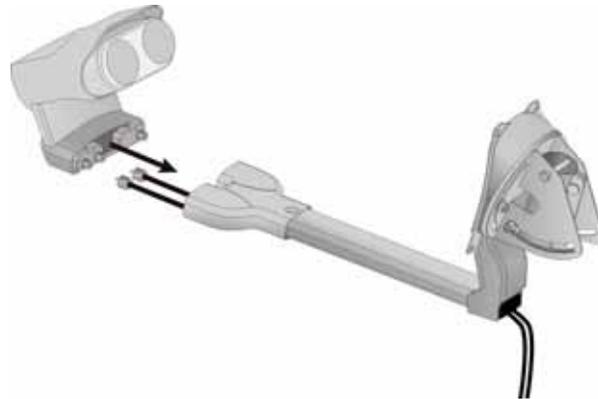


Figure 2. Connecting DISH Pro Plus Twin to DISH 500 Y-Bracket and Cabling



### Figure 3. Attaching DISH Pro Plus Twin with Screws

4

Install the satellite receiver(s) using the user's guide that came with your receiver(s).

5

Direct connect the RG-6 coaxial cable from the LNBF's **PORT 1** to a peaking meter.

6

Peak the dish for the strongest possible signal on the 119W satellite signal.

7

Connect the cable from LNBF **PORT 1** to the satellite receiver's **SATELLITE IN** connection(s) referring to Table 2 on page 3.

- a. If you are installing a single cable installation with a DISH Pro Plus Separator to a DISH Pro Plus dual-tuner receiver, install a DISH Pro Plus Separator as follows (see Figure 14 on page 17):

- 1) Connect a cable from the DISH Pro Plus Twin LNBF output (Port 1 or Port 2) to the DISH Pro Plus Separator Input.
- 2) Connect cables between the receiver **SATELLITE IN 1** and **SATELLITE IN 2** to **PORTS 1** and **2** respectively on the DISH Pro Plus Separator.



You must use a DISH Pro Plus Separator in this installation. A splitter or other devices will not work in this configuration.

- b. If you are installing a Legacy receiver in this step, you must have a second satellite receiver powered on and connected to **PORT 2** of the LNBF to complete this installation.

8

Plug in and turn on the satellite receiver and TV. The **Point Dish/Signal** screen should be displayed - if not, you can open this screen on most receivers by pressing **MENU** on the remote and selecting **System Setup, Installation**, then **Point Dish/Signal** (refer to your receiver's user's guide).

9

Select **Check Switch** or **Switch** and then select either **Check** or **Test** to run **Check Switch**.

10

When the **Check Switch** procedure finishes, you should see an **Installation Summary** screen similar to one of those shown in Figures 4 and 5 on the next page.

- The summary screen shown in Figure 4 is similar to what should be shown for DISH Pro and DISH Pro Plus receivers connected to the DISH Pro Plus Twin LNBF. Make sure the summary screen shows reception from both 110W and 119W satellites on all available satellite tuners. If not, consult your receiver user's guide to re-peak your DISH 500 as needed. Also confirm the LNBF is correctly identified as a **DPP Twin** (some early factory software on some models may identify this LNBF as a **DP Twin**. This identification is OK).



**Figure 4. DISH Pro Plus Installation Summary**

- The summary screen below is similar to what should be shown for a Legacy receiver connected to the DISH Pro Plus Twin LNBF. Make sure the summary screen shows reception from both 110W and 119W satellites on all available satellite tuners. If not, consult your receiver user's guide to re-peak your DISH 500 as needed. Note that the DP Plus Twin will be identified as SW64. This is OK and does not indicate a problem.



**Figure 5. Legacy Installation Summary**

- 11 Select **OK** or **Done** to exit the **Installation Summary** screen. The **Point Dish/Signal** screen should be displayed. Make sure the signal strength bar is green and locked for the 119W and 110W satellites.
 

**Note:** If the signal strength bar is not green and locked, toggle the transponder number up one and then back down one.
- 12 Exit the **Point Dish** screen and follow your receiver user's guide instructions for taking a receiver software upgrade. If exiting the **Point Dish** screen does not start the upgrade process as described in the receiver user's guide, then turn off the receiver for at least 20 minutes to allow the receiver to take a software upgrade.
- 13 Run **Check Switch** again and re-confirm reception for 119W/110W satellites.

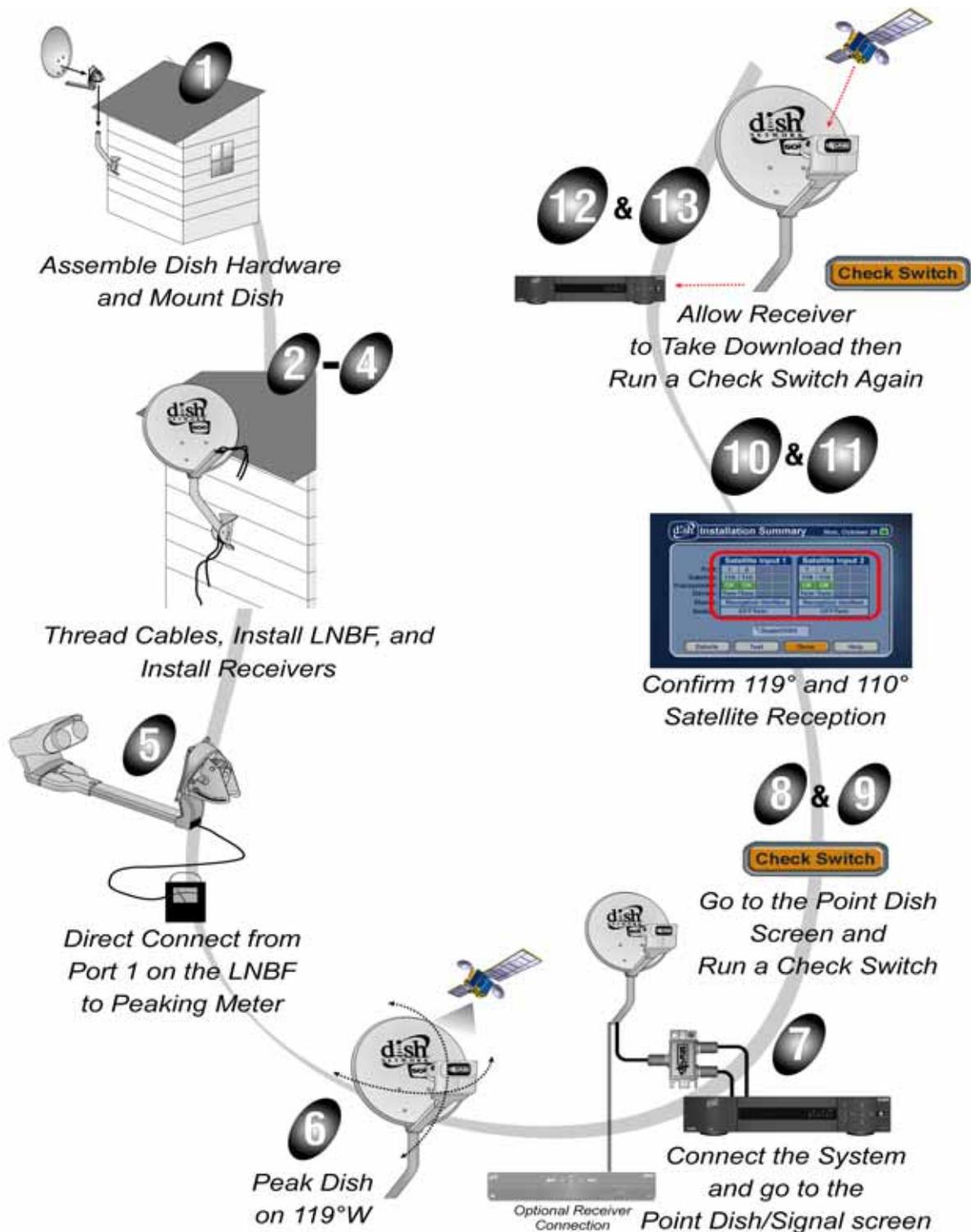


Figure 6. Installing the DISH Pro Plus Twin LNB with Upgraded Software

## Installing with any Dual-Tuner Receiver

These instructions describe how to install the DISH Pro Plus Twin LNBF on a DISH 500 antenna with any dual-tuner DISH Network satellite receiver such as DISH 322, DISH Player-DVR 522, DISH 721 (supported with a future version of software), and DISH Player-DVR 921. Use these instructions if you do not have the upgraded software on the dual-tuner receivers listed on page 3. Refer to Figure 8 on page 11 while completing these instructions.

### Installation Instructions

**Note:** You will need a DISH Pro compliant splitter to complete this installation. The splitter is used only temporarily during receiver software upgrade and must not be left installed in the system.



Locate and install the DISH 500 antenna using the instructions that came with the dish or satellite receiver.



Run RG-6 coaxial cables from the receiver location(s) to the DISH 500 antenna using the following table and notes:

**Table 3. Receiver Installation Options**

| Receiver to Install                |                                 |                               | Component Requirements  |                              |                    |                                     |
|------------------------------------|---------------------------------|-------------------------------|-------------------------|------------------------------|--------------------|-------------------------------------|
| DISH Pro Plus Dual-Tuner Receivers | DISH Pro Single-Tuner Receivers | Legacy Single-Tuner Receivers | DISH Pro Plus Separator | Cables to DISH Pro Plus Twin | Supports 119W/110W | Supports additional Compatible LNBF |
| 1                                  |                                 |                               | No                      | 2                            | Yes                | Yes                                 |
| 1                                  |                                 |                               | Yes                     | 1                            | Yes                | Yes                                 |
| 2                                  |                                 |                               | Yes                     | 2                            | Yes                | Yes                                 |
| 1                                  | 1                               |                               | Yes                     | 2                            | Yes                | Yes                                 |
| 1                                  |                                 | 1 <sup>a</sup>                | Yes                     | 2                            | Yes                | Yes                                 |

a. Install a DISH Pro Plus dual-tuner receiver first.

### Cable Limitations

- Only RG-6 coaxial cables rated for 950 to 2150 MHz can be used in this installation. Do not use existing cables such as RG-59. These other cables may cause signal loss. Also, be sure that any outdoor connections are made using waterproof F-connectors.
- If the RG-6 to be used in this installation includes copper-clad steel center conductor, one of the following may be needed to complete the receiver software upgrade. After the software upgrade is completed, the following measures are no longer needed for future receiver operation.
  - Cable length must be shortened to 100 feet maximum.
  - Temporarily install RG-6 cabling with solid copper center conductor up to 200 feet between the receiver to the DP Plus Twin.
  - Download the receiver software using an LNBF other than the DP Plus Twin, or prior to coming to the installation site.
- Refer to Figure 13 on page 16 and the following for cable length limitations:
  - The length of the RG-6 cable must be 200 feet or less between any receiver and the farthest LNBF in the system including both cabling to the DISH Pro Plus Twin LNBF plus any cabling connecting an additional DISH Pro LNBF.

- If you are connecting a Legacy receiver (no DISH Pro or DISH Pro Plus label), RG-6 cable length must be 150 feet or less to the DISH Pro Plus Twin LNBF.
- Cable length between the DISH Pro Plus Twin LNBF and a connected compatible LNBF must be 80 feet or less.



Tighten all indoor coaxial cable connections to the receiver *only* by hand. If you use a wrench, you may over-tighten the connections and damage your equipment. Tighten all outdoor cable connections up to 30 inch/pounds maximum to ensure seal against moisture. Damage caused by over-tightening is *not* covered by the limited warranty.

3

Thread the RG-6 coaxial cables at the DISH 500 through the mast, support arm, and Y-bracket while referring to Figure 2 on page 4. Connect at least one cable to **PORT 1**, which will be used for dish peaking on 119W later in this procedure. If you have a second satellite receiver, connect its cable to **PORT 2**. Assemble the LNBFs to the DISH 500 Y-bracket, and secure with screws as shown in Figure 3 on page 4.

4

Install the satellite receiver(s) using the user's guide that came with your receiver(s).

5

Direct connect the RG-6 coaxial cable from the LNBF's **PORT 1** to a peaking meter.

6

Peak the dish for the strongest possible signal on the 119W satellite signal.

7

Connect a single cable from the DISH Pro Plus Twin LNBF **PORT 1** to the **LNB** port on a DISH Pro compliant splitter (not a DISH Pro Plus Separator). Then connect two cables from the receiver ports on the DISH Pro compliant splitter to **SATELLITE IN 1** and **2** ports on the receiver.



This DISH Pro splitter in this installation is used only temporarily for upgrading receiver software. This splitter must be removed and replaced with a DISH Pro Plus Separator following software upgrade or else the system will not work properly.

8

Plug in and turn on the satellite receiver and TV. The **Point Dish/Signal** screen should be displayed. Make sure the signal strength bar is green and locked for the 119W and 110W satellites on an odd transponder greater than 10 (for example, 11, 13, 15, etc.).

**Note:** If the signal strength bar is not green and locked, toggle the transponder number up one and then back down one.



**Do not run Check Switch** at this time. If you do run **Check Switch** by mistake, this situation can be corrected by completing the following:

- Disconnect all **SATELLITE IN** cables.
- Run **Check Switch** (from **Point Dish/Signal** screen, select **Check Switch** or **Switch** then **Check** or **Test**).
- When **Check Switch** finishes, exit the **Installation Summary** screen back to the **Point Dish** screen.
- Reconnect all **SATELLITE IN** cables.

9

Exit the **Point Dish/Signal** screen and follow your receiver user's guide instructions for taking a receiver software upgrade.

If exiting the **Point Dish/Signal** screen does not start the upgrade process as described in the receiver user's guide, then, turn off the receiver for at least 20 minutes to allow the receiver to take a software upgrade.

10

After the receiver has completed taking the software upgrade, go to the **Point Dish/Signal** screen. With most receivers, you can do this by pressing **MENU** on the remote and selecting **System Setup, Installation**, then **Point Dish/Signal** (refer to your receiver user's guide). Make sure the signal strength bar is green and locked.

11

Remove the DISH Pro compliant splitter. Either connect both receiver **SATELLITE IN** connections to LNBF **PORT 1** and **2** or install a DISH Pro Plus Separator (Figure 14 on page 17) as follows:

- a. Connect a cable from the DISH Pro Plus Twin LNBF output (**PORT 1** or **PORT 2**) to the DISH Pro Plus Separator **INPUT**.
- b. Connect cables between the receiver **SATELLITE IN 1** and **SATELLITE IN 2** to **PORTS 1** and **2** respectively on the DISH Pro Plus Separator.

12

Select **Check Switch** or **Switch** and then select either **Check** or **Test** to run **Check Switch**. When the **Check Switch** procedure finishes, you should see an **Installation Summary** screen similar to Figure 7 below. Make sure the summary screen shows reception from both 110W and 119W satellites on both satellite tuners. If not, consult your receiver user's guide to re-peak your DISH 500 as needed. Also confirm the LNBF is correctly identified as a **DPP Twin**.



Figure 7. DISH Pro Plus Installation Summary

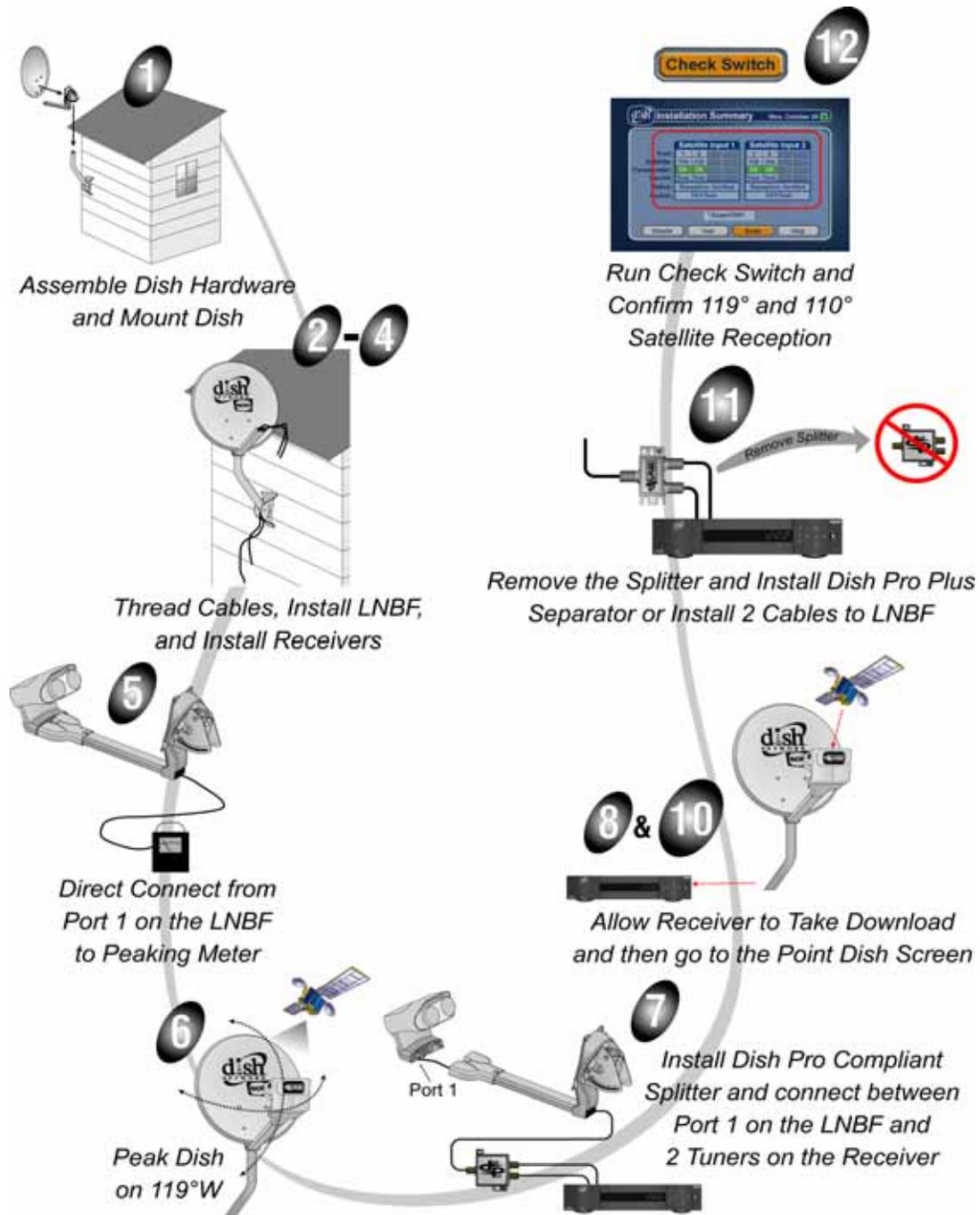


Figure 8. Installing the DISH Pro Plus Twin LNB on any DISH Network Receiver

## Installing a Second Receiver

Install another receiver to the DISH Pro Plus Twin LNBF completing one of the following:

- For single-tuner receivers and software-upgraded dual-tuner receivers, refer to the instructions that start on page 3. Skip the steps to install and peak the DISH 500.
- For any dual-tuner receiver, refer to the instructions that start on page 8. Skip the steps to install and peak the DISH 500.

## Connecting a Second Satellite Dish

After completing the previous section(s) to install the DISH Pro Plus Twin LNBF, following the instructions below to add a third satellite location from another compatible LNBF to the DISH Pro Plus Twin LNBF. The added LNBF from the second dish must be a DISH Pro Single, DISH Pro Dual, or a DISH Network bandstacked FSS LNBF.

**Note:** You cannot do this installation if both receivers connected to the DISH Pro Plus Twin LNBF are Legacy receivers (that is, receivers not marked with DISH Pro or DISH Pro Plus logos).

### Installation Instructions

Refer to Figure 11 on page 14 while completing these instructions.



Install and peak the second dish antenna using a peaking meter and the instructions that came with the dish antenna. Skip any steps regarding taking a receiver software upgrade since this was done in the previous section.



Run cable from the second dish antenna location to the DISH 500 with the installed DISH Pro Plus Twin LNBF. Cabling must meet *Cable Limitations* identified below.

#### Cable Limitations

- Only RG-6 coaxial cables rated for 950 to 2150 MHz can be used in this installation. Do not use existing cables such as RG-59. These other cables may cause signal loss. Also, be sure that any outdoor connections are made using waterproof F-connectors.
- Refer to Figure 13 on page 16 and the following for cable length limitations:
  - The length of the RG-6 cable must be 200 feet or less between any receiver and the farthest LNBF in the system including both cabling to the DISH Pro Plus Twin LNBF plus any cabling connecting an additional DISH Pro LNBF.
  - If you are connecting a Legacy receiver (no DISH Pro or DISH Pro Plus label), RG-6 cable length must be 150 feet or less to the DISH Pro Plus Twin LNBF.
  - Cable length between the DISH Pro Plus Twin LNBF and a connected compatible LNBF must be 80 feet or less.



Tighten all indoor coaxial cable connections to the receiver *only* by hand. If you use a wrench, you may over-tighten the connections and damage your equipment. Tighten all outdoor cable connections up to 30 inch/pounds maximum to ensure seal against moisture. Damage caused by over-tightening is *not* covered by the limited warranty.



Connect the coaxial cable between the LNBF on the second dish and the **LNBF IN** port on the DISH Pro Plus Twin LNBF. Refer to Figures 1 on page 2 and 15 on page 17.



Go to the **Point Dish/Signal** screen. With most receivers, you can do this by pressing MENU on the remote and selecting **System Setup, Installation**, then **Point Dish/Signal** (refer to your receiver user's guide).

5

Select **Check Switch** or **Switch** and then select either **Check** or **Test** to run **Check Switch**.

6

When the **Check Switch** procedure finishes, you should see a summary screen similar to one of those shown in Figures 9 and 10.

- The summary screen in Figure 9 is similar to what should be shown for DISH Pro and DISH Pro Plus receivers connected to the DISH Pro Plus Twin LNBF. Make sure the summary screen shows reception from 110W and 119W satellites and the third satellite location on all available satellite tuners. If not, consult your receiver user's guide to re-peak your dish antenna as needed. Also confirm the LNBF is correctly identified as a DP Plus Twin.

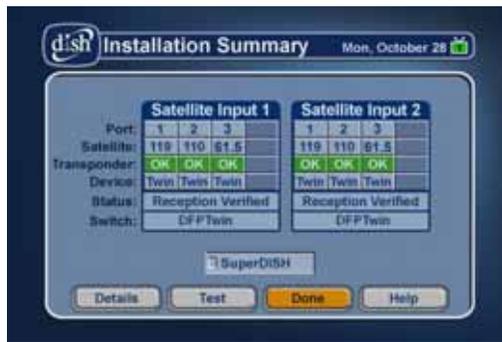


Figure 9. DISH Pro Plus Installation Summary

- The summary screen in Figure 10 is similar to what should be shown for a Legacy receivers connected to the DISH Pro Plus Twin LNBF. Make sure the summary screen shows reception from 110W and 119W satellites and the third satellite location on all available satellite tuners. If not, consult your receiver user's guide to re-peak the dish antenna as needed. Note that the DP Plus Twin will be identified as SW64. This is OK and does not indicate a problem.

**Note:** Legacy receiver models 1000, 2000, 3000, 4000, 5000, 7100, 7200 and JVC DVHS (HMDSR100U) cannot receive signals and will not detect from DISH Network bandstacked FSS LNBFs.

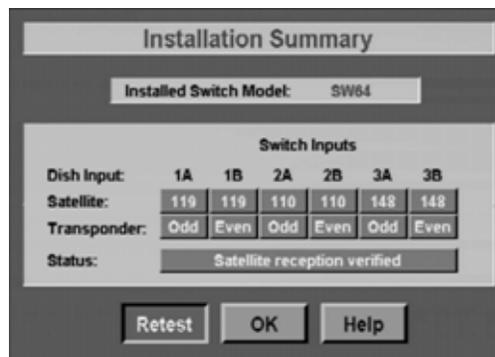


Figure 10. Legacy Installation Summary

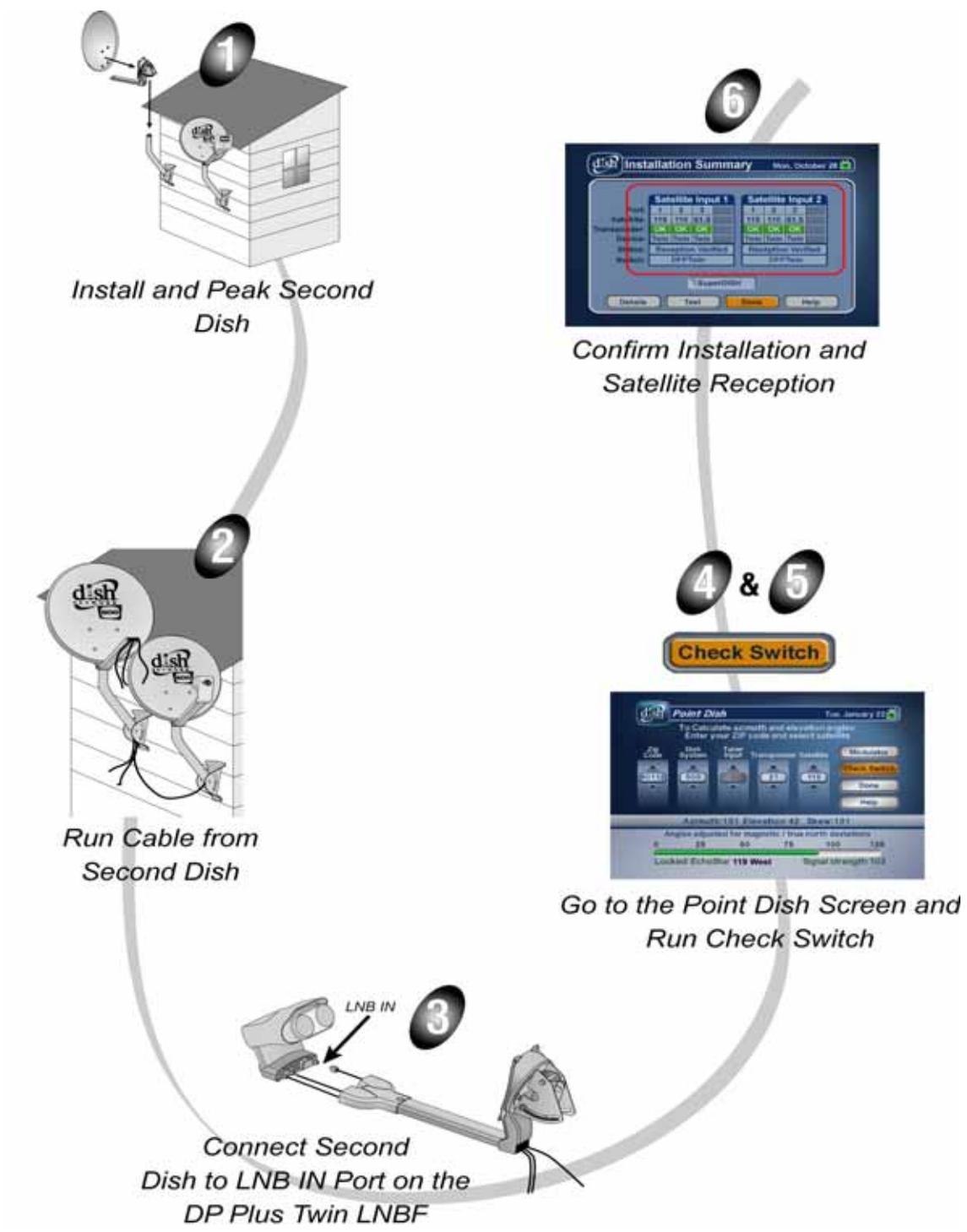


Figure 11. Connecting a Second Satellite Dish

## Connecting to a Switch

The DISH Pro Plus Twin LNBF can be connected to a DISH Pro Plus 44 switch to provide 119W and 110W satellite signals to the switch. When used this way, LNBF **PORT 1** will default to the 119W position and LNBF **PORT 2** will default to the 110W position. The LNBF port marked **LNB IN** is not used and will not provide any signal to the switch. To complete this installation, install the DP Plus Twin LNBF first using these instructions, then install the DP Plus 44 Switch using instructions which come with the switch. Figure 12 shows an installation example.

**Note:** The DISH Pro Plus Twin LNBF is NOT compatible with the DISH Pro 34 switch in any installation. Do not install these devices together in any system, including trunked switch installations which contain DISH Pro 34 switches.

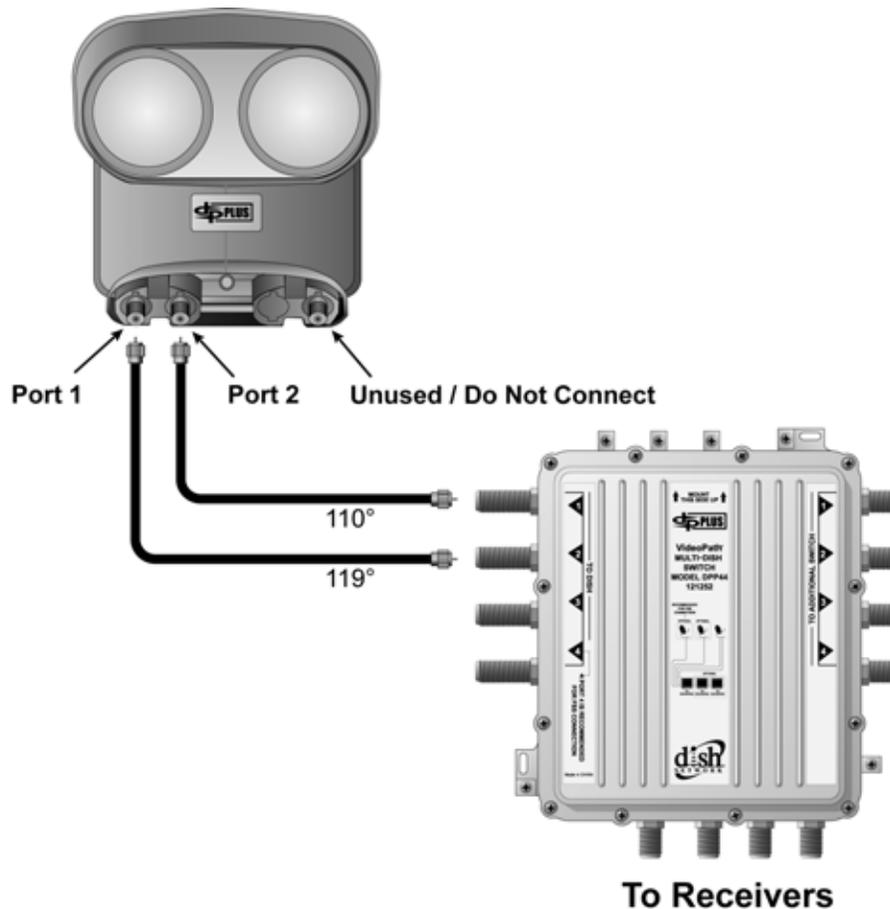
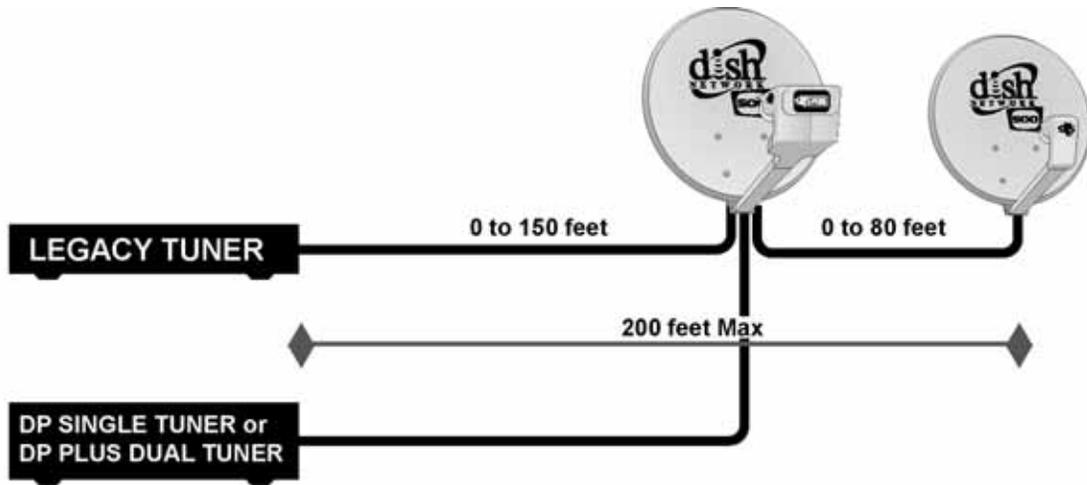


Figure 12. Connecting to a DISH Pro Plus 44 Switch

## Wiring Diagrams



**Example:** If you have a Legacy receiver attached 150 feet from a DISH Pro Plus Twin and a Single LNBF 50 feet from the DPP Twin, then the DP or DP Plus receiver must be within 150 feet of the DPP Twin. The cable length between the DPP Twin and the Single LNBF is limited to 50 feet because the maximum distance between the Legacy receiver and the Single LNBF is 200 feet.

If the cable length between the Legacy receiver and the DPP Twin was only 120 feet, then the Single LNBF could be extended to the 80 feet max from the DPP Twin LNBF. The DP/DPP receiver to the DPP Twin separation would be limited to a max of 120 feet as well.

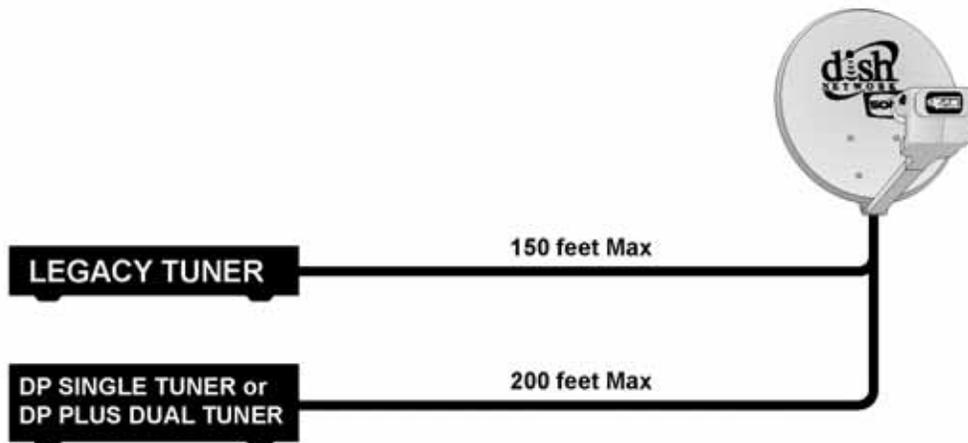


Figure 13. Cable Length Limitations

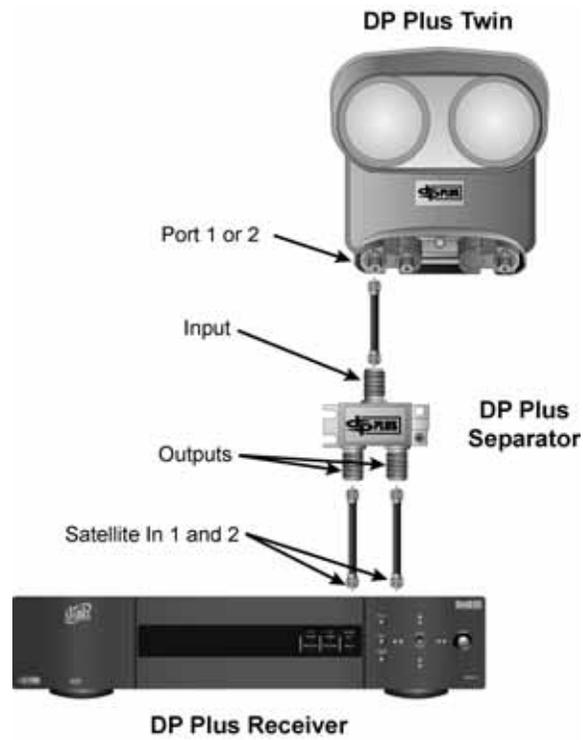


Figure 14. DISH Pro Plus Twin LNB, DISH Pro Plus Separator, and a DISH Pro Plus Receiver

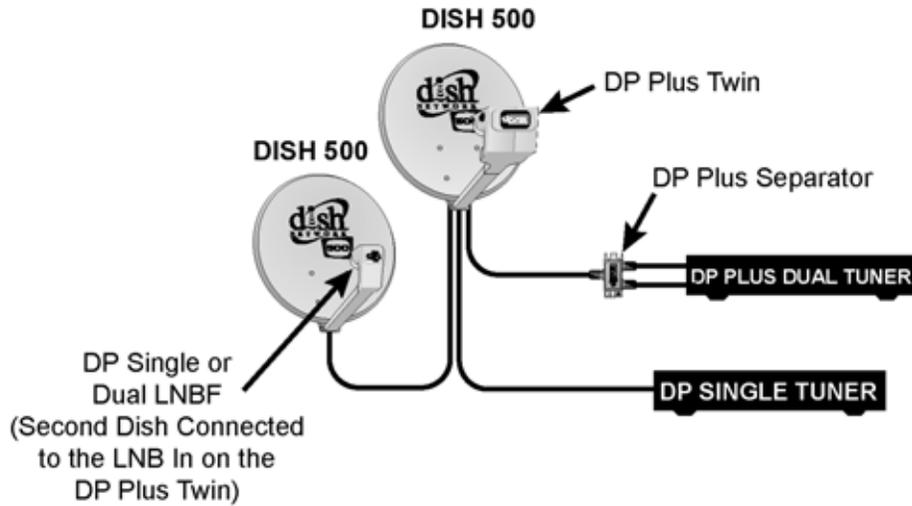


Figure 15. DISH Pro Plus Twin LNB, DISH Pro LNB, One DISH Pro Plus Separator, One DISH Pro Plus Receiver, and One DISH Pro Receiver

## Troubleshooting Tables

When you run Check Switch, you do not see “DPP Twin” identified as a device or LNBF on a DISH Pro Plus or DISH Pro receiver. Instead, all you see are Xs.

| Possible Reason                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | What to Do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>The DISH Pro Plus Twin LNBF may not be properly connected.</li> <li>The cables between the receiver and the farthest LNBF may be longer than 200’ for DISH Pro or DISH Pro Plus receivers or 150’ for Legacy receivers.</li> <li>The cables may not be rated for 2150 MHz.</li> <li>You may have a DISH Pro Adapter installed on a DISH Pro receiver.</li> <li>You may have a switch in the system.</li> <li>You may have a DISH Pro splitter installed.</li> <li>Your receiver may need a software upgrade.</li> <li>You have only one operating Legacy receiver connected to the system.</li> </ul> | <ul style="list-style-type: none"> <li>Check all the connections in your system and run Check Switch again.</li> <li>Make sure the cabling meets <i>Cable Limitations</i> on page 8.</li> <li>Make sure all cables in the installation are rated for 2150 MHz. Run Check Switch.</li> <li>Remove the DISH Pro Adapter. Run Check Switch.</li> <li>Remove any switches and run Check Switch.</li> <li>Replace with a DISH Pro Plus Separator.</li> <li>Refer to the user’s guide that came with your receiver for information on taking a software upgrade.</li> <li>You must have another satellite receiver connected to the DISH Pro Plus Twin. See page 2 for details.</li> </ul> |

When you run Check Switch, you see “Satellite reception verified” but you see “Feed” instead of “DPP Twin” identified as the device or LNBF.

| Possible Reason                                                                                                                                        | What to Do                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>The DISH Pro Plus Twin is connected but something in the system may be blocking the switch commands.</li> </ul> | <ul style="list-style-type: none"> <li>Check the cable path between the DISH Pro Plus Twin and the receiver and remove any devices that are not rated for 2150 MHz and two-way, 22 KHz signals. Run Check Switch.</li> </ul> |

When you run Check Switch, you see “DPP Twin” identified as the LNBF and Satellite shows “Conn,” but you do not see “Satellite reception verified.”

| Possible Reason                                                                                                                                                                     | What to Do                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>The DISH Pro Plus Twin LNBF is connected but no satellite signal is present.</li> <li>The cables might not be rated for 2150 MHz.</li> </ul> | <ul style="list-style-type: none"> <li>Check the Point Dish/Signal menu to confirm that you have satellite signal. If not, check your dish antenna to make sure the DISH Pro Plus Twin is installed properly, the dish is pointed for maximum signal strength, and that there is nothing blocking the signal. Run Check Switch.</li> <li>Make sure all of the cables in the installation are rated for 2150 MHz.</li> </ul> |

When you run Check Switch, you see “DPP Twin” identified as the device or LNBF but you have signal confirmed from only one satellite.

| Possible Reason                                                                                                                                                                    | What to Do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• The DISH Pro Plus Twin LNBF is connected but the dish may not be pointed to receive signal from both 110W and 119W satellites.</li> </ul> | <ul style="list-style-type: none"> <li>• If the Check Switch Summary Screen shows “119W” on Dish Input 2, you need to point your dish 9 degrees to the east and repoint it for the strongest possible signal.</li> <li>• If the Check Switch Summary Screen shows “110W” on Dish Input 1, you need to point the dish 9 degrees to the west and repoint it for the strongest possible signal.</li> <li>• Make sure the skew setting is correct for a DISH 500 installation at your Zip Code.</li> <li>• Run Check Switch.</li> </ul> |

When you run Check Switch, 119W/110W satellites are detected but the third satellite from the connected second dish is not detected.

| Possible Reason                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | What to Do                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Cable to the second dish is disconnected.</li> <li>• The third satellite is from a DISH Network bandstacked FSS LNBF. Some older Legacy receivers cannot receive programming from DISH Network bandstacked FSS LNBF orbital locations.</li> <li>• Two Legacy receivers are connected to the DISH Pro Plus Twin LNBF and the LNBF cannot support the third satellite. These receivers do not provide enough power to support the <b>LNB IN</b> port on the LNBF.</li> </ul> | <ul style="list-style-type: none"> <li>• Check all the connections in your system and run Check Switch again.</li> <li>• A newer receiver model is required.</li> <li>• Replace one Legacy receiver with a DISH Pro or DISH Pro Plus receiver.</li> </ul> |

When you run Check Switch, you do not see “DPP Twin” identified as a device or LNBF but odd transponders are detected only on one satellite.

| Possible Reason                                                                                                                                                                  | What to Do                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Your receiver may need a software upgrade.</li> <li>• You may have a Legacy or DISH Pro switch or Legacy LNBF in the system.</li> </ul> | <ul style="list-style-type: none"> <li>• Refer to these instructions for information on taking a software upgrade.</li> <li>• Remove any Legacy or DISH Pro switches or Legacy LNBFs. Run Check Switch.</li> </ul> |

## Radio Interference

This device complies with Part 15 of the 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.

Modifying this receiver may void your authority to use the equipment. 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 reasonable 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 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.

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



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