

THE INS AND OUTS OF DIPLEXERS

This document provides DISH Network installers a basic understanding of the use and proper installation of Diplexers.

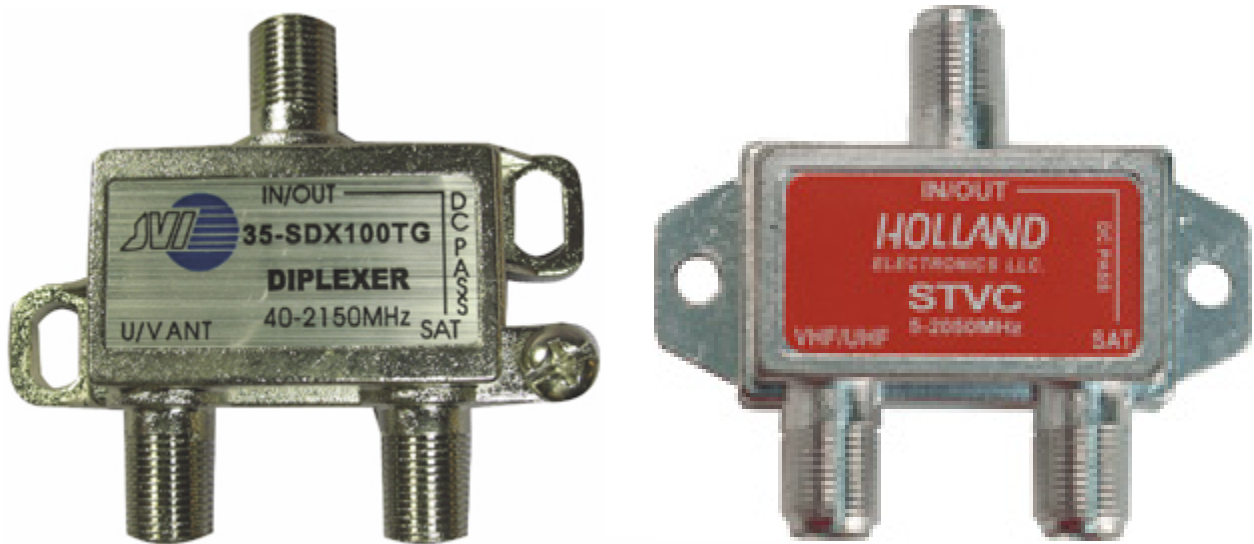
Diplexers are inexpensive, labor saving devices that can simplify satellite receiver installations by reducing the amount of cabling required. This document explains what diplexers are, how they are used, and how their benefit when installing DISH 322 or DISH Player-DVR 522 receivers.

WHAT IS A DIPLEXER?

A diplexer is designed to combine two different RF sources onto a single cable and to later separate them apart. For purposes of this discussion, the two RF sources include a DISH Network satellite signal and an off-air antenna or cable TV signal. Diplexers are always used in pairs: one to combine signals together, the other to separate them apart.

WHAT DOES IT LOOK LIKE?

A diplexer has three ports – in most cases, one side of the device has a single port, while the opposite side has two. The side with two ports will be the connection points for the satellite signal and the off-air/CATV service (or other RF video source), while the single port side carries the combined signal either in or out of the diplexer. In the examples below, the satellite signal cable connects to the “SAT” port, the off-air/CATV service or other RF video source connects to the port labeled “U/V ANT” or “VHF/UHF”. The combined signal is sent through the port labeled “IN/OUT”.



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ISN'T THIS A SPLITTER?

While a splitter can look very similar to a diplexer, it is a different piece of equipment which can not be used in its place.

WHAT TYPE OF COAXIAL CABLE CAN BE USED WITH A DIPLEXER?

In satellite receiver installations, suitable RG-6 is required for any cable that carries the satellite signal. On a diplexer, the cables coming from the SAT and IN/OUT ports carry the satellite signal, therefore, RG-6 must be used from these ports. Since the off-air/CATV port does not carry the satellite signal, RG-59 cable is permitted.

WHAT ABOUT USING DIPLEXERS IN DISH PRO INSTALLATIONS?

DISH Pro installations require that all materials installed from the LNBF to the receiver's Satellite In port be DISH Pro approved - diplexers are no exception. Use of unapproved diplexers can result in loss of satellite signal and unreliable or intermittent operation of the satellite receiver. Please reference the "DISH Pro Approved Accessories List" located on the retailer website to learn which diplexers are DISH Pro approved.

EXAMPLE OF A STANDARD INSTALLATION USING DIPLEXERS:

Figure 1 shows how to properly connect diplexers when an off-Air/CATV signal is being sent to either a receiver's TV Antenna/Cable In port or directly to the tuner input of a nearby TV. The arrows show that both video sources are flowing in the same direction. Because they are two different types of video sources – satellite signal and off-air/CATV signal – they can flow independently of one another.

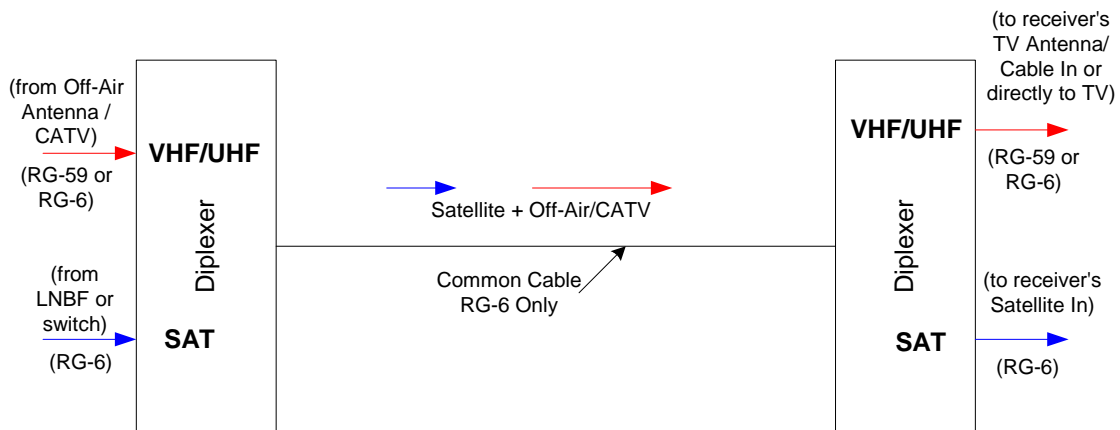


Figure 1: Correct diplexer connection for off-air/CATV at main TV Location

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WHAT IS BACKFEEDING IN RELATION TO DIPLEXERS?

Backfeeding is a term that describes sending satellite signal in one direction down a cable while sending off-air/CATV signal in the other direction through the same cable. A receiver's modulated channel 3/4 "TV Set Out" or TV2 agile modulated output on DISH 322 or DISH Player-DVR 522 receivers can be connected to a diplexer's generically-labeled "VHF/UHF" port.

BACKFEEDING A RECEIVER'S TV2 OUTPUT THROUGH DIPLEXERS:

Figure 2 shows how to backfeed a DISH 322 or DISH Player-DVR 522's TV2 agile modulated output back to the coaxial cable junction of a home. The arrows indicate which direction the satellite and TV2 signals are flowing.

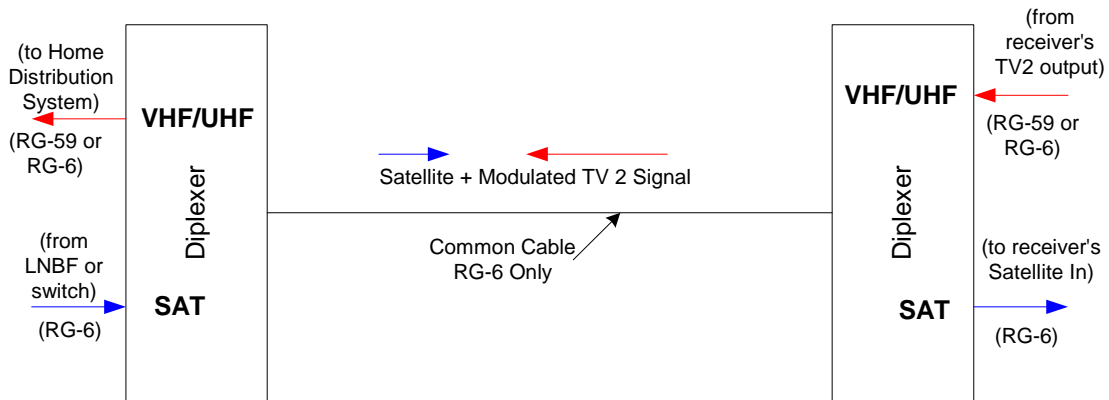


Figure 2: Correct diplexer connection for Backfeed of TV2 Output

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CAN DIPLEXERS BE CONNECTED INCORRECTLY?

Yes. In Figure 3, the diplexer on the left is connected backwards. In this situation, the satellite signal will pass through, but the TV2 signal will not get to the home distribution system. As long as you remember to reference the labels on each diplexer and use diplexers in pairs, incorrect diplexer installation can easily be avoided.

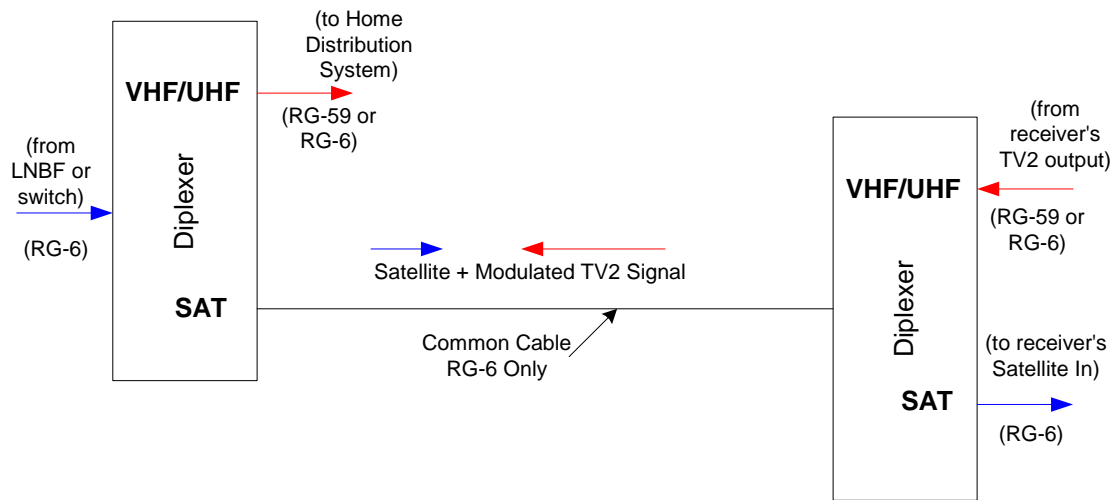


Figure 3: Example of Incorrect Diplexer Connections