Installation Guide
DIRECTV Approved Indoor/ Outdoor
Wideband 6x16 Multi-Switch
Model # WB616

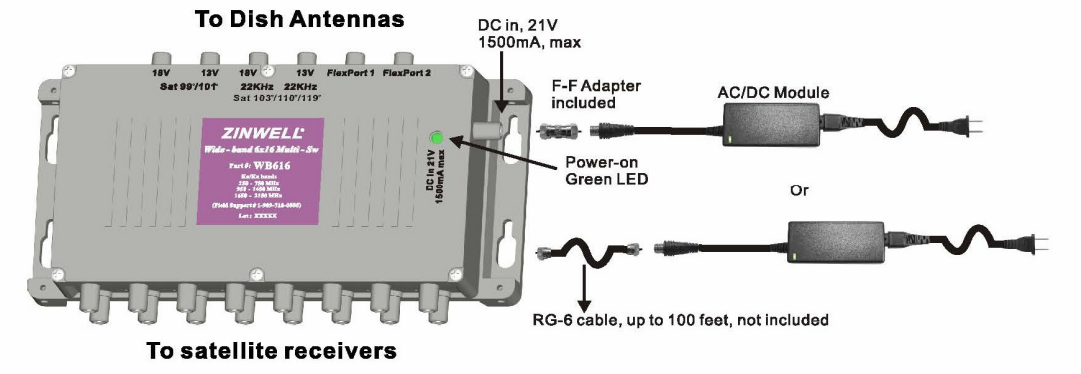
(Rev 0)

For technical support,

please call Zinwell Corp.

(909) 718-0555

Do not call DIRECTV



The Zinwell WB616 is a DIRECTV-approved, 6x16 multi-switch, designed to expand the new SlimLine Ka/Ku Out-Door Unit (ODU) Dish Antenna from 4 outputs to 16 outputs, supporting up to 16 independently operating receivers. The Ka/Ku ODU is designed to support the latest DIRECTV A3/MPEG 4 capable HD receivers as well as all previous generations of DIRECTV receivers. WB616 supports also all previous DIRECTV dish antennas. The Ka/Ku ODU has the traditional 101°/110°/119°W LNBs and two additional Ka LNBs for 99°W and 103°W satellites. The stacked signal at each output of the ODU or the 6x16 follows the frequency plan below. The actual signal availability varies depending on user location and DIRECTV satellite deployment data:

Stack Plan	Ka-Lo, 99° RHCP Ku, 101° RHCP Ka-Hi, 99° RHCP	Ka-Lo, 99° LHCP Ku, 101° LHCP Ka-Hi, 99° LHCP	Ka-Lo, 103° RHCP Ku, 119° RHCP Ka-Hi, 103° RHCP	Ka-Lo, 103° LHCP Ku, 110°/119° LHCP Ka-Hi, 103° LHCP
Output IF Frequencies	Ka-Lo: 250 - 750 MHz Ku: 950 - 1450 MHz Ka-Hi: 1650 - 2150 MHz	Ka-Lo: 250 - 750 MHz Ku: 950 - 1450 MHz Ka-Hi: 1650 - 2150 MHz	Ka-Lo: 250 - 750 MHz Ku: 950 - 1450 MHz Ka-Hi: 1650 - 2150 MHz	Ka-Lo: 250 - 750 MHz Ku: 950 - 1450 MHz Ka-Hi: 1650 - 2150 MHz

- The wideband 6x16 multi-switch (250 - 2150 MHz) is used for applications where the wideband 6x8 multi-switch, WB-68 (250 - 2150 MHz) or the narrowband 6x8 multi-switch SAM-6802 (950-1450 MHz) has been used.

- The FlexPorts can only be accessed with the APG (Advanced Program Guide) satellite receiver or the MPEG 4 capable HD receiver. The FlexPorts are used to interface with the dish antennas of two additional DIRECTV satellites at 95°W and 72.5°W. (Warning: The FlexPorts cannot be used for any off-air signal, CATV signal, security camera.)

- With the APG satellite receiver, if you do not have any FlexPort connected, always use manual dish set option instead of "Auto Configure" to speed up the installation process.

- With the APG satellite receiver, if you have either 72.5°W or 95°W inputs, always use FlexPort 1. If you have both 72.5°W and 95°W inputs, use FlexPort 1 for 72.5°W and FlexPort 2 for 95°W. In multi APG IRD environment, you should run one auto-configure at a time; and before auto-configuring is running make sure the other APG IRDs are on 101°W (Channel 100 is suggested). This will reduce system acquisition time and minimize error.

- WB616 can be cascaded up to 64 satellite receivers for 101°/110°/119°W LNBs. FlexPorts are not cascadable but you can connect 72.5°W and 95°W signals to the last multi-sw layers as shown in diagrams.

- The WB616 is active, powered only by an external AC/DC power module. There is no off-the-shelf equivalent multi-switch. The FlexPorts require selection codes unique to DIRECTV; other ports can be accessed with either tone/voltages or selection codes.

- Use RG-6 with solid-copper center conductor is required to reduce cable DC drop. Use RG-6 cables with proper exterior waterproof connectors, preferably mounting/orienting the 6x16 where it is shielded from rain. Use F connectors rated to at least 2150 MHz and minimize the number of F connections used to reduce reflection and signal strength drop.

- Important: Diplexing of the off-air signals shall not be used with BBC Module and MPEG4-capable HD receivers when connected to a Ka/Ku ODU, Since the Ka-Lo band of 250-750 MHz occupies that frequency band.

Connecting with no WB616

(SlimLine Ka/Ku dish not shown)

(Appearance of SlimLine LNB may vary depending on brand)

SlimLine Ka/Ku LNB (99˚/101˚/103˚/110˚/119˚ W)

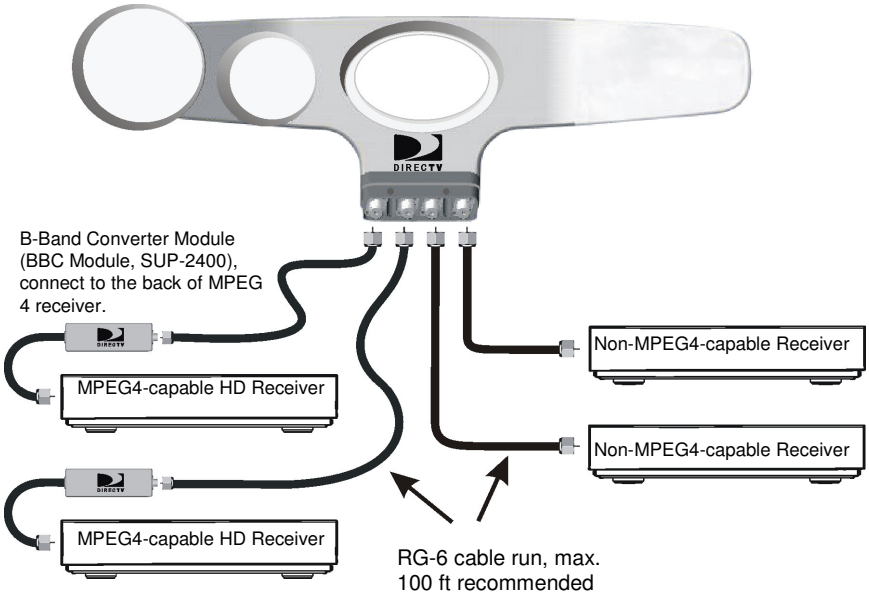


Fig 1

Connecting with WB616

(Dishes not shown)
(Appearance of LNBs may vary depending on brand)

SlimLine Ka/Ku LNB (99˚/101˚/103˚/110˚/119˚ W)

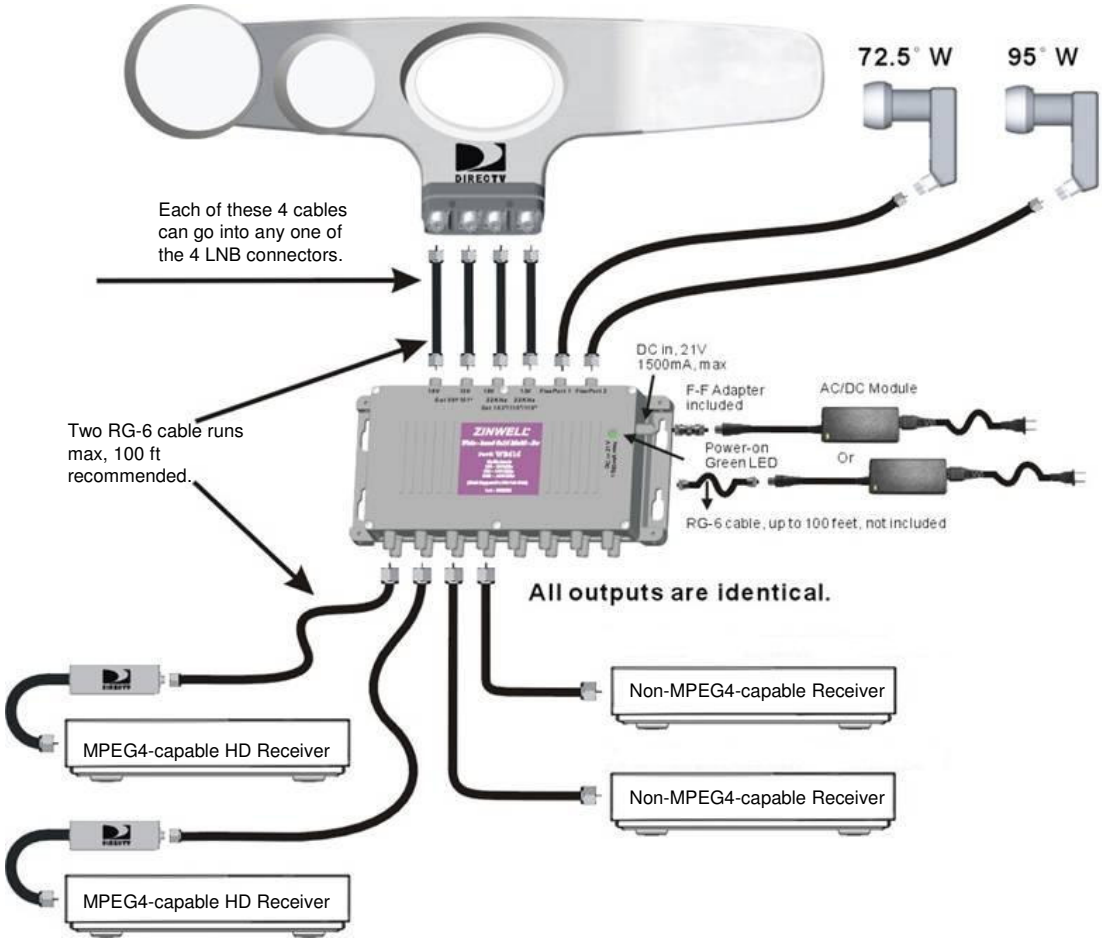


Fig 2

Connecting with WB616

(Dishes not shown. Appearance of LNBs may vary depending on brand)

Ka/Ku LNB (99˚/101˚/103˚W)

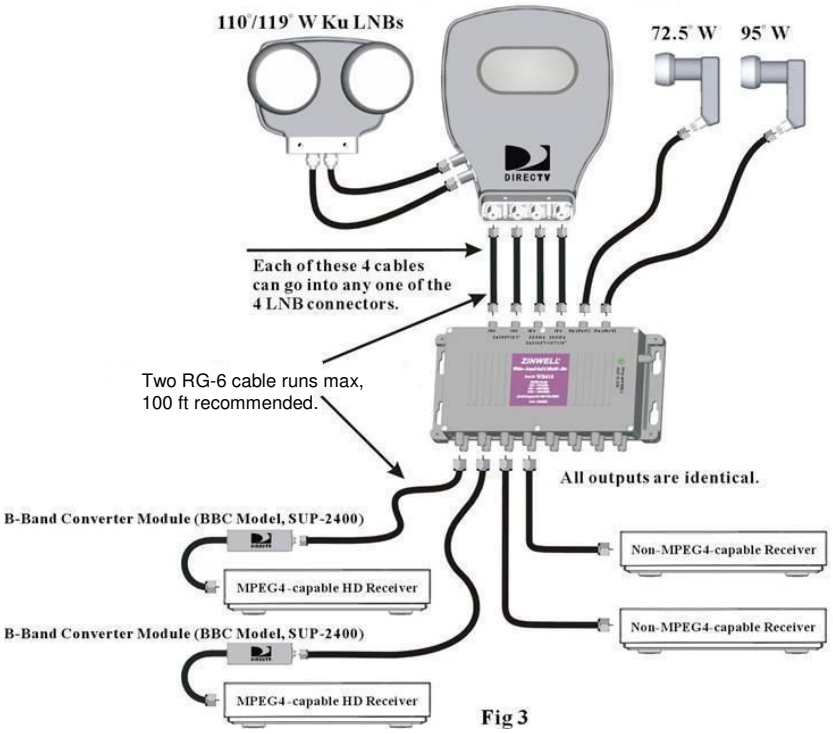


Fig 3

With Phase III, 18" x 20"
DIRECTV Multi-Satellite Dish Antenna System
(Dishes not shown)

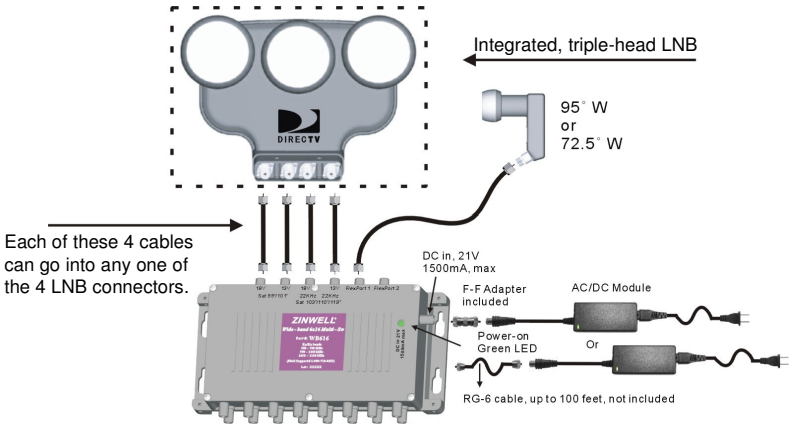


Fig 4

With 18" Round DIRECTV Dish Antenna System

(Dishes not shown)

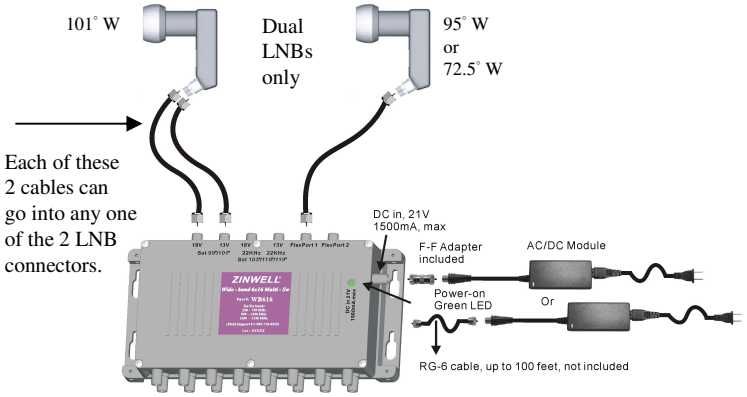


Fig 5

Cascading WB616 for Larger Systems

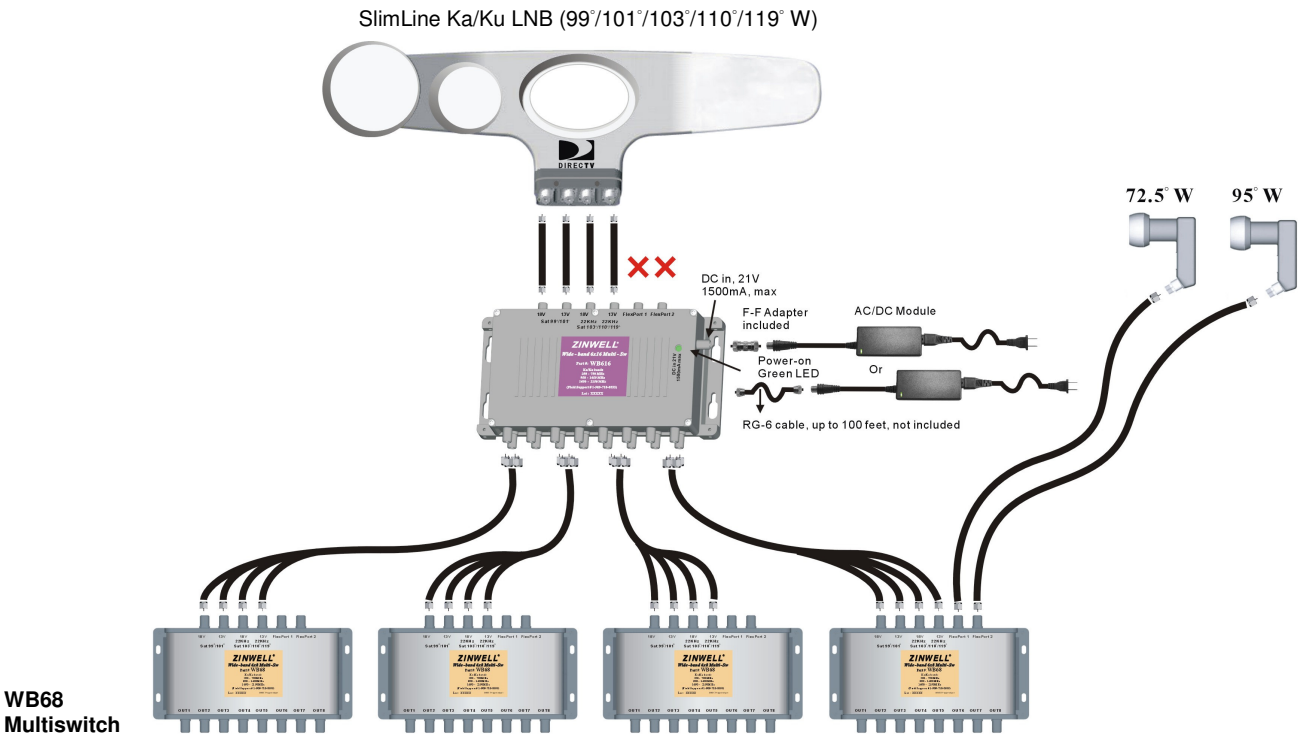


Fig 6

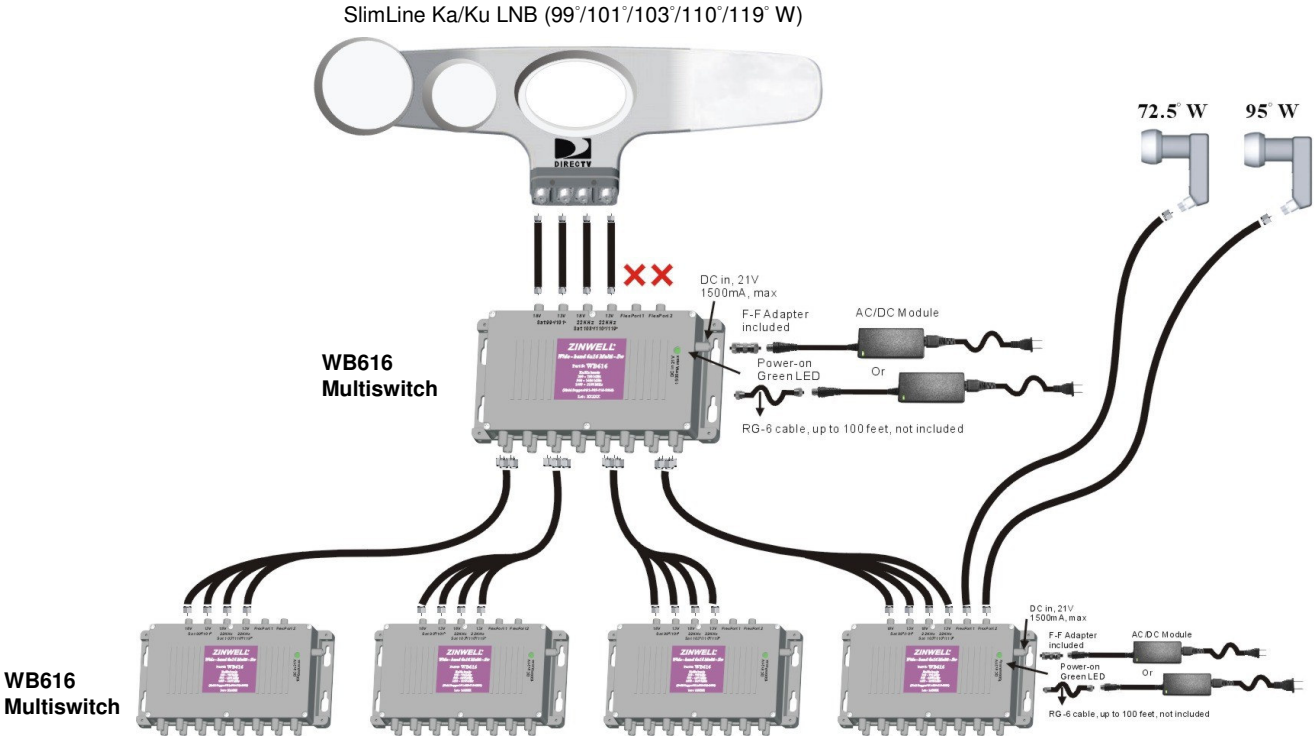


Fig 7 All WB616 are active, powered by AC/DC power Module, AC/ DC Module not shown in every WB616 Multiswitch