



## Application Note

11/23/2009

### Installing a **DIRECTV SL5 KaKu** system with the Super Buddy™ satellite meter

**Connections:** DIRECTV SL5 LNB connected to top (SIGNAL IN) port of Super Buddy meter with coax cable.

#### Meter set-up

Press the **SYST** System soft-key (located near top left corner of LCD screen) to enter the System Setup menu. Then select the following:

- REGION                    your geographic region
- SERVICE                    **DIRECTV**
- SYSTEM                    **SL5 LNB**
- LNB MODEL                defaults to **SL5 LNB** (but user may change to other menu options for LNB model if going through a 6x8 multi-switch and/or if using a wing dish aimed at the 72.5 or 95 satellites)
  
- SWITCH TYPE             defaults to **22 kHz** (may default to DTV6x8 if user has indicated that he is passing signal through 6x8 multi-switch before entering meter)

*To make selections, arrow up or down to the item to change and press **Enter**, then arrow up or down to the desired option and press **Enter**. Press **EXIT** or **DONE** to return to Run Mode*

#### Antenna Pointing

Install the mast plumb, preset the antenna vertical angle, mount to mast and grossly align azimuth. You may want to use the ZIP zip code look-up feature to obtain rough antenna settings (magnetic compass heading, elevation, and tilt/skew).

After completing the System Setup:

- 1) Press DONE or EXIT to return to the main Run screen.
- 2) Adjust the tilt or skew of the dish based on the parameters provided by the Super Buddy's zip code lookup feature (ZIP soft-key in lower left corner of main Run screen).
- 3) Connect a coax jumper cable from the top (Signal-In) port of your Super Buddy meter to a LNB output port.

#### **To find the 101° satellite:**

- Press the LNB soft-key (located on middle right side of LCD screen) to apply power to the LNB. LNB1 is for the 101° satellite
- Adjust the azimuth and elevation of the dish to optimize the alignment by maximizing the signal level (left bar graph) and signal quality (right bar graph) on the 101 satellite. Align antenna until a LOCK status is obtained.
- After you see LOCK, press ID soft-key (located on middle left side of LCD screen) and verify that the 101 satellite has been found.

**To check the status of the 119° satellite:**

- Press the LNB soft-key again to switch to LNB2 (22 kHz). LNB2 is for the 110° & 119° satellites.
- Adjust the tilt/skew of the dish to optimize the alignment by maximizing the signal level (left bar graph) and signal quality (right bar graph) on the 119° satellite. Align antenna until a LOCK status is obtained.
- After you see LOCK, press ID soft-key (located on middle left side of LCD screen) and verify that the 119 satellite has been found.

Note: Transponders 22 through 32 of the 110/119 Combo come from the 119 satellite

**To check the status of the 110° satellite:**

- While still selected on LNB2, use your Up/Down arrow keys to scroll to transponders 8, 10, or 12 of the 110/119 Combo
- Check to make sure you have a LOCK status and a good signal level and C/N value
- Press ID and verify that the 110 satellite has been found

Note: Transponders 8, 10, and 12 of the 110/119 Combo come from the 110 satellite

Now press the LNB power soft-key four times to return to LNB1 (the 101 satellite). Complete the dithering/fine tuning process, adjusting the azimuth and elevation of the dish while looking at the 101 satellite, as directed by DIRECTV. This will ensure good signal reception from all five satellites (99, 101, 103, 110, 119) if your mast/pole is plumb.

DIRECTV has strictly stated that they do NOT want the technicians modifying the alignment of the dish while looking only at the Ka signal level (dBm) because if they improve signal reception from the 103 satellite, they will likely be hurting the alignment on the 99 satellite at the same time. DIRECTV recommends adjusting the azimuth and elevation of the dish while looking at the 101 satellite, adjusting the tilt/skew of the dish while looking at the 119 satellite, and then performing their fine-tuning/dithering process while looking at the 101 satellite. Please refer to DIRECTV's official instructions regarding their dithering/fine-tuning process for more information.

The Super Buddy satellite meter cannot identify and get a LOCK on the DIRECTV 99 & 103 Ka satellites. The Super Buddy can only display signal level (dBm) on your left bar graph for the non-SWM DIRECTV 99 & 103 Ka satellites. The right bar graph (signal quality) will be empty and the meter will NOT indicate a lock status since the Super Buddy meter isn't able to demodulate or obtain a lock on the DIRECTV Ka signals due to the DVB-S2 modulation type and level of encryption. Only the DIRECTV IRD/satellite receiver can show you the signal quality of the 99 & 103 Ka satellites signals because the receiver has been authorized and cuts through the layer of encryption found on the Ka satellites.

**To check the Ka High Transponders on 99° Spaceway 2**

- Press the LNB soft-key (located on middle right side of LCD screen) multiple times to toggle to LNB3 (99° satellite)
- Press your up/down arrow keys to scroll through transponders 1-6
- Pay attention to the signal level (dBm) on your left bar graph. You can ignore the right bar graph (C/N) since the Super Buddy meter isn't able to demodulate or obtain a LOCK on the DIRECTV Ka signal.

**To check the Ka High Transponders on 103° Spaceway 1**

- Press the LNB soft-key (located on middle right side of LCD screen) multiple times to toggle to LNB4 (103° satellite)
- Press your up/down arrow keys to scroll through transponders 1-6
- Pay attention to the signal level (dBm) on your left bar graph. You can ignore the right bar graph (C/N) since the Super Buddy meter isn't able to demodulate or obtain a LOCK on the DIRECTV Ka signal.

Note: the Super Buddy is not able to check the signal level of the Ka Low transponders on either 99 or 103 unless you have a B-Band converter in-line because they are not in the frequency range of the meter. If you have the B-Band converter in-line, you'll need to choose "SL5 w/B-Band" as your System type in the System Setup software menu.

***You may choose to use the PoP Scan function of the meter to record the measurements.***

Please refer to the operations manual for more info and instructions related to the Proof of Performance scan feature.

Other Notes:

-It is NOT recommended to keep Super Buddy meter in line while checking receiver status due to attenuation from our circuitry.

Please ensure that you have the latest versions of North American Field Guide, Software, and USA Zip Codes loaded into your meter. If your meter has older versions loaded, please use the FlashUpdate program to update your meter, as described in the [Operations Manual](#).