



## Application Note

### Aligning Echostar's 105° SUPER Dish antenna to 105° 110° and 119° using the SAT 9520 Meter

- 1) Make sure your vertical pole mount is plumb. Grossly align the dish per the service provider's instructions.
  - Vertical angle setting
  - Azimuth angle setting
  - Antenna skew
- 2) Connect a jumper cable from the SAT 9520's input connector directly to the 105° FSS stacked LNB (bypass the DP34 switch).
- 3) SAT 9520 meter setup:
  - Turn on the meter.
  - Press the SET UP button.
  - Press the Down Arrow button so the cursor is flashing on the Channel Plan line.
  - Press the ENTER button to allow a new channel plan selection.
  - Press the Up Arrow button until "AMC2 DishPro" channel plan is displayed.
  - Press the ENTER button to select the "AMC2 DishPro" channel plan.
  - Press the Down Arrow button so the cursor is flashing at the Switch type line.
  - Press the Enter button to allow a new switch type selection.
  - Press the Up Arrow button until "None" is displayed.
  - Press the Enter button to select the "None" switch type.
  - Press the RUN button.
- 4) You are now ready to align the antenna so the FSS LNB is receiving the 105° satellite signal.
  - Press the Dn Arrow button until the upper left corner of the display indicates that you are tuned to TR 18.
  - Press the LNB button once, or until the display (lower left corner) indicates "LNB ON 18V". You are now powering the FSS LNB.
  - Look at the SAT 9520's display while making fine adjustments to the dish alignment. Pay careful attention to the signal level (dBm) bargraph, and the C/N number. Try to obtain the strongest RF bargraph reading and the highest C/N value. When the C/N value reaches at least 8 dB, the lock status on the display should indicate "DVB-S" in lieu of "Search" if you are locked on the 105° satellite. After obtaining the "DVB-S" lock status, tweak the dish alignment to maximize the IRD signal quality value and bargraph.
- 5) You are now ready to verify proper alignment and reception of the 119° Satellite.
  - Disconnect your jumper cable from the FSS LNB and reconnect it directly to the 119° DishPro LNB.
  - Press the SET UP button and select channel plan to be "Dish Pro" and switch type to be "None", then go back to RUN mode.

- Using the Arrow buttons make sure that you are tuned to TR 21.
- Press the LNB button once, or until the display (lower left corner) indicates "LNB On 18V". You are now powering the 119° LNB.
- Look at the SAT 9520's display. If it indicates a lock status of "DVB-S" while tuned to TR 21, and a lock status "DIRECTV" while tuned to TR22, then you are receiving the 119° satellite signal. If it indicates "Search", make subtle adjustments until achieving the desired lock status for the appropriate transponder. Remember that any alignment adjustments are affecting the previous work performed to align on the 105° satellite. Maximizing the signal quality value for the 105° FSS satellite should be your primary focus. When maximized, it will be considerably less than the DBS 110°/119° satellites.