



## Application Note

### Installing StarBand™ Systems with the SAT 9520

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#### Channel Plans

The “Ku Conus Vt” and “Ku Conus Hz” channel plans are designed for use in installing single polarity satellite internet systems, such as StarBand™.

StarBand™ systems have a single polarity LNB: they can be set for either horizontal or vertical polarization by rotating the receiver LNB (or polarizer) on the mounting arm but will not select the polarity based on the LNB supply voltage of 13 or 18 volts like most other systems. For this reason, you need to select the channel plan in the SAT 9520 that matches the polarity you are using for the system.

Because StarBand always references the VSAT’s transmit polarization to specify the polarization for each assignment, the StarBand polarization may be opposite of the receive polarization used in satellite charts such as LyngSat. The VSAT’s transmit polarization is set to the assigned polarization by rotating the 75E polarizer such that the “H” or “V” mark points to “0” on the polarizer scale. Therefore, an “H” setting on the 75E antenna will provide a horizontal transmit and vertical receive polarization and a “V” setting will provide a vertical transmit and horizontal receive polarization.

If you receive a vertical assignment, use the “Ku Conus Hz” plan.

If you receive a horizontal assignment, use the “Ku Conus Vt” plan.

These plans are similar to the “Low Ku Band” plan in that they contain one channel per satellite, but each of these plans uses only transponders with the indicated polarity. This configuration allows for a positive identification of many satellites when a signal lock is obtained and the SAT 9520 reports “StarBnd”, “DVB-S”, “DIRECTV”, or “DirecPC” instead of “Search”.

### Instructions For Use:

1. Set the antenna skew, elevation, polarization, and coarse azimuth recommended by StarBand (obtained from CVACS) for your customer.
2. Connect the SAT 9520 to the LNB.
3. Turn on the SAT 9520 and select the proper channel plan:
  - a) Press: Setup, Down-arrow once, Enter.
  - b) Press the arrow keys until the desired channel plan is shown:
    - i) Use "Ku Conus Vt" to install a horizontal transmit system.
    - ii) Use "Ku Conus Hz" to install a vertical transmit system.
  - c) Press Enter to keep the selected channel plan.
  - d) Press Run to exit setup mode.
4. Turn on the LNB power.
5. Turn on audio (optional).
6. Press Up or Down arrow keys until the desired satellite is shown in the display, either "101GE4" for AMC 4 or "129 T7" for Intelsat Americas 7.
7. Begin pointing of antenna. When desired satellite is located, "Search" will change to a specific status, such as "StarBnd", "DVB-S", "DIRECTV", or "DirecPC" instead of "Search". For the specific status, see the application note titled North American Satellite and Services Chart.
8. Using C/N reading, adjust antenna in azimuth and elevation until highest number is reached. The signal level reading can also be used for this purpose (shown in bars similar to other satellite meters), however the C/N reading is a little more precise.  
**Note:** C/N is a relative reading and should not be compared to the Signal Quality reading in Mission Control on the Model 360 modem, or the Signal-to-Noise reading on the SkyBlaster PC.
9. Lock down azimuth and elevation locking nuts and recheck C/N reading to insure it has not changed, and proceed with the remainder of the installation.
10. Finally, adjust the LNB polarization offset to obtain the maximum C/N. Make **very small adjustments** and allow some time between each adjustment to allow the reading to settle. There is usually a range of settings at about the same level with the readings falling off on either side, note the settings on both sides of this range and then set the LNB to the midpoint.
11. After optimizing the antenna pointing with the receive signal, the installation must be commissioned using the StarBand's CVACS (888-424-4855)

The SAT 9520 DBS Installer's Meter is not calibrated for the signals coming from these satellites at this time. The signal level reading should be fairly close although the accuracy has not been determined. The C/N reading is generally off by several dB. The IRD signal quality reading is derived from the C/N and is not correlated to any standard for the non-DBS systems. Therefore, the SAT 9520 C/N and IRD readings should be used as relative indicators only; they are useful for peaking the dish but are not very accurate.

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