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APPLIED INSTRUMENTS

Application Note
11/07/2008
How to install Wild Blue with a Super Buddy™ Satellite Meter

The Wild Blue antenna system is powered by 26 volts DC on the TX port of the antenna module. Applied Instruments offers the Blue Bunny™ voltage converter box accessory to power the antenna from the meter but you may also power the antenna from the Wild Blue modem.

With The Applied Instruments Blue Bunny™ Voltage Converter Box

Connect the TX side of the converter box to the TX port on the Wild Blue antenna.
Connect the RX side of the converter box to the RX port on the Wild Blue antenna.
Connect the remaining port on the converter box to the Super Buddy meter's Signal In port (top).
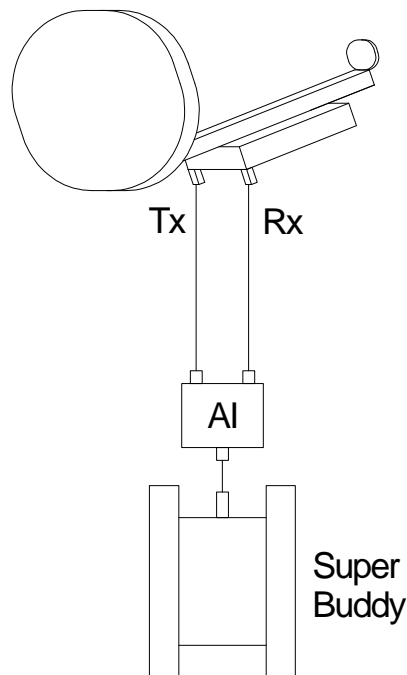

This method allows pointing the antenna before running the cable to the modem.

Note: the Blue Bunny™ converter box accessory should be connected to the Super Buddy meter with a short cable. The cables from the Blue Bunny™ converter box to the antenna should also be fairly short but can be up to 150 feet long. Longer cables may result in an over-current error or simply fail to turn the antenna on.

To prevent sparking and to protect components, connect all cables before turning the LNB power on. Turn off the LNB power before disconnecting the cables.

Without The Applied Instruments Blue Bunny™ Voltage Converter Box

Connect the TX port on the Wild Blue antenna to the TX port of the Wild Blue modem.
Connect the RX port on the Wild Blue antenna to the Super Buddy meter's Signal In port (top).
Turn the Wild Blue modem on.

Tx   Rx

Wild Blue Modem

Super Buddy
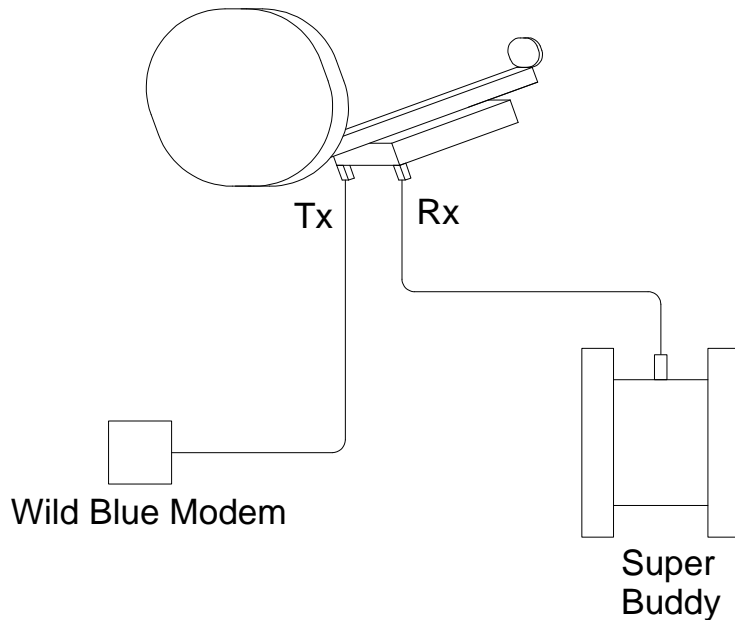
Wild Blue Satellites

Wild Blue provides service from two satellites that are both located at 111 West. Anik F2 (111.1W) was in service first and uses left-hand circularly polarized signals. The Wild Blue 1 satellite (111.0W) began providing service in 2007 and uses right-hand circularly polarized signals. The polarization difference allows the two satellites to use the same frequency range without interference. The LNB assemblies (TRIAs) for these systems are designed for either right or left-handed polarization. You must use the correct LNB assembly (TRIA) for the system you are installing.

Wild Blue Spot Beams

The Wild Blue system uses spot beams for different areas. The Super Buddy meter will look up the beam number for your area given the zip code. Each spot beam has two or three signals on each spot beam. The spot beam numbers are NOT the same as the pointing aid (APA) settings given by Wild Blue although they are related.

Meter Setup

Push the **SYST** System soft-key to select the following:
- REGION   your geographic region
- SERVICE   **Other Providers**
- SYSTEM   **Wild Blue**
- LNB MODEL   WB Anik – if you are installing for the Anik F2 satellite, OR
                     Wild Blue 1 – if you are installing for the Wild Blue 1 satellite
- SWITCH TYPE   none

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

Zip Code Lookup

Push the **ZIP** soft-key and enter the zip code where you are installing the system and then press the Enter key. *The Super Buddy will look up the zip code and the Wild Blue beam number for your area.* The beam number will be displayed at the bottom of the screen and utilized when you return to the Run Mode.

```
        Wild Blue 1
111.0W          ◀E   W▶

Zip/Postal  46203
   Latitude  39.5
  Longitude  -85.7
    Azimuth  216.6
   Magnetic  220.8
  Elevation  37.3
  Polar off  27.4
  SPOT BEAM        ┌────┐
       Beam  115   │EXIT│
  Arm angle  19.7  └────┘
       Skew  62.6
        APA  2
```

The arm angle, skew setting and APA number are also calculated and displayed at the bottom of the screen.

Press **EXIT** or **DONE** to return to Run Mode

Over-riding the Beam Number

If for some reason you want to view the signals on beams other than the one assigned to your zip code, you can override the assigned beam. Go to the ZIP screen, arrow down to the Wild Blue beam number and enter the desired beam number. When you return to the Run screen, the entered beam will be displayed but may not be visible in your area. If you enter a beam number of 0 (zero), you can scroll through all of the beams.

Run Mode

When you return to the Run screen, satellite Anik F2 (111.1W) or Wild Blue 1 (111.0W) will automatically be selected and the available transponders will be limited to the spot beam used in your area. The up and down arrows will scroll through the 2 or 3 carriers on the beam. Any of these should work.

- Press the LNB button to power up the LNB (not needed if using power from the modem)
- Align the antenna to obtain a strong signal level
- If you receive a LOCK indicator, peak up the dish, you found it. Note: You may not be able to receive a LOCK status on your Super Buddy meter even if the dish is aligned properly. See addendum note below.
- Disconnect the Super Buddy from the system before using the Wild Blue SVT tool to obtain an accurate SVT reporting of the down stream channel power.

Note: the ID function does not work with Wild Blue as it does for other installations. If you receive a LOCK status, you can be sure you are pointed correctly. It might not be possible to obtain a LOCK on the WildBlue signal on your Super Buddy meter, even if your dish is aligned properly. See addendum note below.

Addendum 11/07/2008: WildBlue has revised the signal modulation style for some of their spot beams and plans to implement the changes to all of their spot beams within the next 6 months or less. The change (implementation of downstream multi-rate technology) will result in the Super Buddy meter not being able to obtain a LOCK or to display a signal quality value. The Super Buddy meter continues to provide a signal level (dBm) on the new modulation type. The zip code lookup table also remains accurate for tuning the meter to the correct frequency/beam number.

Summary: When using the Super Buddy meter to align the WildBlue antenna, the alignment optimization will have to be accomplished using only the signal level measurement displayed on the meter's left bar graph and dBm value below. You will not obtain a signal LOCK and your right bar graph (signal quality) will not be active. Without obtaining the signal LOCK on your meter, a positive ID of the satellite is not assured until confirmed with the modem. This means for the dish alignment, more care must be taken to grossly align the azimuth (magnetic compass heading) of the dish before peaking off of the meter's signal level and may require using a compass.

Modem Provisioning
After the dish is peaked using the Super Buddy, you should remove the Super Buddy and connect the Wild Blue APA device. Set the APA device to the proper setting for your area, this is shown on the Super Buddy zip code screen and is provided by Wild Blue on the work order. Then connect the modem and allow the modem to find and lock onto the correct beam.

NOTE: You must have the APA device connected to ensure the modem will lock to the correct signal.

Without the APA, it is possible that the modem will lock onto the wrong beam and never obtain the necessary provisioning signals from the satellite.

Follow Wild Blue's instructions for provisioning and final testing.

NOTE: The Blue Bunny Voltage Step Up cannot be used with the Super Buddy and Sat Buddy line (Sat Buddy, Sat Buddy 2, and Dual Buddy) to power the WildBlue TRIAs manufactured by Ko Space in Korea. This is due to the extremely high current level required. For the Ko Space applications, use power from the WildBlue modem during dish alignment. Refer to the section on page 2 of this application note titled "Without the Applied Instruments Blue Bunny Voltage Converter Box" for detailed instructions.

The Blue Bunny Voltage Step Up can be used with the Super Buddy and Sat Buddy line (Sat Buddy, Sat Buddy 2, and Dual Buddy) to power the more popular WildBlue TRIA manufactured by UMA in Taiwan.

Please refer to the tag on the bottom of your TRIA to see if it's compatible with the Blue Bunny Voltage Step Up. If it says "Made in Taiwan by UMA", then it is compatible. If it says "Made in Korea by Ko Space", then it is NOT compatible.

Updates
Applied Instruments will make changes as we learn of them and post them on our web site in our Field Guide updates.
(http://www.appliedin.com/www/products/SuperBuddy_SoftwareUpdates.html)