Application Note

11/15/2010

Installing **C Band** systems with Super Buddy™ satellite meter

C-Band LNB

Connections: C-Band LNB connected to top (SIGNAL IN) port of Super Buddy satellite meter and C-Band satellite receiver with coax cable via power passing splitter.

The power passing side of the splitter should be reserved for jumper cable connected to C-Band receiver. This allows the C-Band receiver to power the LNB and control the skew of the feed horn (using a servo motor) if necessary. The non-power passing side of the splitter should be reserved for the jumper cable connected to the top port of the Super Buddy satellite meter. This allows the Super Buddy meter to still receive the RF signals from the LNB, but lets the C-Band receiver power the LNB and control the skew/polarization settings.
Be sure to use a power passing splitter designed for the L-Band (frequency range of 950 to 2150 MHz).

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   **Generic C Band**
- SYSTEM   your system configuration type (single polarity options include **H/V Sngl Pol LNB, and Circ Sngl Pol LNB**). These selections are referring to Horizontal/Vertical Single Polarity LNB setup and Circular Singular Polarity LNB setup.
- LNB MODEL   your LNB type (refer to your LNB's specifications). Single polarity system options include LO=5.150 3.4-4.2, LO=5.150 3.6-4.2, LO=5.150 3.7-4.2.
- SWITCH TYPE   defaults to **none**

To make selections, press up/down arrow keys to scroll to the item to change 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 code look-up table to obtain rough antenna settings.

- Press the left / right arrow keys to select the desired satellite (orbital position displayed in upper left corner of LCD screen).
- Press the **ZIP** zip code soft-key (located near lower left corner of LCD screen). Type in the local zip code or latitude/longitude coordinates using the numeric keypad and then press **ENTER**. Approximate antenna settings will be displayed.

Run Mode

- Select the horizontal or vertical polarity (**HZ** or **VT**) with the upper right soft-key. Your C-Band receiver will be used to control the polarity and the skew of the feed horn. On the Super Buddy meter, you are simply choosing whether to view the horizontal or vertical transponders. The polarity indicated on the Super Buddy meter should always match up with the receive polarity chosen on your satellite receiver.

After selecting the satellite and polarity:

- Adjust the antenna azimuth and elevation to obtain maximum signal level (left bar graph), signal quality (right bar graph), and LOCK status.
- Adjust the LNB focal depth distance and the skew to maximize signal quality, if necessary.

- Press the **ID** soft-key to verify the satellite. "ID VERIFIED" means you are pointed correctly.
- If "ID FAILED" is displayed, press **SCAN** soft-key and Super Buddy will find which satellite you are aimed at.
  - If desired, press Up/Down arrow keys to scroll through other transponders to check for proper signal level and signal quality. It is recommended to aim the dish initially while tuned to the default transponder.

Other Notes:
-It is recommended to display the C/N signal quality value instead of the arbitrary IRD value since the IRD value scale is more appropriate for smaller dishes. To change your settings, press the **MENU** soft-key in bottom right corner of LCD screen. Use Up / Down arrow keys to scroll to Options and press **Enter**. Use Up / Down arrow keys to scroll to the Quality field. Then use Left / Right arrow keys to select C/N. Press **EXIT** soft-key to return to main Run screen.

C-Band LNBF
Connections: C-Band LNBF connected to top (SIGNAL IN) port of Super Buddy satellite meter.

Examples of popular C-Band LNBFs:
- DMS International's model BSC421 C-Band Dual Polarity LNBF, which features voltage controlled H/V switching (13V/18V) and an input frequency range of 3.4 - 4.2 GHz.
- Chaparral Communications' model MicroPak 3G C-Band Dual Polarity LNBF, which features voltage controlled H/V switching (13V/18V) and an input frequency range of 3.4 - 4.2 GHz.

Meter set-up
Push the **SYST** System soft-key to select the following:
- REGION   your geographic region
- SERVICE   **Generic C Band**
- SYSTEM   your system configuration type (dual polarity LNBF system options include **H/V Dual Pol LNBF** and **Circ Dual Pol LNBF**). These selections are referring to Horizontal/Vertical Dual Polarity LNBF setup and Circular Dual Polarity LNBF.
- LNB MODEL   your LNB type (refer to your LNB's specifications). Dual polarity LNBF system options incluye C-Band LNBF 13/18V, C/Ku band combo, C-Band Stacked, Inverted C 13/18V.
- SWITCH TYPE   defaults to **none**

*To make selections, press up/down arrow keys to scroll to the item to change 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 code look-up table to obtain rough antenna settings.
- Press the left / right arrow keys to select the desired satellite (orbital position displayed in upper left corner of LCD screen).
- Press the **ZIP** zip code soft-key (located near lower left corner of LCD screen). Type in the local zip code or latitude/longitude coordinates using the numeric keypad and then press **ENTER**. Approximate antenna settings will be displayed.

Run Mode
- Press the **LNB** soft-key (located near middle right side of LCD screen) to power the LNBF.

After selecting the satellite and pressing the **LNB** soft-key to power the LNBF:
- Adjust the antenna azimuth and elevation to obtain maximum signal level (left bar graph), signal quality (right bar graph), and LOCK status.
- Adjust the LNBF focal depth distance and the polarity offset to maximize signal quality, if necessary.
- Press the **ID** soft-key to verify the satellite. "ID VERIFIED" means you are pointed correctly.

- If "ID FAILED" is displayed, press **SCAN** soft-key and Super Buddy will find which satellite you are aimed at.
  - If desired, press Up/Down arrow keys to scroll through other transponders to check for proper signal level and signal quality. It is recommended to aim the dish initially while tuned to the default transponder.

Other Notes:
-It is recommended to display the C/N signal quality value instead of the arbitrary IRD value since the IRD value scale is more appropriate for smaller dishes. To change your settings, press the **MENU** soft-key in bottom right corner of LCD screen. Use Up / Down arrow keys to scroll to Options and press **Enter**. Use Up / Down arrow keys to scroll to the Quality field. Then use Left / Right arrow keys to select C/N. Press **EXIT** soft-key to return to main Run screen.