

## Orbital 3300 Series Modified C-Band PLL LNB



40 to 65 dB gain, 250 to 800 MHz bandwidth, any C band satellite

### How to order an Orbital 3300 Series C-Band PLL LNB

Frequencies (GHz):

LO	Input	Output	Bandwidth
5.15S	- 3.70 to 4.20	.95 to 1.45	0.500
5.15S	- 3.60 to 4.20	.95 to 1.55	0.600
5.15S	- 3.40 to 4.20	.95 to 1.75	0.800

Bandwidth in MHz

'P' Signifies PLL - Phase Lock Loop

LNB515S-800P-WN40

Input Connector  
C Band LNB is CPR-229G

Output Connector  
F - F, 75 ohm (standard)  
N - N, 50 ohm  
S - SMA, 50 ohm  
T - TNC, 50 ohm

Gain  
40 - 40 dB  
50 - 50 dB  
55 - 55 dB  
60 - 60 dB  
65 - 65 dB (nominal)

### Orbital Flexibility:

Engineered using the highest quality components insures you from failure due to environmental extremes, such as arctic cold, Saharan heat, and rain-forest humidity. Our LNB is protected from man-made conditions such as shock, vibration, low power, over-voltage, surges, transients, and static discharge. Performance is consistent and replacements will match or exceed your original device. Market leading specifications yield some of the best phase noise on the market.

### "Mass-Custom" Solution

Orbital starts with a proven performance of our standard 3300 Series C-Band PLL LNB, which is extremely well engineered. We then customize the mass produced LNB into what you want at 1/100 the cost of designing and building from scratch.

### Orbital Features:

#### **Custom Engineering**

- Optimize Input and Output for superior VSWR
- Modify LO frequencies preserving phase noise and stability
- Modify and tune RF & IF filters for optimum response
- Tune for very low bandpass ripple
- Optimize Gain distribution for your system parameters

#### **Environmental**

- O ring sealed connectors for weather resistant operation
- Preserve the environmental engineering of the original LNB

#### **Options**

- Change output connector, gain or LO frequency, etc
- External DC connector - F, N, BNC or Feedthrough
- Special Dual DC option via output coax and ext DC port
- Custom alarm options for redundant switch operations
- Full test documentation available
- Custom design and labeling requirements welcomed

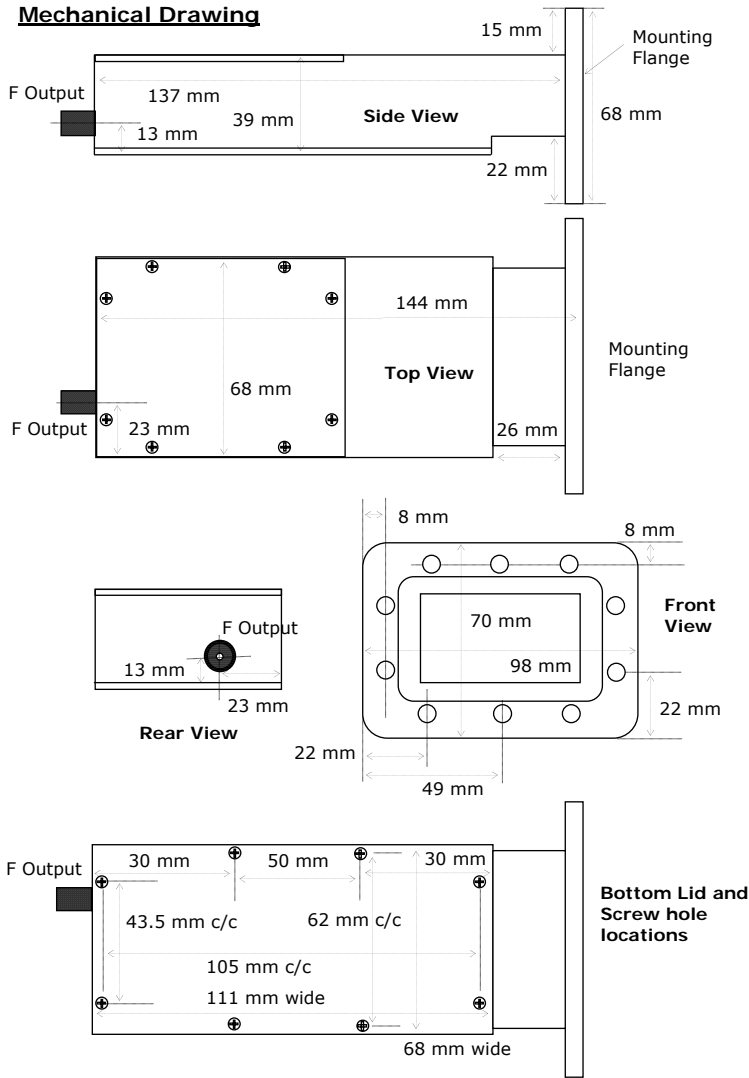
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# Orbital 3300 Series C Band PLL LNB Specifications

## Mechanical Drawing



## Electrical Specifications

### Input

Frequency: 3.4-4.2, 3.7-4.2, 4.5-4.8 GHz  
 Bandwidth: up to 800 MHz  
 Noise Temp: 20 deg K typical  
 Ripple:  $\pm 0.5$  dB max /36 MHz segment  
 Input VSWR: 2.2 : 1 max

### Output

Bandpass: 950 up to 1750 MHz  
 Output VSWR: 1.5 : 1 typical at 75 $\Omega$   
 Gain: 40 to 60 dB (60 dB nominal)  
 LO Stability:  $\pm 3$  kHz over temperature  
 Compression: +10dBm  
 3rd Order Intercept: +20 dBm

### Power

DC Input: 12 to 24 VDC, 250 mA nominal  
 Filtering: Transient, over and reverse voltage protected

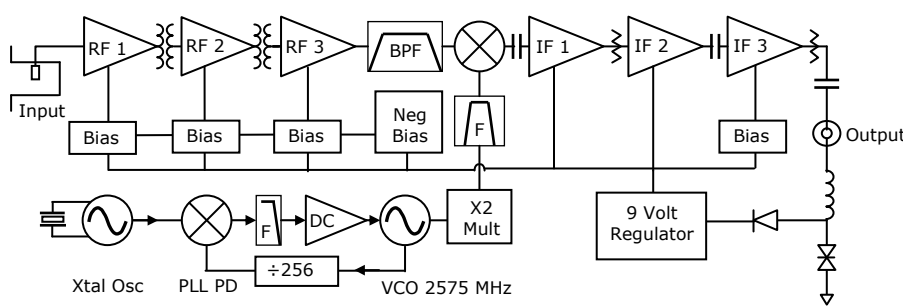
## Mechanical Specifications

Size: 144(L) x 68(W) x 39(H) mm  
 (5.6 x 2.6 x 1.5 in)  
 Weight: 560 grams  
 Paint: Brilliant White Enamel

## Environmental Specifications

Operating Temp: -40 to +60 °Celsius  
 Relative Humidity: Up to 100% condensation and frost

## Block Diagram



## Enhancing Standard Product

Mass-production means low-cost, reliable, repeatable products. Engineers design these products well within margins on component specifications so that individual tuning is not required to meet desired specifications.

As we modify product, we also tweak the design and components to optimize them for their inherent capabilities. Effectively, we bring out the full potential of the product by adjusting components to their full capability.

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