



# LNB4000 SERIES

## DRO LOW NOISE BLOCK DOWN CONVERTER



45 to 55 dB gain, 500 to 750 MHz bandwidth, any Ku satellite

### How to order an LNB4000 Ku DRO Series

Frequencies (GHz):

| LO     | Input            | Output      | Bandwidth |
|--------|------------------|-------------|-----------|
| 10.00F | - 10.95 to 11.70 | .95 to 1.70 | 0.750     |
| 10.25F | - 11.20 to 11.70 | .95 to 1.45 | 0.500     |
| 10.75F | - 11.70 to 12.20 | .95 to 1.45 | 0.500     |
| 11.25F | - 12.20 to 12.75 | .95 to 1.50 | 0.550     |
| 11.30F | - 12.25 to 12.75 | .95 to 1.45 | 0.500     |

Bandwidth in MHz

LNB1125F-500D-WS50

Input Connector  
Ku LNB is WR-75 in

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

Gain  
45 - 45 dB  
50 - 50 dB  
55 - 55 dB

### Orbital Flexibility:

High quality in a small package - engineered using the highest quality components insures you from failure due to environmental extremes, such as arctic cold, Saharan heart, 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 product that is extremely well engineered with the development costs amortized over hundreds of thousands of units and the parts costs reduced by volume discounts. 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**

- Begin with the low noise figure of a proven quality LNB
- 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**

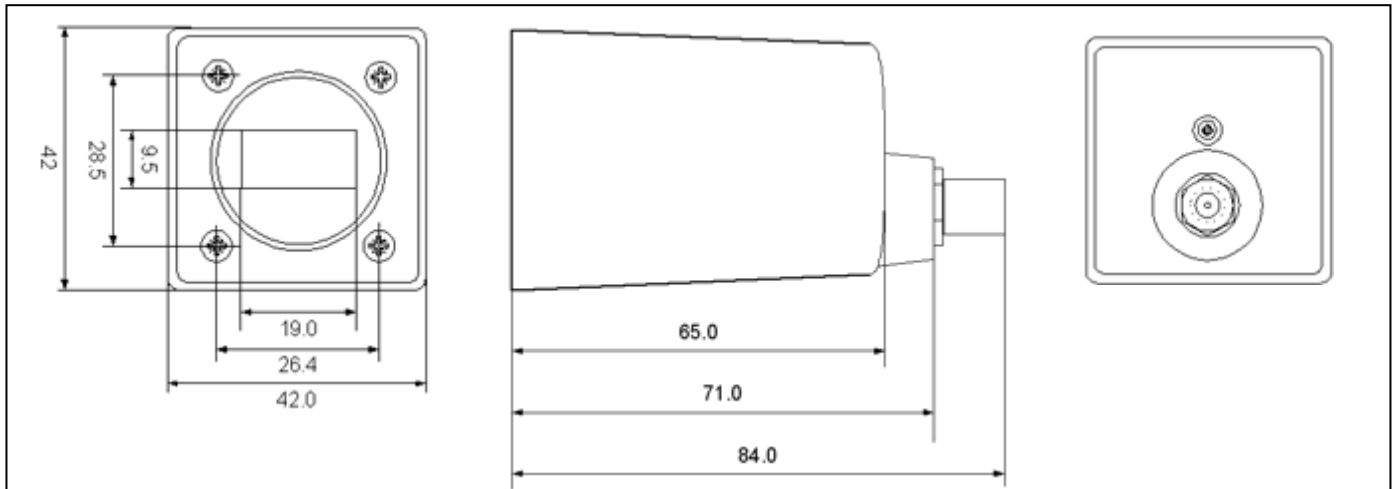
- O ring sealed connectors for weather resistant operation
- Preserve the environmental engineering of the original LNB

#### **Options**

- Custom alarm options for redundant switch operations
- Available in 45, 50, 55dB gain
- Custom L band output bandwidth available up to 1050 MHz
- Custom IF amps capable of +17 dBm compression point
- Full test documentation available
- Custom design and labeling requirements welcomed
- **Can be ruggedized for Airborne application: DO160E B1 cabin rating and DO160E C1 fuselage**

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# Orbital LNB4000 Series DRO Ku Band LNB Specifications



## Environmental Specifications

Operating Temp: -30 to +55 °Celsius  
 Relative Humidity: 15% to 100%  
 condensation and frost

## Mechanical Specifications

Size: 84 x 42 x 42 mm  
 Weight: 120 grams  
 Paint: White, plastic shell

## Electrical Specifications

### Input

Frequency: 10.7 to 12.75 GHz  
 Bandwidth: up to 0.75 GHz  
 Noise Figure: 0.8 dB nominal  
 Input VSWR: 1.5 : 1 nominal

### Output

Bandpass: 950 up to 2100 MHz  
 Output VSWR: 2.5 : 1 nominal  
 Gain: 45, 50 or 55 dB  
 LO Stability: ±1.0 MHz  
 1 dB Compression Point:  
 +3dBm minimum,  
 up to +7dBm (optional)  
 3rd Order Intercept:  
 +13dBm minimum,  
 up to +17dBm (optional)

### Power

DC Input: 15 to 24 VDC, 150 mA nominal  
 Filtering: Transient, over and reverse  
 voltage protected

## As Good As Gold



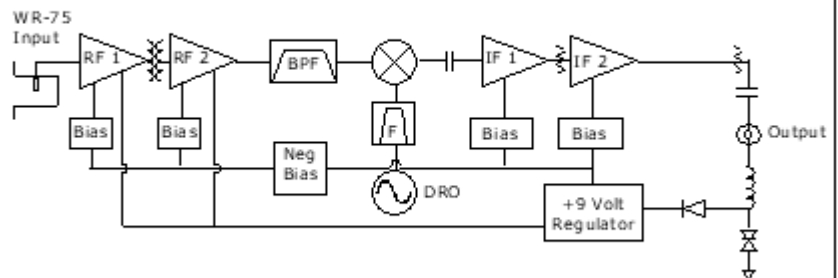
- Custom Frequencies
- Custom Connectors
- Special Color
- Rack Mounting Option

## 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.

## Block Diagram



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