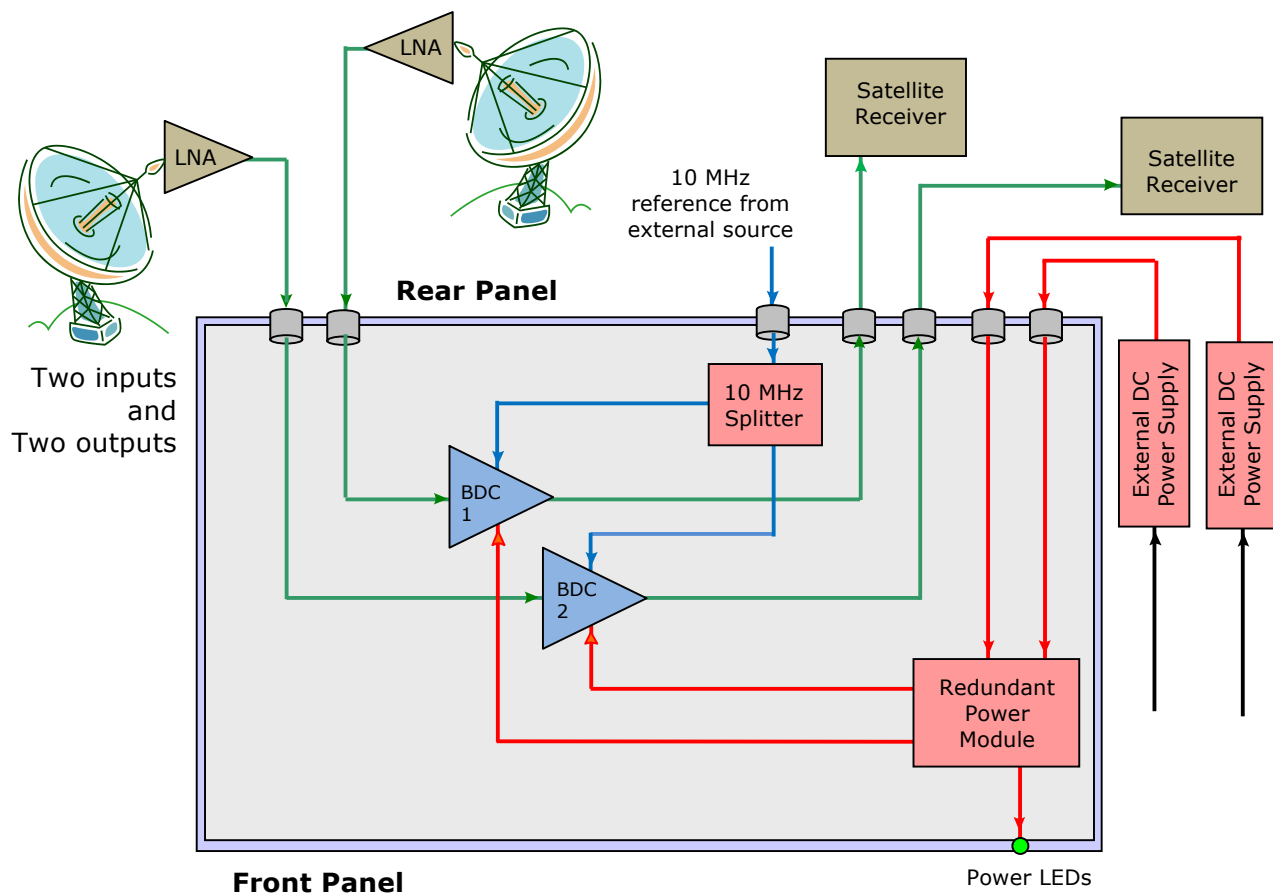




## C-Band external reference BDC Rack system



### **Orbital Features:**

#### **Specifications**

- 2 BDCs: C-Band, External Reference
- Available in a variety of BDC frequency ranges, gains, input and output connectors
- 1 unit high chassis
- Remote control and monitoring via Ethernet or RS232 connection as an option
- Redundant power supply that is outside of chassis for easy retrofit

#### **Functional**

- Remote monitor and control (optional)
- Global power supply for use anywhere in the world

## RMB2-CXER22: C-band external reference BDC rack system



### ELECTRICAL

#### INPUT

Frequency: Various - see Orbital BDC brochures  
Bandwidth: Various - see Orbital BDC brochures  
Noise Figure: 7 dB typical  
Ripple:  $\pm 0.5$  dB max / 27 MHz segment  
Input VSWR: 1.5 : 1 typical

#### OUTPUT

Bandpass: Various - see Orbital BDC brochures  
Output VSWR: 1.5 : 1 typical  
Gain: 0 dB to 40 dB  
LO Stability: depends on external reference supplied  
LO Phase Noise: -85 dBc/Hz @ 1 kHz max  
Compression: +7 dBm minimum  
3<sup>rd</sup> Order Intercept: +17 dBm minimum

#### POWER

Voltage: 90 - 264 VAC  
Frequency: 47 - 63 Hz  
Filtering: Transient, over and reverse voltage protected

### General Description:

The 1RU, 19 inch rack mount C-band block downconverter assembly translates RF inputs in the 3.4~4.2 GHz C band to IF outputs in L-band in two polarities.

There is one input C-Band signal per polarity that connects to two C-Band external reference BDCs. The output of each BDC goes to two separate outputs. The 10 MHz signal is supplied by an external source and goes to each BDC. The redundant power supplies provide power to each BDC. Each BDC is always on and always selected.

### Orbital Design:

The single unit integrates two Block Down-Converters (BDC), into a single rack-mount chassis. There is a variety of choices for the BDC frequency range from 3.40 to 4.20 GHz as well as the India band of 4.50~4.80 GHz. There is no microprocessor, only a simply LED indicator for the power supplies.

### MECHANICAL

Weight: TBD  
Overall Dimensions: 19" x 1.75" x 20" maximum  
Connectors (rear panel):  
RF: SMA, N or F female  
L-band: SMA, N or F female  
External Reference (if required): BNC or SMA female

### ENVIRONMENTAL

Operating Temperature: -40 to +55 degrees Celsius  
Relative Humidity: Up to 100% condensation and frost

### External Power supplies:

Power supplies, historically, have the lowest MTBF of the components in a system. The Orbital External power supply configuration was designed to provide inexpensive and rapid power supply replacement. A secondary benefit is the lower operating temperature of the external power supply thus extending its life.

The external power supply needs to be 24VDC, with a minimum current rating of 1.2 Amps. If one fails, the system switches to the other power supply with the LEDs indicating the failure. This enables the customer time to replace power supplies without any down time or without taking the entire rackmounted chassis in for repair.

Internal Power supplies also available.

### Technical Sales contacts:

Doug Macdonald  
1-647-992-1210  
doug.macdonald@orbitalresearch.net

David Zuvic  
1-604-856-0305  
dzuvic@orbitalresearch.net

Orbital Research Ltd. designs and builds products for satellite communications applications. Orbital website: [www.orbitalresearch.net](http://www.orbitalresearch.net). Copyright © 2016 Genie in the Bottle Ent. Inc. All rights reserved. Specifications subject to change without notice.

