



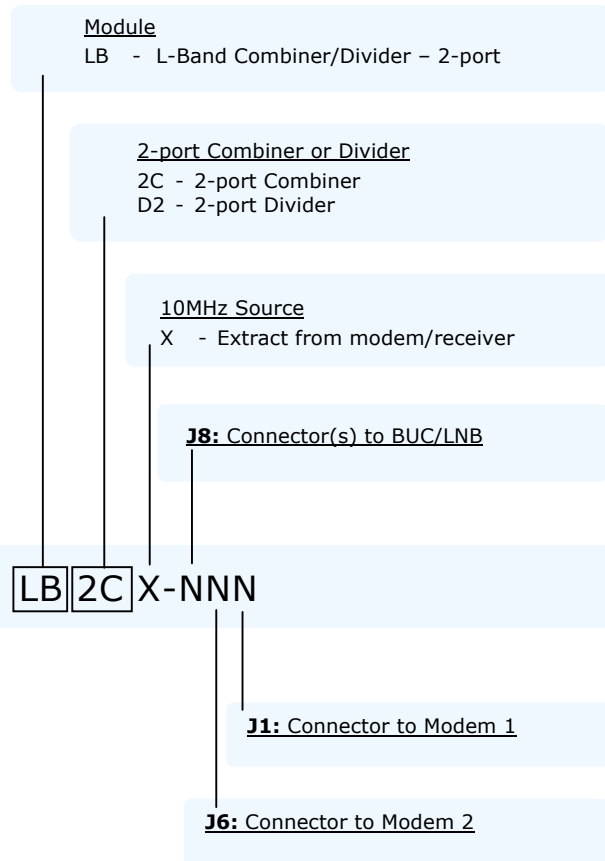
System Interface Products

2-Port L-Band Combiner (or Divider)



Combines (or Divides) Two L-Band signals while passing DC and 10 MHz

How to order an L-Band Combiner or Divider



Connectors available:

J1, J6, J8: L-Band: To LNB/BUC & Rx/Modem

F - F, 75Ω S - SMA, 50Ω
N - N, 50Ω

J10: DC extracted from modem/receiver (standard) or, to insert separate DC supply for BUC or LNB
BNC

L-Band Combiner Overview

- Can be used as a Combiner or Divider. Labelled as a Combiner. Simply use an LNB instead of a BUC and it automatically works as a Divider.
- The 10 MHz & DC are extracted from the modem so that only the L-Band is combined. The 10 MHz & DC are added back into the L-Band combined signals.
- The DC jumper can be removed if you want to insert your own DC
- Simply connect J-1 to the modem with the 10 MHz & DC signals, J-6 to the modem with only L-Band, and J-8 to the BUC and the system is good to go.

Orbital Features:

Specifications

- Wilkinson Divider
- Selective Filter Network: filtered 10 MHz bandpass and a filtered L band, 900-2100 MHz selective band pass system
- Lowpass filtered DC
- Low L band through loss
- Superior Input and Output VSWR
- Preserves phase noise performance

Functional

- Operates with VSATs, LNBs, BDCs, BUCs, Rxs and Modems
- Connectors O ring sealed for weather resistant operation
- Protects bit error rate

Structural

- Machined from solid aluminum block for strength & stability
- Blue Anodized Mil-Spec finish for corrosion protection
- Excellent RF shielding and grounding
- RoHS & REACH compliant

The Orbital Combiner is a 3 high stack of our standard modules that are jumpered together.

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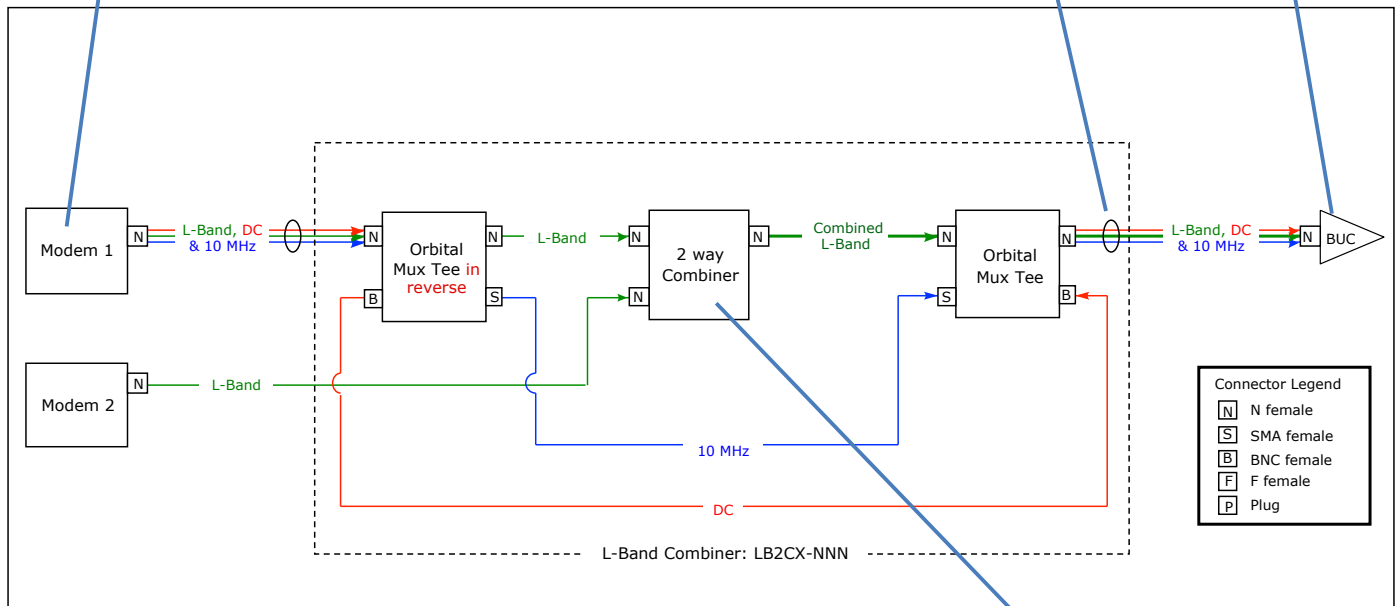
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Signal Diagram

DC & 10 MHz are extracted from Modem 1, filtered and reinserted to the output Mux/Tee. Only the L band is fed to the combiner so that maximum port to port isolation is preserved at L band, and there is no attenuation or corruption of the 10 MHz signal and no DC to burn up the Wilkinson combiner. The signal from Modem 2 is fed directly to the combiner, but MUST have the DC and 10 MHz turned off in the modem. As well, a separate DC source can be inserted instead of the loop thru modem DC for higher current BUCs.

Simply replace the BUC with an LNB and the Combiner automatically works as a Divider.

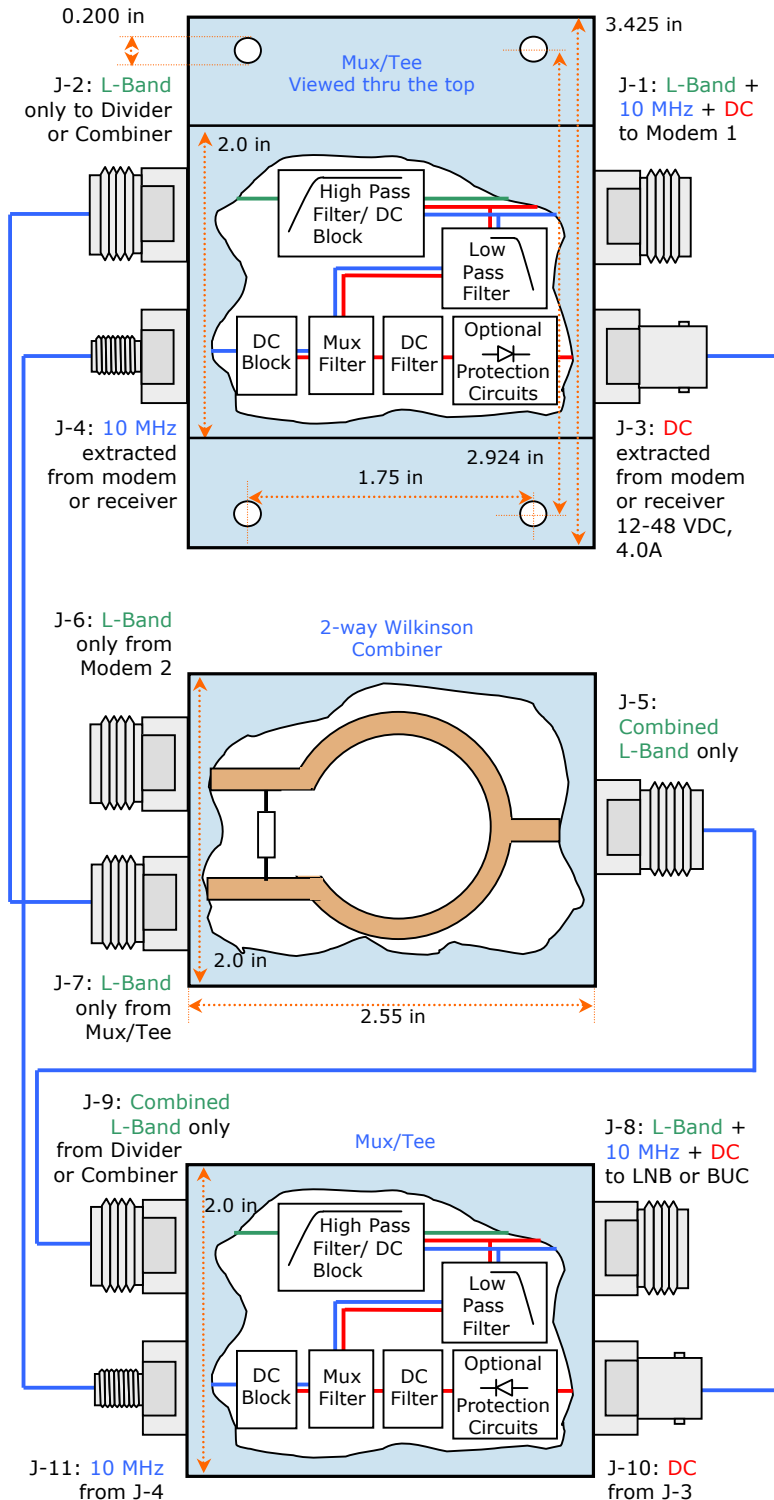
Cables to modems and BUC are supplied by customer.



The Wilkinson Combiner component is designed for L-Band signals ranging from around 950 to 2000 MHz. 10MHz and DC are virtually the same to a combiner. They see it as a short and show up on all the ports. In technical terms this means there is no isolation. The DC, having power, will usually destroy the Combiner. That is why we bi-pass the Combiner when there is DC and/or 10 MHz. We let the Combiner only combine L-Band signals as it was designed to do and then insert DC and 10 MHz after the L-Band has been combined.

System Interface Product: LB2CX - Specifications

**L-Band Combiner Block Diagram
Mechanical Dimensions +
Functional Block Diagram
Viewed as if dismantled**



Combiner Overall Electrical Specifications

Input DC Voltage: +12 to +48V supplied via modem or J-10 (DC input connector)
 Current Capacity: 4.0 Amps
 10 MHz Signal: Supplied by modem
 Insertion Loss: 3 dB
 Port to Port Isolation: >25 dB
 10 MHz Isolation: >90 dB

Mechanical Specifications

Measurements: Tolerance $\pm .005$ in.
 Size: 3.4251 x 2.55w x 2.45h in.
 Weight: 15 oz
 Paint / Colour: Blue Anodized finish
 Mounting holes: 3/8" (5mm)
 Accepts standard rackmounting screws: 10/32 or 10/34
 RoHS & REACH Compliant

Mux/Tees

L Band

Bandpass: 900 to 2100 MHz
 Thru Loss: 0.5 dB maximum
 Ripple: ± 0.3 dB maximum
 Input VSWR: 1.3 : 1 maximum
 Output VSWR: 1.3 : 1 maximum

10 MHz

Passband: 1-100 MHz (3 dB down)
 Thru Loss: 0.1 dB 10 MHz to LNB port
 Isolation: >90 dB 10 MHz to Rx port

DC

Filtering: Hash filter, low pass filter
 Resistance: 0.132 ohms (average)

Power Specifications

Mux/Tees

Input DC Voltage: +12 to +48V supplied via DC input connector
 Current Capacity: 4.0 Amps

Environmental Specifications

Operating Temp: 0 to +40° Celsius
 Relative Humidity: Up to 100% condensation and frost

Switching Power Supply

(not included with L-Band Combiner)

See: PS1 brochure for North America
 PS2 brochure for Global



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