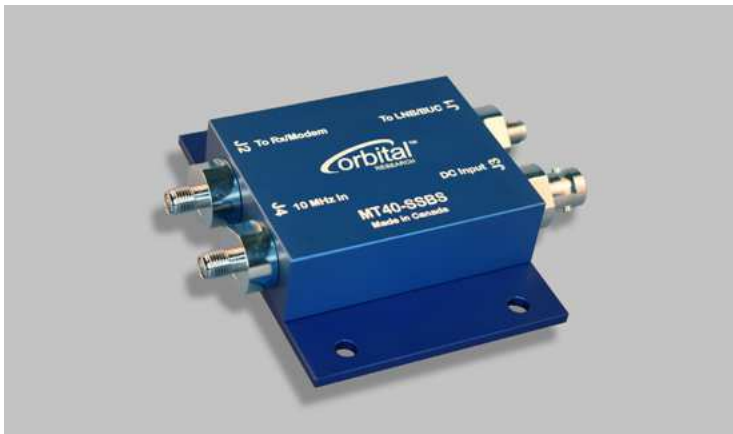




## Orbital Mux-Tee

10 MHz multiplexer and bias tee in one package



The Orbital Research “Mux-Tee” is a high-performance bias tee – but it does much more than insert DC current. It multiplexes an external 10 MHz reference signal into the L-band signal leading to an LNB, BDC or BUC. This enables better phase noise and therefore higher data throughput from your amplifier. Our Mux-Tee can also be used to extract these signals.

### Orbital Mux-Tee features:

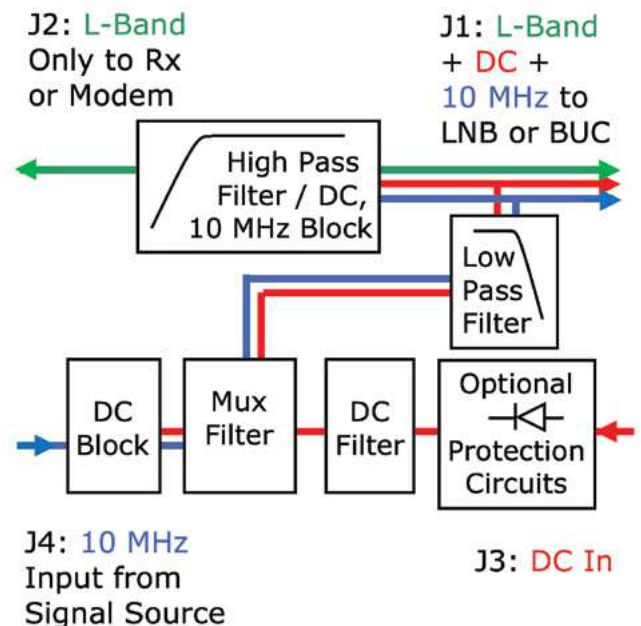
- 6 devices in 1: bias tee or 10 MHz multiplexer (or both), DC extractor or 10 MHz demultiplexer (or both)
- Small and compact passive device – no power required
- Variants for both DC/10 MHz pass thru and extraction
- Models that pass 300 to 2,100 MHz

### Applications:

Our Mux-Tees provide signal multiplexing and demultiplexing for high-performance military and commercial satellite communications applications, including SATCOM-on-the-move (SOTM) and in-flight connectivity. They are stackable with customizable form factors and connectors – and deliver extremely low VSWR for unparalleled impedance matching and minimal through loss.

Standard bias tees are not designed for satellite applications. They are very simple circuits.

Orbital’s Mux-Tee is designed specifically for sensitive satellite applications. We filter and condition the line between the LNB/BUC and receiver, so your equipment works as it should. The 10 MHz goes only to the LNB/BUC and is highly isolated from the receiver. Any DC or 10 MHz coming from the modem (J2) is blocked. This ensures that there’s no mixing of DC or 10 MHz between the receiver and J3 or J4.



## ELECTRICAL SPECIFICATIONS

### L-band

**Bandpass:** 900 to 2100 MHz – option for 300 to 2100 MHz

**Thru loss:** 0.5 dB max

**Input VSWR** 1.3:1 max

**Output VSWR** 1.3:1 max

**Ripple:** ±0.3 dB max

### 10 MHz

**Bandpass:** 1-100 MHz (3 dB down)

**Thru loss:** 0.3 dB 10 MHz to LNB port maximum

**Isolation:** >90 dB 10 MHz to Rx port

### DC

**Filtering:** Hash filter, low pass filter

**Resistance:** 0.132 ohms (average)

## ENVIRONMENTAL SPECIFICATIONS

**Operating temp:** -40 to +60° Celsius

**Relative humidity:** Up to 100% condensation and frost

**MTBF:** >125,000 hours

## MECHANICAL SPECIFICATIONS

**Size (case):** 3.425l x 2.55w x 0.88h in.

**Size (with conn):** 3.425l x 3.8w x 0.88h in.

**Weight:** 5 oz

**Paint/colour:** Blue anodized finish

MIL-STD-595

**Mounting holes:** 0.200" (5mm)

Accepts standard rack-mounting screws:  
10/32 or 10/34

RoHs & REACH compliant

## CONNECTORS AVAILABLE:

**J1, J2: L-band ports** F - F, 75Ω  
S - SMA, 50Ω  
N - N, 50Ω

**J3: DC supply** B - BNC (preferred)  
T - TNC  
N - N  
ft - Feedthrough  
S - SMA

**J4: 10 MHz** S - SMA (recommended)  
B - BNC  
T - TNC  
N - N

BNC-to-pigtail adapters and BNC-to-binding post adapters sold separately

## SWITCHING POWER SUPPLY (not included with Mux-Tee)

See:

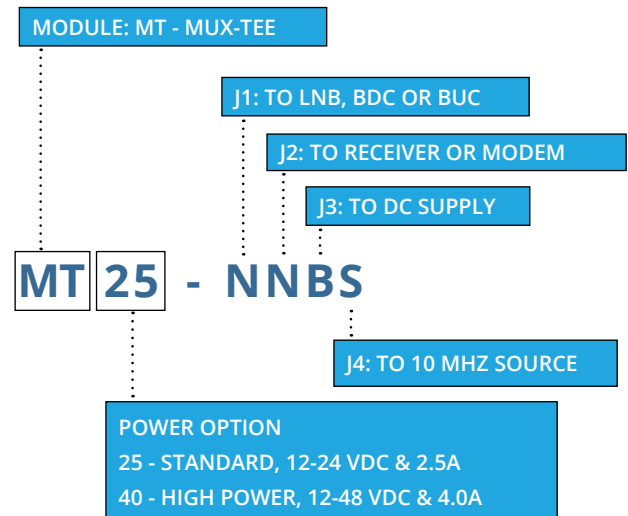
PS1 brochure for North America; PS2 brochure for Global

## POWER SPECIFICATIONS

**Input DC voltage:** Passive device, no power required

**Power capacity:** 12 to 24 VDC - 2.5A  
or 12 to 48 VDC - 4.0A

## HOW TO ORDER



For more information or to order, please contact us at [sales@orbitalresearch.net](mailto:sales@orbitalresearch.net) or 1 (604) 419-8585.

For the 300 to 2100 MHz option, please add "-300" at the end of the part number.