

Orbital Mux-Tee (Bias Tee Multiplexer)

Description

The Orbital Research “Mux-Tee” (MT-25/40) is a premium bias tee multiplexer that does much more than insert DC current: it multiplexes a 10 MHz reference signal onto the L-Band signal. And because it is a passive device that requires no power, it can work in reverse and extract a DC signal and/or demultiplex a 10 MHz reference from your modem.

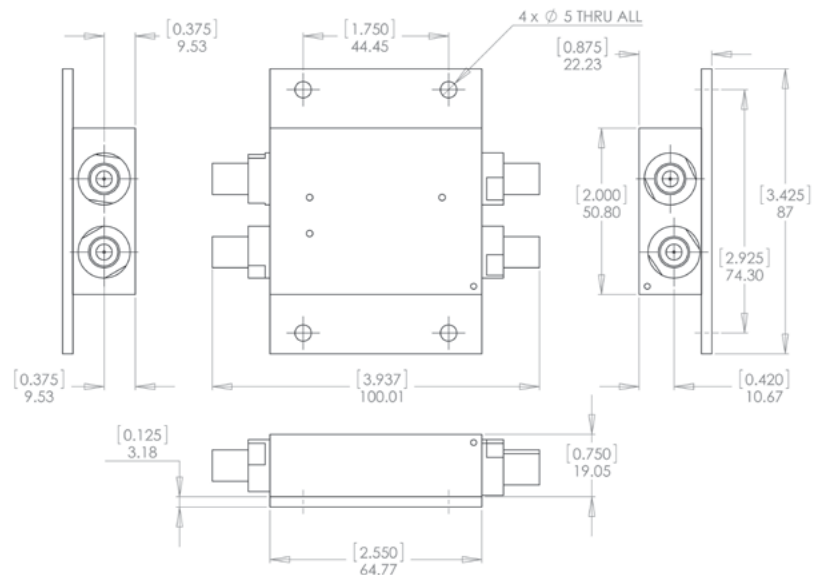
The Mux-Tee is 6 devices in 1: bias tee, 10 MHz multiplexer, both a bias tee and 10 MHz mux, DC extractor, 10 MHz demultiplexer, and both a DC extractor and 10 MHz demux.

The Mux-Tee filters the incoming IF signal and provides an effective block to any unwanted DC or 10 MHz that may be coming from the modem – delivering exceptional return loss and very low thru loss. In addition, the external DC and 10 MHz inserted signals are filtered to avoid any interference with the wanted IF signal. Other features include:

- Small and compact with customizable form factors
- Mounting plate or thru holes
- Stackable with Orbital oscillator products
- Choice of impedance and connectors: BNC (50 Ohm), F (75 Ohm), N (50 Ohm), SMA (50 Ohm), etc. at no extra charge
- Blue anodized finish, suitable for indoor/outdoor use over extreme temperatures



Mechanical Diagram



Orbital Mux-Tee (Bias Tee Multiplexer)

Specifications

ELECTRICAL

L-Band

| | |
|--------------------------|--|
| Bandpass | 900 to 2100 MHz 900 to 3500 MHz option |
| Thru Loss | 0.5 dB maximum |
| Return Loss | 20 dB minimum |
| Ripple | ±0.3 dB maximum |
| Input VSWR | 1.3 : 1 maximum |
| Output VSWR | 1.3 : 1 maximum |
| Thru Loss Above 1200 MHz | 2.1 to 3.4 GHz, 0.7 dB max 3.4 to 4.2 GHz, 1.5 dB max |

10 MHz

| | |
|-----------|-------------------------------|
| Passband | 1-100 MHz (3 dB down) |
| Thru Loss | 0.3 dB 10 MHz to LNB port max |
| Isolation | > 90 dB 10 MHz to Rx port |

DC

| | |
|------------|--|
| Filtering | Hash filter, low pass filter |
| Resistance | 0.132 ohms (average) Power is on the center pin |

MECHANICAL

| | |
|------------------|---|
| Measurements | Tolerance ±.005 in. |
| 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 |
| Mounting Holes | 3/8" (5mm) Accepts standard rackmounting screws 10/32 or 10/34 |

RoHS & REACH Compliant

ENVIRONMENTAL

| | |
|-------------------|-----------------------------------|
| Operating Temp | -40 to +60° Celsius |
| Relative Humidity | Up to 100% condensation and frost |
| MTBF | >125,000 hours |

POWER SPECIFICATIONS

| | |
|------------------|--|
| Input DC Voltage | Passive device No power required |
| Power Capacity | 12 to 24 VDC - 2.5A 12 to 48 VDC - 4.0A |

SWITCHING POWER SUPPLY

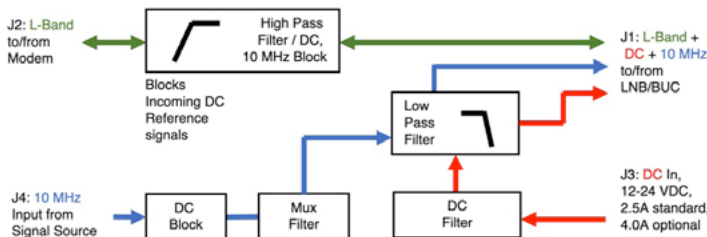
(not included with Mux-Tee)

| | |
|------|--|
| See: | PS1 brochure for N. America PS2 brochure for Global |
|------|--|

CONNECTORS AVAILABLE

| | |
|----------------------|---|
| J1, J2: L-Band ports | S - SMA 50Ω F - F, 75Ω N - N, 50Ω |
| J3: DC Supply | B - BNC (preferred) S - SMA N - N T - TNC ft - feedthru |
| J4: 10 MHz | S - SMA (recommended) B - BNC T - TNC N - N |

Block Diagram



How to Order

J1 to J4

MT25 – NNBS (2.5A capacity) or
MT40 – NNBS (4.0A capacity)

MuxTee Connectors

J1: To LNB, BDC, BUC

J2: To Modem

J3: DC In

J4: 10 MHz In

Available Connectors:

N, BNC, SMA, INC, E, Feedthru ft