

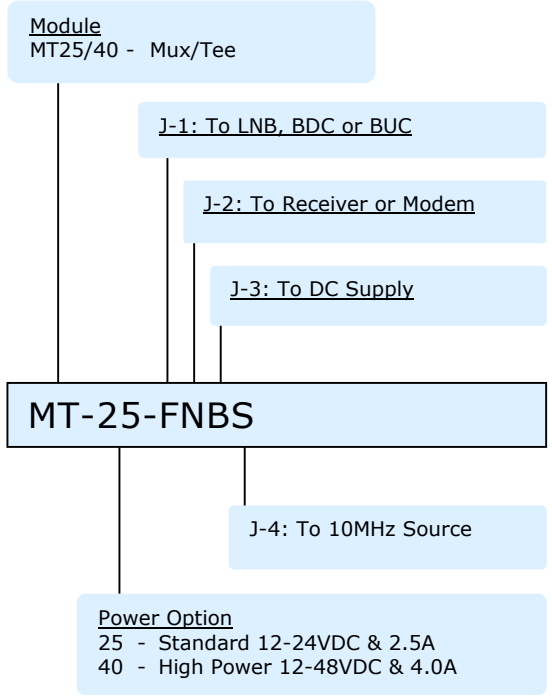
# System Interface Products

## MT25/40 - Mux Tee



### 10MHz Multiplexer and Bias Tee in one package

#### How to order a MT25/40 - Mux/Tee



Connectors available:

**J1, J2: L-Band: To LNB/BUC & Receiver/Modem**

F - F, 75Ω                      S - SMA, 50Ω  
N - N, 50Ω

**J4: 10MHz**

S - SMA (recommended)  
B - BNC  
N - N

**J3: DC Supply**

B - BNC (preferred)  
FT- Feedthrough (separate pricing)  
F - F (not available for 4 amp version)  
N - N

BNC-to-pigtail adapters and BNC-to-binding post adapters sold separately. See SIP price list for part number and price.

**Orbital Design:**

Orbital Research introduces a System Interface Product (SIP) that can be used as 6 different products. The Mux/Tee can be used as a Bias Tee, Diplexer or Mux/Tee to inject DC and/or 10MHz into the L-Band signal. But it can also be installed backwards to strip out DC, 10MHz or both. So it effectively is 6 products in one.

**Orbital Features:**

**Specifications**

- Highpass filtered L band: rolloff below 900MHz, flat 950 thru 2100MHz Assures DC block to Rx port and 10 MHz port
- Filtered 10MHz
- low thru loss from 10 MHz input to LNB
- Lowpass filtered DC, 2.5A (12 to 24V) capacity standard; and 4.0A capacity (12 to 48V) optional - for LNBs or transmitters
- Any combination of 50Ω and 75Ω in/out Impedance transforms, (eg. 75Ω J-1 to 50Ω J-2)
- Very low passband ripple
- Very low L band through loss
- Very high Rx port to 10MHz port isolation, no leakage back to rx
- Superior Input and Output VSWR
- Will not degrade phase noise performance
- Exceptionally low insertion loss

**Functional**

- Will operate with LNBs, BDCs, VSATs, BUCs, and Modems
- Will operate in S-Band with 0.7 dB insertion loss (max) and in C-Band (3.4 to 4.2 GHz) with 1.0 dB insertion loss (max)
- Connectors O ring sealed for weather resistant operation
- Will not cause loss of lock
- Will not impair bit error rate

**Structural**

- Machined from solid aluminum block for strength, stability and endurance
- Allodyne finish for corrosion protection and excellent RF shielding/grounding
- 'Back O Rack' mounting bracket for ease of installation and lead dress
- Fewer cables and connector yields less signal degradation
- Reduces the mess of cables at the back of the rack and
- Provides stability for cables

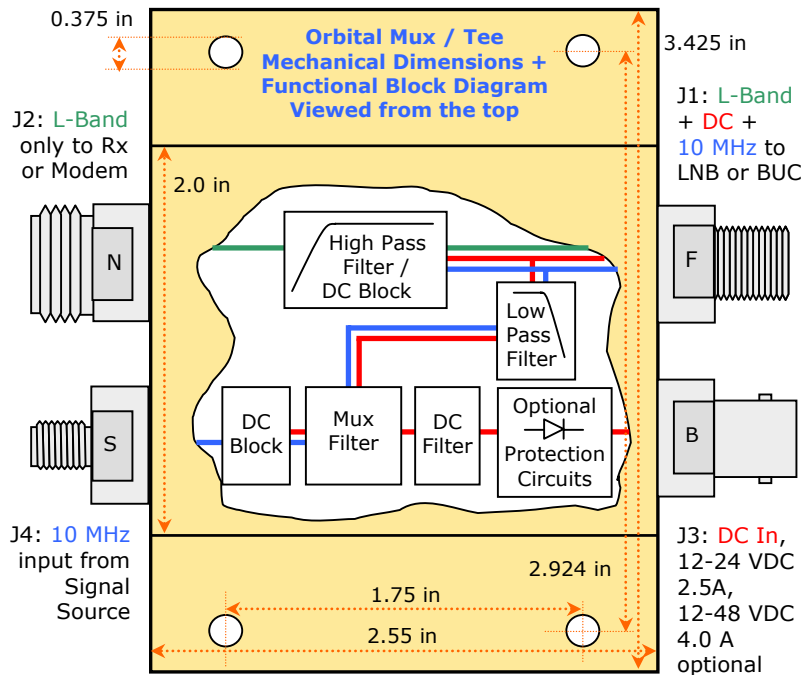
**Authorized Distributor for USA:**

**Servsat Communications, Inc.**

1815 Turnberry Lane, Alpharetta, GA 30005

Phone: 770-757-1767 e-mail: sales@servsat.com

# System Interface Product: MT25/40 - Mux Tee Specifications



## Electrical Specifications

### L Band

Bandpass: 900 to 2100 MHz  
 From 2.1 to 3.4 GHz with 0.7 dB insertion loss (maximum)  
 From 3.4 to 4.2 GHz with 1 dB insertion loss (maximum)  
 Thru Loss: 0.5 dB maximum  
 Ripple:  $\pm 0.3$  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: 0.3 dB 10 MHz to LNB port maximum  
 Isolation:  $>90$  dB 10 MHz to Rx port

### DC

Filtering: Hash filter, low pass filter

## Mechanical Specifications

Size: 2.55 x 3.43 x 0.865 in.  
 Weight: 5 oz  
 Paint / Colour: Gold Allodyne finish  
 Mounting holes: 3/8" (5mm)  
 Accepts standard rackmounting screws: 10/32 or 10/34

## Environmental Specifications

Operating Temp:  $-40$  to  $+60^\circ$  Celsius  
 Relative Humidity: Up to 100% condensation and frost

## Power Specifications

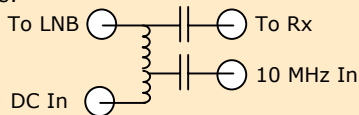
Input DC Voltage: Passive Device. No power required  
 Power Capacity: 12 to 24 VDC - 2.5A, 12 to 48 VDC - 4.0A optional

## Switching Power Supply (optional)

Input Voltage: 90 to 240 VAC  
 Power Out: Options from 12 to 24 VDC, 1700 mA to 2.08A  
 Output Conn: BNC (preferred), F, or N

**See PS1 or PS2 brochure for ordering information**

Standard Mux/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 LNB and receiver so your equipment works as it should. The 10MHz goes only to the LNB and is highly isolated from the receiver.

Each connector type has an impedance of either 50 or 75 ohms. Orbital uses 1 of 4 distinct boards to achieve the appropriate impedance transform between the LNB/BUC interface and Rx/Modem interface:

- V1 - 50 $\Omega$  to LNB/BUC, 50 $\Omega$  to Rx/modem
- V2 - 75 $\Omega$  to LNB/BUC, 50 $\Omega$  to Rx/modem
- V3 - 75 $\Omega$  to LNB/BUC, 75 $\Omega$  to Rx/modem
- V4 - 50 $\Omega$  to LNB/BUC, 75 $\Omega$  to Rx/modem

All Orbital products are shipped individually boxed in plain brown boxes as Orbital brand, or plain for re-labeling.

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