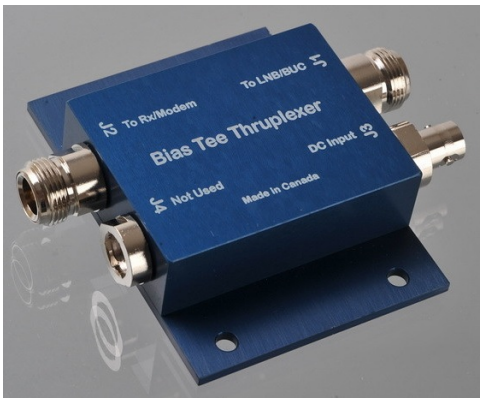


System Interface Products

Orbital Bias Tee Thruplexer TT25/40 – (Thru Tee)

Orbital Research.net

Bias Tee Throughplexer (Thru Tee) - passing L-band & 10MHz signals

How to order a TT25/40 - Thru Tee

Module
TT25/40 - Thru Tee

J-1: To LNB, BDC or BUC

J-2: To Receiver or Modem

J-3: To DC Supply

TT 40 -NNBP

J-4: Plug, unused

Power Option
25 - Standard 12-24 VDC & 2.5 A
40 - High Power 12-48 VDC & 4.0 A

Connectors available:

J1, J2: L-Band

S - SMA, 50Ω
N - N, 50Ω
F - F, 75Ω

J3: DC Supply

B - BNC (preferred)
S - SMA
ft - feedthru
N - N
T - TNC

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

Orbital Design:

You need a higher power BUC, but your modem cannot supply adequate DC. You need a bias tee and a separate power supply. But conventional Bias Tees shunt the 10 MHz reference signal to AC ground. You could use the MT25/40 Orbital Mux/Tee if you have a separate 10 MHz signal, but your modem only supplies 10 MHz up the cable with the L band signal. The MT25/40 filters the L band, stopping the 10 MHz signal from passing through.

Orbital Research introduces the Thru-Tee, which passes both L band AND 10 MHz signals from the modem to the BUC with less than a single dB of insertion loss, yet allows the injection of up to 2.5A (standard) and 4.0A (high power) of current at 12 to 24 or 12 to 48 volts DC respectively. Install your new BUC and hook up your new power supply and existing modem to the Thru Tee. Now you have a low cost, high quality, plug and play solution.

Orbital Features:

Specifications

- Selective Filter Network: filtered 10 MHz bandpass and a filtered L band, 900-2100 MHz selective band pass system
- Lowpass filtered DC, 12 to 24 VDC - 2.5 A standard power, 12 to 48 VDC - 4.0 A high power
- Low passband ripple
- Low L band through loss
- Superior Input and Output VSWR
- Will not degrade phase noise performance
- Low 10 MHz insertion loss

Functional

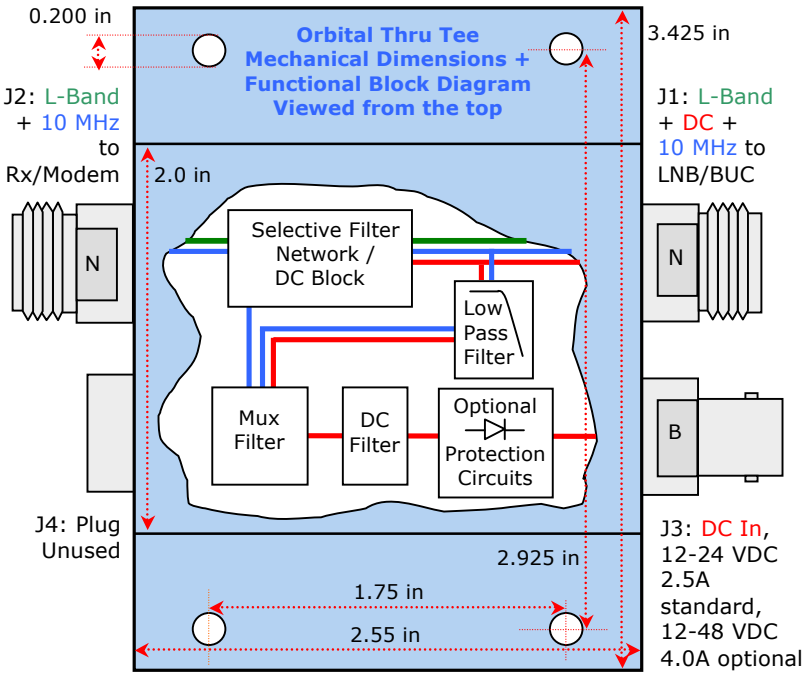
- Will operate with VSATs, LNBs, BDCs, BUCs, Rxs and Modems
- Connectors O ring sealed for weather resistant operation
- Will not cause loss of lock
- Will not impair bit error rate

Structural

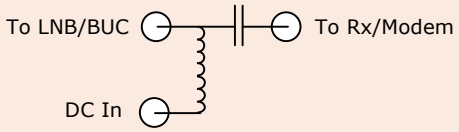
- Machined from solid aluminum block for strength and stability
- Anodized blue finish for corrosion and scratch protection, and excellent RF shielding/grounding
- Labels are laser etched for durability
- RoHS & REACH compliant

Digisat International Inc.
4195 W. New Haven Ave., Suite 15
Melbourne, FL 32904
USA
+1-321-676-5250
Email: sales@digisat.org
http://www.digisat.org

TT25/40 – (Thru Tee) Specifications



Standard Bias Tees are not designed for Satellite applications. They are very simple circuits, and will short the 10 MHz to ground:



Orbital's Thru Tee is specifically designed for sensitive satellite applications with the ability to let both the L band signal and the 10 MHz reference pass through.

As they age, satellites and BUCs lose power. The VSAT that once served you well now does not have enough power for your link budget and the BUC just got passed to you! The two solutions are a bigger dish, or a bigger BUC. The new BUC is cheaper and faster to install than a new dish, but your modem cannot supply the higher current needed by the new BUC. You need an independent, high quality power supply.

You get a Bias Tee to inject the power into the L band line to the BUC, but guess what, the 10 MHz reference signal from the modem is now shorted to AC ground via the power supply. You need a special Bias Tee that will allow the 10 MHz reference from the modem to the BUC. Welcome to the TT25/40 - Thru Tee. The Thru Tee replaces Orbital's MT25/40 - Mux Tee L band filter with a filtered 10 MHz bandpass and a filtered L band, 900-2100 MHz selective band pass system that will allow injection of up to 4 amps at 12 to 48 VDC, and will pass the L band signal AND the 10MHz reference signal from the modem to the BUC with less than a single dB of insertion loss.

Electrical Specifications

L Band

Bandpass:	10 MHz & 900 to 2100 MHz
Thru Loss:	1.0 dB maximum
Ripple:	±0.5 dB maximum
Input VSWR:	1.5 : 1 maximum
Output VSWR:	1.5 : 1 maximum

DC

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

Mechanical Specifications

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 / Color:	Blue Anodized finish
Mounting holes:	3/8" (5mm) Accepts standard rackmounting screws: 10/32 or 10/34

Environmental Specifications

Operating Temp:	-40 to +60° Celsius
Relative Humidity:	Up to 100% condensation and frost

Power Specifications

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

Switching Power Supply

(not included with Thru Tee)

See: PS1 brochure for North America
PS2 brochure for Global

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:

V5 - 50Ω to LNB/BUC, 50Ω to Rx/modem
V7 - 75Ω to LNB/BUC, 75Ω to Rx/modem

Only V5 & V7 available at this time.