



# System Interface Products

## SP10 – 10 MHz Splitter



### One in, Three out, 10 MHz Splitter

#### How to order a SP10 – 10 MHz Splitter

Module  
SP10 - 10 MHz Splitter

J-1: From 10MHz Source

J-2: 10MHz out to Device

J-3: 10MHz out to Device

J-4: 10MHz out to Device

SP10 -SSSS

#### Connectors available:

##### Input (J1):

- S - SMA, 50Ω
- B - BNC, 50Ω
- N - N, 50Ω

##### Output (J2, J3, J4):

- S - SMA, 50Ω
- B - BNC, 50Ω
- N - N, 50Ω

#### The Problem:

Stability, phase noise, bit-error rate, offset – all problems you have determined can be solved with a good external reference LNB. You have chosen a high quality oscillator as your 10 MHz source, but how do you hook them all together? You may have two LNBs and a BUC all needing 10 MHz, and spent all this money to get quality components, but that investment can be wasted if you don't hook them up properly.

#### The Solution:

Enter the SP10 – 10 MHz Splitter – it will divide the output of the oscillator, feeding equal amounts of signal to up to three devices with minimal loss. However, it is imperative that each device does not contaminate the other – this is called isolation - and you most definitely do not want switching noise from a BUC traveling back into your LNB. Each device can have peculiarities that can seriously affect the other. Equally important is that the process of delivering a quality reference to each device does not create ground-loops, modulation, noise, or any other degradation of the reference signal.

#### Orbital Features:

##### **Specifications**

- Under 7 dB total insertion loss (includes splitter loss)
- Over 40 dB of port to port isolation @10 MHz
- VSWR under 1.2:1 @ 10 MHz
- Amplitude unbalance 0.01 dB
- Phase imbalance less than 0.11 degrees

##### **Functional**

- Will operate with LNBs, VSATs, BUCs, and Modems
- Connectors O ring sealed, suitable for outdoor operation

##### **Structural**

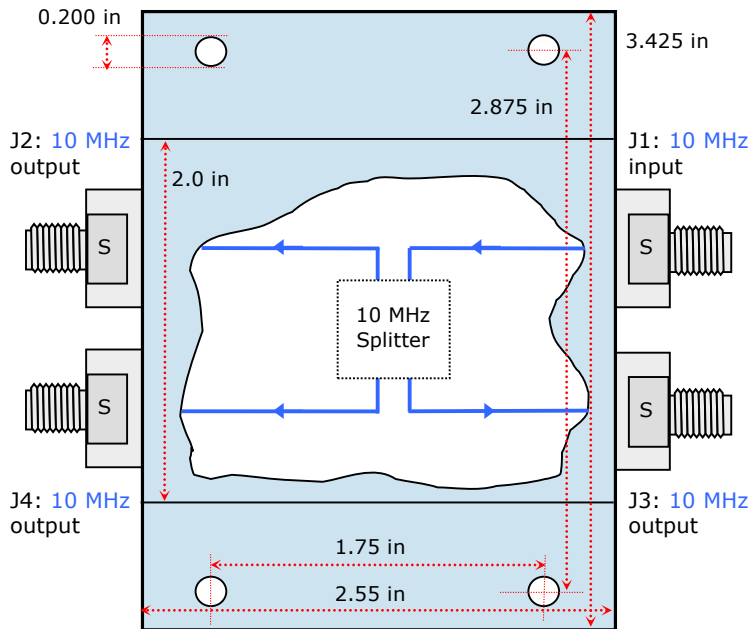
- Machined from solid aluminum billet for strength, stability and endurance
- Anodized blue finish for corrosion and scratch protection, and excellent RF shielding/grounding
- Labels are laser etched for durability
- RoHS and REACH compliant

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# System Interface Product (SIP): SP10 – 10 MHz Splitter

## Orbital 10 MHz Splitter Mechanical Dimensions + Functional Block Diagram Viewed from top



The **SP10 – 10MHz Splitter** enables 3 Way - 0° splitting of the 10 MHz reference signal, with under 7 dB of total insertion loss, while providing over 40 dB of isolation, and a VSWR of under 1.2:1, at 10 MHz.

### Electrical Specifications

#### 10 MHz

Bandpass:	1 to 100 MHz
Total Insertion Loss:	7 dB maximum
Input VSWR:	1.2 : 1 maximum
Output VSWR:	1.2 : 1 maximum
Splitter Loss:	4.8 dB
Isolation:	>40 dB
Phase Imbalance:	0.11 degrees

### Power Specifications

Input DC Voltage:	Passive Device No power required DC Isolated
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### Mechanical Specifications

Measurements:	Tolerance $\pm$ .005 in.
Input Interface:	BNC, N or SMA
Output Interface:	N or SMA
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:	0.200" (5mm) Accepts standard rackmounting screws: 10/32 or 10/34

RoHs & REACH Compliant

### Environmental Specifications

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

### Installation is straight forward:

- mount the module securely
- connect the 10 MHz input to J-1 of the Splitter.
- connect any outputs to J-2, J-3, J-4
- any unused outputs should be terminated to preserve isolation specifications
- seal off connectors to keep moisture out.

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