

## Bias Tees



### Products:

**DEV 8122/2/50** - Multi Channel Bias Tee, 2 Channels, 50 Ohm

**DEV 8122/2/75** - Multi Channel Bias Tee, 2 Channels, 75 Ohm

**DEV 8122/4/50** - Multi Channel Bias Tee, 4 Channels, 50 Ohm

**DEV 8122/4/75** - Multi Channel Bias Tee, 4 Channels, 75 Ohm

**DEV 8123/2/50** - Controlled Bias Tee, 2 Channels, 50 Ohm

**DEV 8123/2/75** - Controlled Bias Tee, 2 Channels, 75 Ohm

**DEV 8123/4/50** - Controlled Bias Tee, 4 Channels, 50 Ohm

**DEV 8123/4/75** - Controlled Bias Tee, 4 Channels, 75 Ohm

### Features:

- L-Band (DEV 8122) – Basic Performance  
Extended L-Band (DEV 8123) – Top Performance
- LNB Bias Current Monitoring via RS 232 (DEV 8123)
- 50 Ohm Versions with SMA Connectors or  
75 Ohm Versions with Precision F Connectors
- Two and Four Channel Versions available
- Redundant Power Supplies with Status Alarm Output
- Space Requirement 1 RU only

### Application Areas:

- Satellite Ground Stations
- Cable Head End Stations

**DEV 8122 / DEV 8123***Front DEV 8123/4/zz**Rear DEV 8123/4/75***The Situation**

In modern satellite ground stations the bias current for LNBS has to be provided by special power supplies. Frequently, these power supplies are required to monitor the current supplied to the LNBS. And usually, almost no space is left for these power supplies in the racks on site.

**DEV worked out a Solution**

DEV Systemtechnik developed a series of multi channel bias tees for the professional use which cover all requirements. The 1 RU instruments are designed for the frequency range of the L-Band (DEV 8122) or the Extended L-Band (DEV 8123) and can feed either two or four LNB channels. Convenient bias current monitoring capability is offered with the application of the DEV 8123.

**The Technical Concept**

Each of the bias units of the two or four channel instrument consists of a bias tee combined with a hybrid passive divider. The incoming RF-signal is split and thus available at two output ports. These two ports are isolated to a high degree from each other. All output ports are DC blocked against any other port.

The L-Band bias tee DEV 8122 offers two identical output ports per channel; the Extended L-Band bias tee DEV 8123 provides two output ports per channel as well, but one of the ports is designed as a low-loss output port.

Additionally, the DEV 8123 comprises bias current monitoring; the lower and the upper current threshold of each channel can be easily adjusted using a standard terminal application via the serial interface at the front side of the instrument.

## Technical Data

### DEV 8122/c/zz Multi Channel Bias Tees / DEV 8123/c/zz Controlled Bias Tees

#### RF Specifications

Frequency range	950...2150 MHz	(DEV 8122/c/zz)
	700...2300 MHz	(DEV 8123/c/zz)
Number of channels (c)	2	(DEV 8122/2/zz, DEV 8123/2/zz)
	4	(DEV 8122/4/zz, DEV 8123/4/zz)
Number of outputs per channel	2 (DC blocked)	
Impedance, connectors (zz)	50 Ohm, SMA (f)	(DEV 8122/c/50, DEV 8123/c/50)
	75 Ohm, Precision F (f)	(DEV 8122/c/75, DEV 8123/c/75)
Damage level	+30 dBm	
Return loss	>14 dB	(DEV 8122/c/zz)
	>18 dB	(DEV 8123/c/zz)
Insertion loss	<4 dB	(DEV 8123/c/zz: In-Out 1)
	<5 dB	(DEV 8122/c/zz, DEV 8123/c/zz: In-Out 2)
Frequency response	±1,0 dB	(over entire band)
	±0,3 dB	(within any 36 MHz segment)
Isolation between output ports	>20 dB	

#### Bias

Bias	15+3/-0 V; max. 0,5 A per channel
------	-----------------------------------

#### Bias Current Monitoring (DEV 8123/c/zz)

Alarm thresholds adjustment	Lower and upper alarm threshold level for each channel is adjustable using a standard terminal application via the RS 232 interface (Sub-D 9 (f) connector) at the front side of the instrument.
Alarm signalisation	Via LEDs and via potential free contacts at the Alarm connector

#### Redundant Power Supply

Redundant power supplies	100...240 V AC supplied by two different lines
Power consumption	10 VA (plus bias)

#### Alarms

Two stage alarm signalisation	Potential free contacts
Alarm connector	Sub-D 9 (m)
Contact load	60 V; 0,3 A
B-Alarm	One power supply unit does not deliver any secondary power.
A-Alarm	All power supply units do not deliver any secondary power.

#### General Specifications

Housing	19" (490 mm), 1 RU (45 mm), 260 mm depth
Weight	~5 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1
Temperature range	-20...+60 °C

**Order Information**

DEV 8122/2/50	Multi Channel Bias Tee, 2 Channels, 50 Ohm
DEV 8122/2/75	Multi Channel Bias Tee, 2 Channels, 75 Ohm
DEV 8122/4/50	Multi Channel Bias Tee, 4 Channels, 50 Ohm
DEV 8122/4/75	Multi Channel Bias Tee, 4 Channels, 75 Ohm
DEV 8123/2/50	Controlled Bias Tee, 2 Channels, 50 Ohm
DEV 8123/2/75	Controlled Bias Tee, 2 Channels, 75 Ohm
DEV 8123/4/50	Controlled Bias Tee, 4 Channels, 50 Ohm
DEV 8123/4/75	Controlled Bias Tee, 4 Channels, 75 Ohm

**Contact**

DEV Systemtechnik GmbH & Co. KG  
Grüner Weg 4A  
D-61169 Friedberg  
Tel.: +49 (0) 6031 18999-0  
Fax: +49 (0) 6031 18999-15  
info@dev-systemtechnik.com  
dev-systemtechnik.com

Rev. 18-AUG-2010