

## Signal Distribution with Perfection



### Products:

<b>DEV 2122</b> -	1:8	Redundant L-Band Distribution Amplifier
<b>DEV 2123</b> -	2 * 1:8	Redundant L-Band Distribution Amplifier
<b>DEV 2125</b> -	1:16	Redundant L-Band Distribution Amplifier

### Features:

- Series of Distribution Amplifiers with high Reliability and Uptime via Redundant Amplifier Modules
- 50 Ohm and 75 Ohm Versions available
- Monitoring Output at the Front Panel
- LNB Bias Feeding and Current Monitoring with Alarm Function
- Dual Redundant Power Supplies with Status Alarm Output
- Optional DC Supply Voltage

### Application Areas:

- Satellite Ground Stations
- Cable Head End Stations
- DAB-T with Satellite Input
- SNG Trucks

## DEV 2122 / DEV 2123 / DEV 2125

dev



Front DEV 2125/zz



Rear DEV 2125/75

### The Situation

In modern satellite receiver stations or head ends for CATV, the incoming signal is multiple divided so that all parallel used receivers get the same satellite signal. For passive division above 1:8 the signal level gets very low i.e. amplification is necessary. The demand on active solutions is very high signal fidelity, a maximum uptime and easy, on-site repair in case of a defect.

### DEV worked out a Solution

DEV Systemtechnik developed a series of (extended) L-Band distribution amplifiers for the professional user. This instrument series realises the distribution of one or two input signal in 8 or 16 equal output signals without insertion loss and with a good frequency response. The redundant amplifier concept of the instrument warrants supreme service life, the modular approach enables an extremely simple and efficient replacement procedure.

### The Technical Concept

In the first place the base of the technical concept is the utilisation of redundant amplifier modules. Within the module, the amplification of the input signal is done internally via two amplified signal paths. One path is capable to compensate the other path in case of a failure. Second, the instrument is equipped with hybrid dividers (Wilkinson dividers). The result is a very good VSWR of the inputs and outputs. The outputs are almost completely isolated from each other and the frequency response of the divider is optimised for a TV transponder channel of 36 MHz.

The redundant L-Band distribution amplifiers are capable to supply a bias voltage at the input(s) to feed an LNB. The current of the bias is compared to a lower and an upper limit; it will be signalised if these limits are exceeded. The instruments of this series are offered as 1:8 dividers in two versions – either as single channel or as dual channel version. For more signals per channel, a 1:16 divider is available in addition. All three types can be ordered in 50 Ohm with SMA connectors and in 75 Ohm with precision F connectors. Optional is DC supply voltage instead of redundant AC power supplies.

Special requirements can be realised on request.

**DEV 2122 / DEV 2123 / DEV 2125**



**Technical Data**

**DEV 2122/zz / DEV 2123/zz / DEV 2125/zz Redundant L-Band Distribution Amplifiers**

**RF Specifications**

Frequency range	700...2300 MHz	(DEV 2122/50, DEV 2123/50, DEV 2125/50)
	950...2150 MHz	(DEV 2122/75, DEV 2123/75, DEV 2125/75)
Number of inputs	1	(DEV 2122/zz, DEV 2125/zz)
	2	(DEV 2123/zz)
Number of outputs	8	(DEV 2122/zz)
	2 * 8	(DEV 2123/zz)
	16	(DEV 2125/zz)
Impedance, connectors	50 Ohm, SMA (f)	(DEV 2122/50, DEV 2123/50, DEV 2125/50)
	75 Ohm, Precision F (f)	(DEV 2122/75, DEV 2123/75, DEV 2125/75)
Damage level	+10 dBm	
Nominal input level	-10 dBm	
Return loss	>18 dB	(DEV 2122/50, DEV 2123/50, DEV 2125/50)
	>17 dB	(DEV 2122/75, DEV 2123/75, DEV 2125/75)
Insertion loss	0±3 dB	
Frequency response	±1,0 dB	(over full bandwidth)
	±0,3 dB	(within any 36 MHz interval)
Isolation between output ports	>25 dB	
Intermodulation distortion	<-40 dBc @ -10 dBm	
Group delay	<5 ns	
Noise figure	<8 dB	

**Monitoring Port**

Impedance, connector	50 Ohm, SMA (f)
Return loss	>18 dB
Frequency response	= input level ±1,0 dB

**Bias & Bias Current Alarm**

Bias	15+3/-0 V; max. 1,2 A
DEV factory settings:	
• Upper alarm level	350 mA
• Lower alarm level	150 mA (other values are possible)
Alarm indication	Via red LED on redundant amplifier module

**Alarms**

Two stage alarm signalisation for power line failure	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	Both power supply units do not deliver any secondary power.

**Technical Data (cont.)****Redundant Power Supply**

Redundant power supplies	100...260 V AC supplied by two different lines OR +24 V DC (Option 12)
Power consumption	10 VA plus bias

**General Specifications**

Housing	19" (483 mm), 1 RU (44 mm), 355 mm depth
Weight	~8 kg
Environmental conditions	ETS 300019 Part 1-3 Class 3.1

**Option 12:****Supply Voltage 24 V DC**

Supply voltage	+24 V DC
Bias	15+3 V, max. 0,2 A
Alarm signalisation for power line failure	none
Power consumption	5 VA plus bias

**Order Information**

DEV 2122/50	1:8	Redundant L-Band Distribution Amplifier, 50 Ohm
DEV 2122/75	1:8	Redundant L-Band Distribution Amplifier, 75 Ohm
DEV 2123/50	2 * 1:8	Redundant L-Band Distribution Amplifier, 50 Ohm
DEV 2123/75	2 * 1:8	Redundant L-Band Distribution Amplifier, 75 Ohm
DEV 2125/50	1:16	Redundant L-Band Distribution Amplifier, 50 Ohm
DEV 2125/75	1:16	Redundant L-Band Distribution Amplifier, 75 Ohm
Option 12		24 V DC Supply Voltage

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Rev. 02-SEP-2008