

AMP45090036-R

4 W High Linearity Amplifier for Event Radio, 450 ... 900 MHz

Features

- compact 19", 2 U rack device
- high OIP3
- optical power indication
- status signaling contact (floating)

Applications

- event radio
- microphone radio link
- conference technology



At a Glance

AMP45090036-R from Becker Nachrichtentechnik is a compact amplifier using 50-ohm technology, designed for professional event radio applications. Its robust electrical and mechanical design ensures reliable operation over an extended period. The amplifier's wide frequency range covers all common frequency bands for event radio systems, making it highly versatile. Internal filters provide strong interference suppression. The amplifier's status is indicated by an LED on the front panel. It is designed for mounting in 19-inch racks or for use as a tabletop unit. The integrated AC/DC power converter with a wide input voltage range and built-in cooling makes the device very user-friendly.

Special Features

The device is equipped with an internal bandpass filter and a fixed attenuator to guarantee full compatibility to all common microphone and event radio linking systems.

An internal self-test function monitors current consumption and module temperature. In the case of exceeding the limits, a floating contact is opened.

Rugged Design

The aluminium housing of the AMP45090036-R protects the device against mechanical impacts and gives a good shielding. The internal amplifier module has a milled aluminium housing. These shielding properties makes the AMP45090036-R amplifier suitable for professional applications with high demands in RF dynamic properties also in EMC requirements.

RF Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ω	
low frequency	f_{LOW}			450	MHz	
high frequency	f_{HIGH}	900			MHz	
gain	S_{21}	16	18	19	dB	$f \leq 870$ MHz
	S_{21}	10	14	19	dB	$f > 870$ MHz
input return loss	S_{11}		-30	-9	dB	
input return loss	S_{22}		-10	-5	dB	
reverse isolation	S_{12}		-60		dB	
1 dB compression	P_{1dB}	+34	+36		dBm	PEP
output power	P_{out}			+30	dBm	RMS
3 rd order intercept	OPIP3 ¹⁾	+47	+50		dBm	
2 nd order intercept	OPIP2 ²⁾	+60	+70		dBm	
noise figure	NF		19	22	dB	$f \leq 870$ MHz
input power	P_{in}			+20	dBm	no damage
DC voltage	U_{DCI}			20	V	RF input
	U_{DCO}			0	V	RF output
ESD discharge resistor	R_{ESD}		4.7		k Ω	RF ports

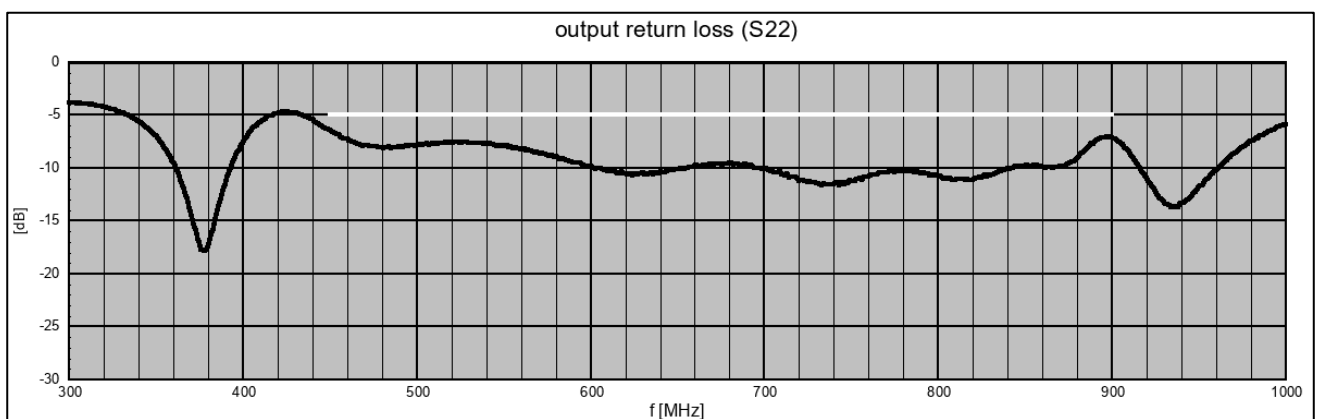
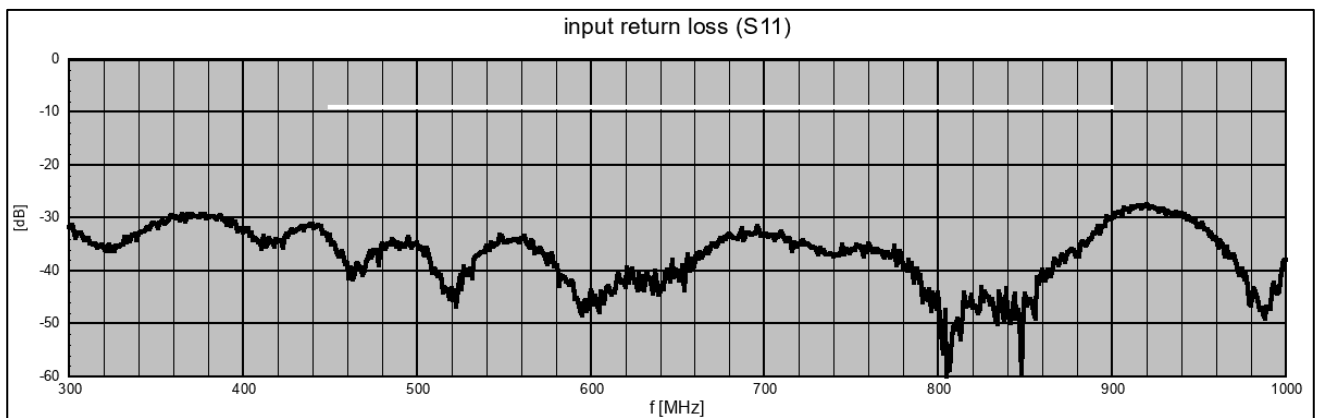
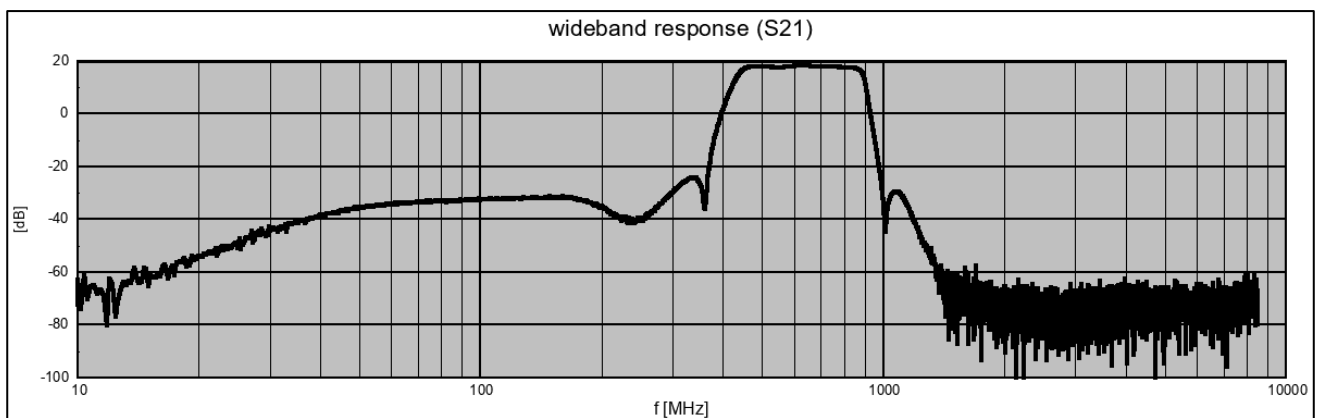
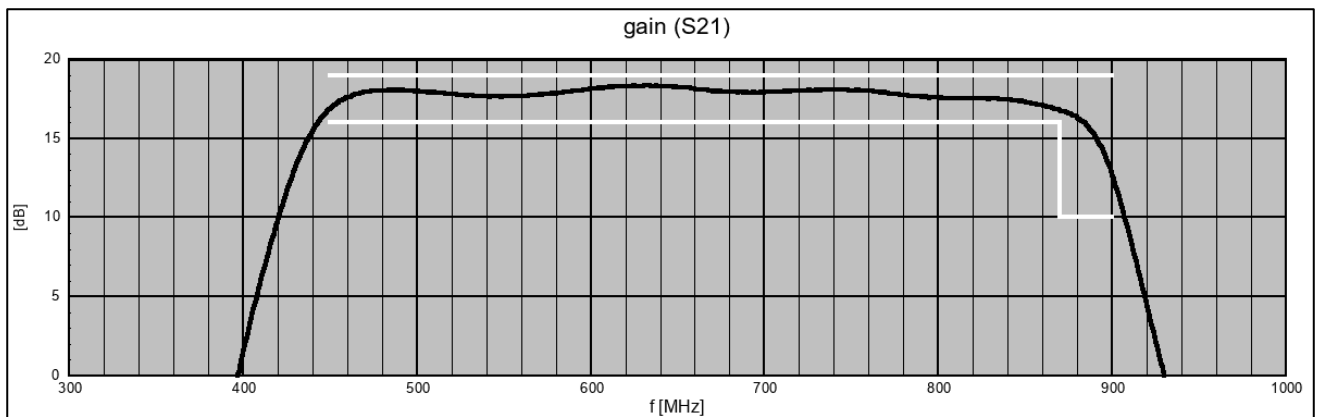
Note 1: Tested at $P_{out} 2 \times +25$ dBm; $\Delta f = 2$ MHz

Note 2: Tested at $P_{out} 2 \times +25$ dBm; $f = 450/452; 498/502; 598/502; 649/651$ MHz, sum frequency only

Common Specification

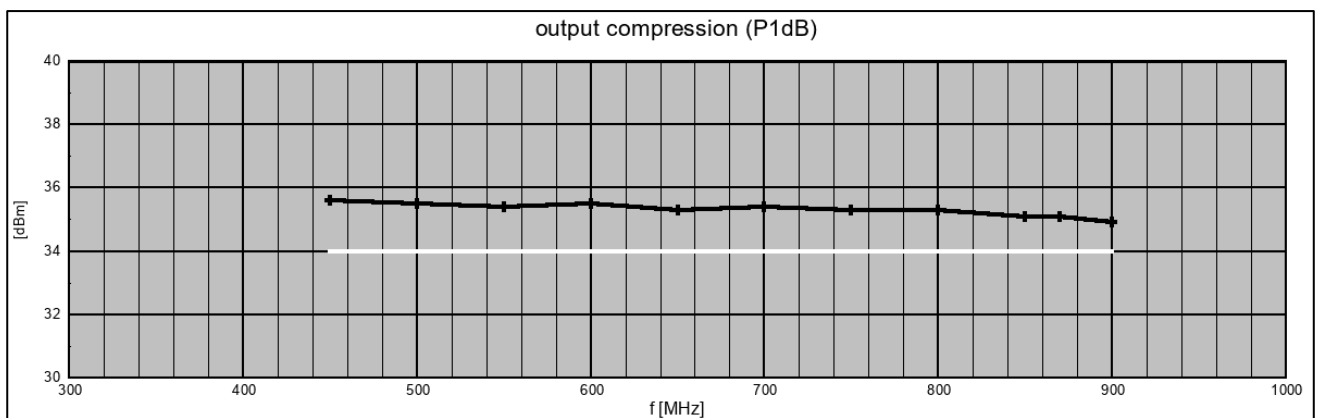
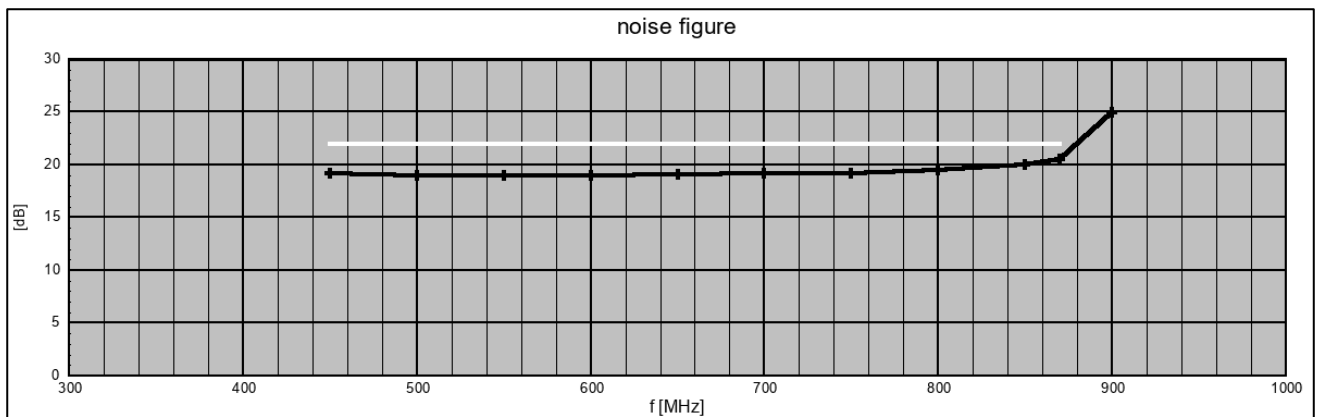
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
RF connector type	X_{RF}	N female				
impedance	Z_{IN}/Z_{OUT}		50		Ω	
power supply	U_{AC}	90		260	V	AC, 50 ... 400 Hz
power consumption	P_{AC}		20		W	
power socket	X_{AC}	IEC-60320 C14				country specific power cable
status signaling		floating relay contact				
relay current	I_{STAT}			1	A	
relay voltage	U_{STAT}			42	V	
status socket	X_{84}	D-sub, 9 pole, female				rear side
dimensions	W x H x D	approx. 483 x 89 x 265			mm	without connectors, 19", 2 U
weight	m		5.5		kg	
operating temp. range	T_o	+5		+40	$^{\circ}C$	
storage temp. range	T_s	-40		+70	$^{\circ}C$	
ordering information	AMP45090036-R			2200.5602.1		



S-Parameters*typical responses*

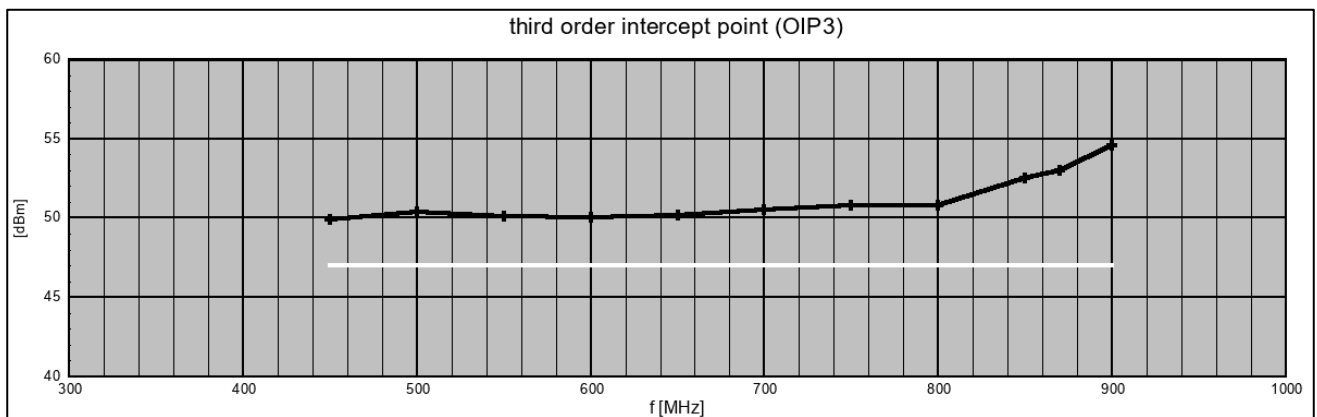
Dynamic Range

typical responses



Linearity

typical responses



Appearances

number of N-connectors on the back depends on product variant

Front View

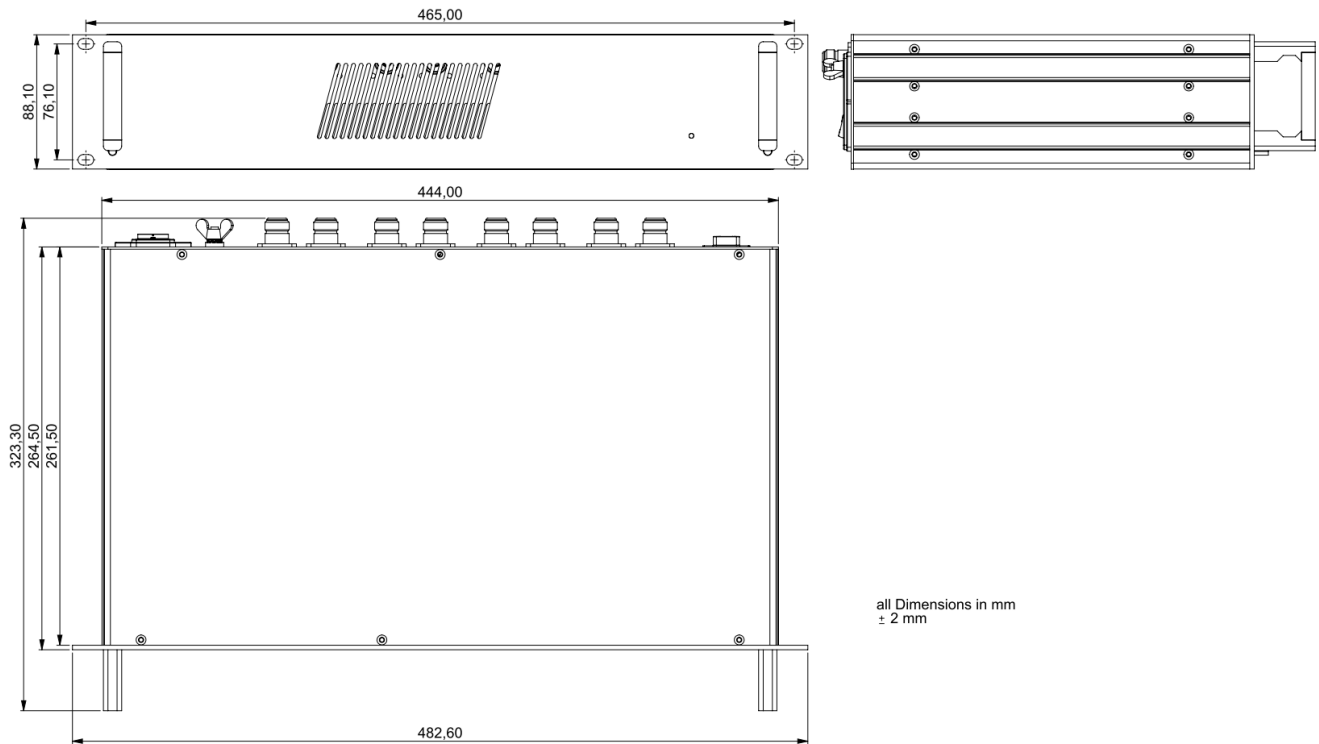


Rear View



Dimensions

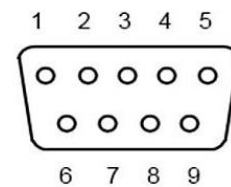
number of N-connectors on the back depends on product variant



PIN Assignment STATUS

floating contacts

PIN	Designation	Remark
3	REL_COM	relay common
4	REL_OK	OK when closed
5	REL_FAIL	failure when closed
1,2, 6-9	n.c.	Not connected



Related Products

Product	Description	P/N
AMP3060036L	4 W Ultra High Linearity Wideband Amplifier Module 30...600 MHz	1602.5001.2
AMP3060036	4 W Ultra High Linearity Wideband Amplifier Module 30...600 MHz	1602.5001.1
AMP45090036-R	4 W High Linearity Amplifier for Event Radio 450 ... 900 MHz	2200.5602.1
AMP20280035B	4.5 W Wideband Amplifier Module 20...2800 MHz	1209.5201.X
AMP300600040L	10 W Power Amplifier Module 300 ... 6000 MHz	1801.5001.1
AMP300600040-R	10 W Power Amplifier 300 ... 6000 MHz	2200.5512.1
AMP300600043-R	20 W Power Amplifier 300 ... 6000 MHz	2200.5522.1
AMP17001300038L	6 W Power Amplifier Module 1700...13000 MHz	2004.5011.1
AMP17001300038-R	6 W Power Amplifier 1700...13000 MHz	2200.5702.1
AMP20002000042L	10 W Power Amplifier Module 2000 MHz ... 20 GHz	2301.5101.1
AMP20002000042-R	10 W Power Amplifier 2000 MHz ... 20 GHz	2200.5752.1

