R&S®BBA130
BROADBAND AMPLIFIER

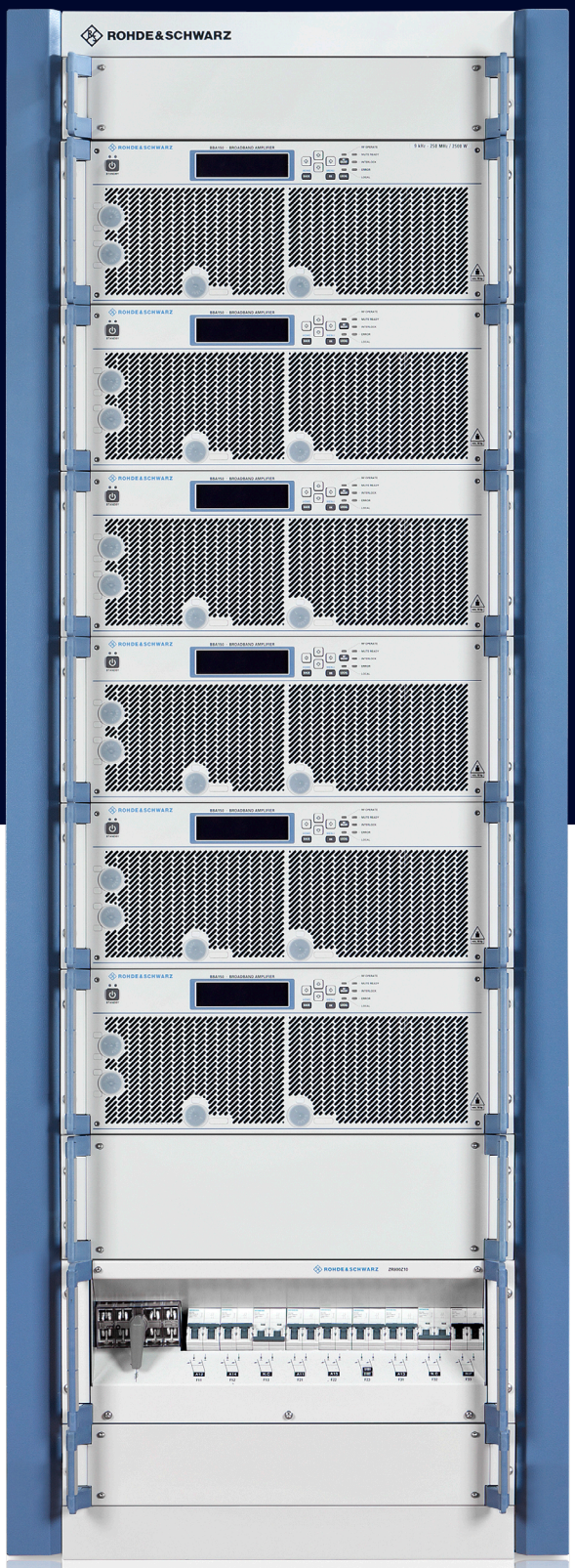
The amplifier you can tune

Product Brochure
Version 02.00

ROHDE&SCHWARZ
Make ideas real

AT A GLANCE

The R&S®BBA130 broadband amplifiers offer a variety of setting options so you can optimally tune the output signal to your specific application. During operation, you can adjust the operating class for transistors between class A and class AB as well as choose between maximum output power and higher mismatch tolerance at the output.



R&S®BBA130-BC4200

The primary area of application for R&S®BBA130 broadband amplifiers is design and product validation testing during RF component development, production and quality assurance.

The lightweight, modular R&S®BBA130 broadband amplifiers are optimized for the required frequency range. The amplifiers are available as a desktop and a rack model. The low-power amplifiers come as a 4 HU, 19" rackmount that can be used as a desktop model or installed in a rack. Instruments with higher power must be installed in racks. The amplifiers can be operated either using the display and buttons, via a remote control interface (automated operation) or via a web browser.

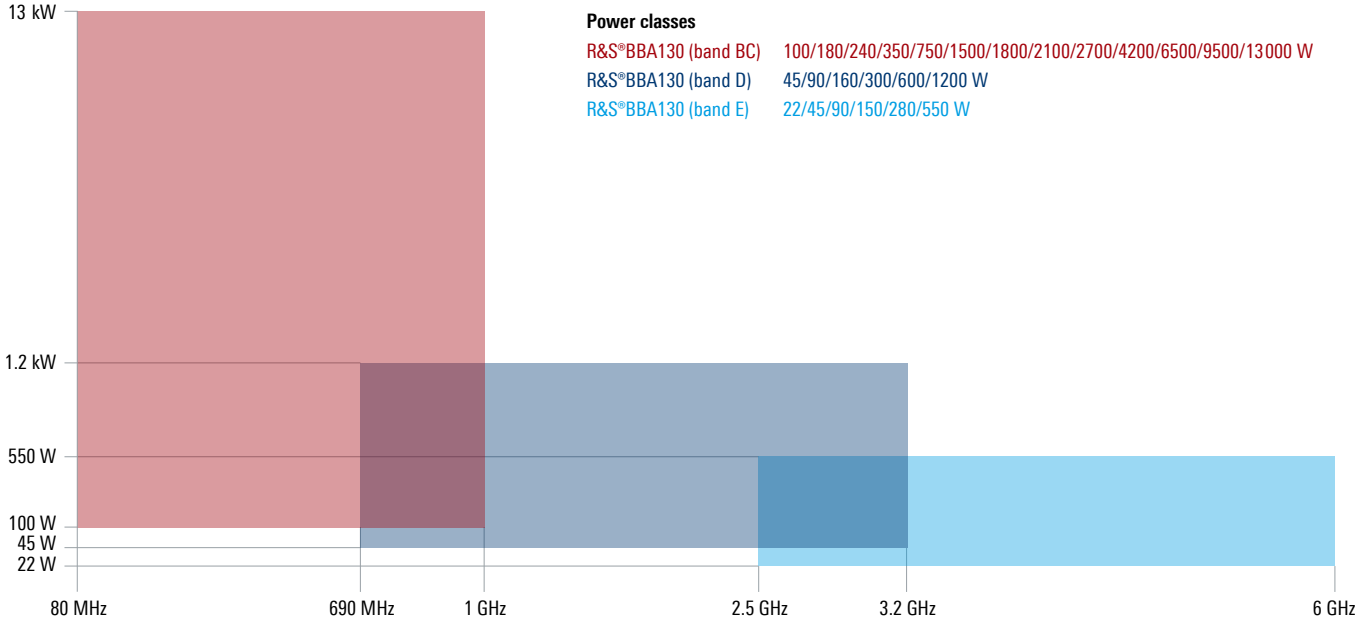
The modular design allows you to later upgrade the power and frequency range. The comprehensive service concept and global availability of spare parts promote the trust and confidence of customers around the world.

KEY FACTS

- Three frequency ranges:
  - 80 MHz to 1 GHz
  - 690 MHz to 3.2 GHz
  - 2.5 GHz to 6 GHz
- Output power from 22 W to 13 kW
- Operating class for transistors adjustable between class A and class AB
- Choice between maximum output power and higher mismatch tolerance: suitable for amplitude, frequency, phase and pulse modulation
- Three-year warranty and flexible service level agreements

BENEFITS

R&S®BBA130 model overview



Power classes

R&S®BBA130 (band BC)	100/180/240/350/750/1500/1800/2100/2700/4200/6500/9500/13000 W
R&S®BBA130 (band D)	45/90/160/300/600/1200 W
R&S®BBA130 (band E)	22/45/90/150/280/550 W

AN AMPLIFIER FOR EVERY APPLICATION

User-optimized tuning

The R&S®BBA130 broadband amplifier is ideal for a variety of applications, including development and production validation tests and power sensor calibration. Each application requires different amplifier characteristics. The R&S®BBA130 provides two powerful tools for optimizing its output signal. You can adjust the operating class between class A and class AB and also choose between maximum output power and higher mismatch tolerance. This allows you to optimize the output signal and respond flexibly to a wide range of requirements. You can change both of these parameters while the amplifier is in operation.

Adjustable bias point

You can set the transistor bias to class A, class AB or anywhere in between to change the characteristics of the output signal. A bias point in class A provides excellent linearity with good harmonic performance. A bias point in class AB permits accurate reproduction of pulsed signals as well as improved efficiency.

To generate a clean CW signal for a device test, operate the R&S®BBA130 in class A. To accurately amplify pulsed signals, select a bias point in class AB.

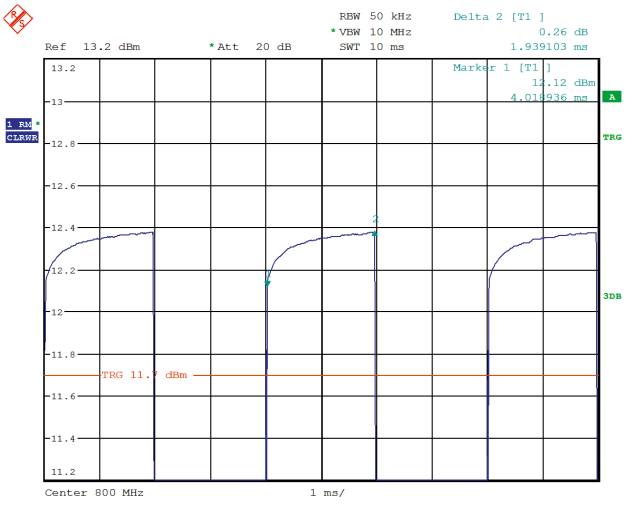
Maximum output power versus higher mismatch tolerance

Amplifiers are used for a number of different applications. The R&S®BBA130 allows you to choose between high maximum output power when there is a good impedance match (maximum VSWR of about 2:1) and higher mismatch tolerance with a subsequent reduction in power (starting at a VSWR of about 6:1).

Impedance matching at the amplifier output is typically useful during design and product validation tests. Good matching is ensured with DUTs developed for a 50 Ω system or when a circulator is inserted between the amplifier and the DUT. The amplifier power margin is then fully used. Mismatch only occurs if the DUT or circulator is defective. The amplifier can therefore reduce its power because it only has to protect itself.

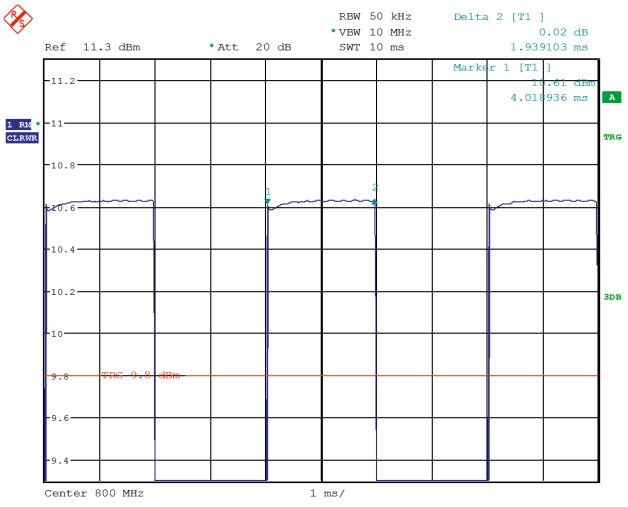
For EMC applications involving poorly matched antennas or for DUT measurements with an input impedance that deviates significantly from 50 Ω, the amplifier must continue to produce the desired output power for as long as possible and therefore cannot reduce its power to protect itself (unless there is a very large mismatch).

Amplification of a 2 ms pulse on the R&S®BBA130



Class A

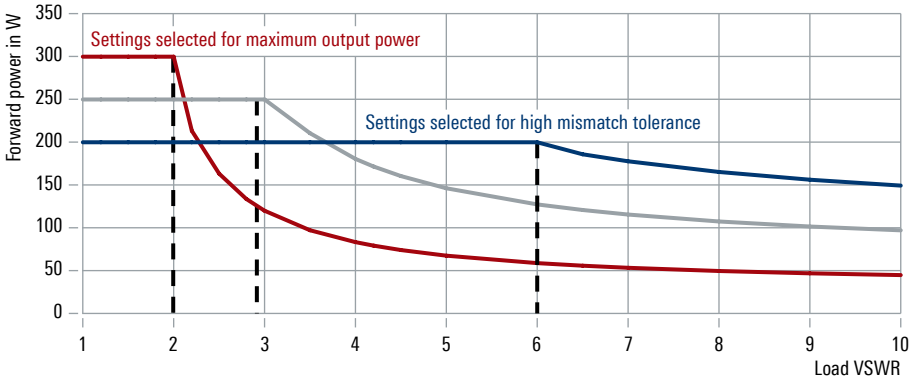
The power increases by 0.2 dB to 0.3 dB during the pulse because the power transistor's junction temperature drops when RF is applied, thereby increasing the amplification.



Class AB

The power level changes by less than 0.05 dB during the pulse because the power transistor's junction temperature remains fairly constant when RF is applied.

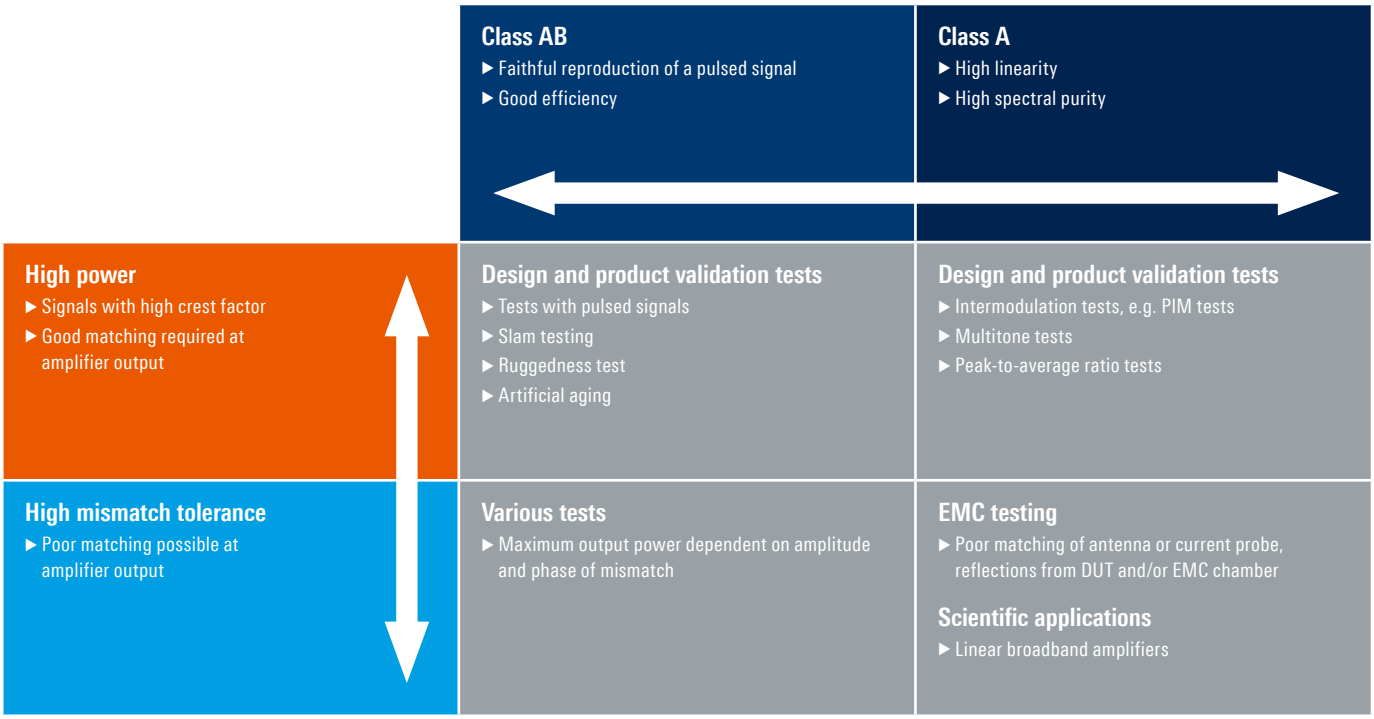
Amplifier characteristics for various control parameter settings and typical applications



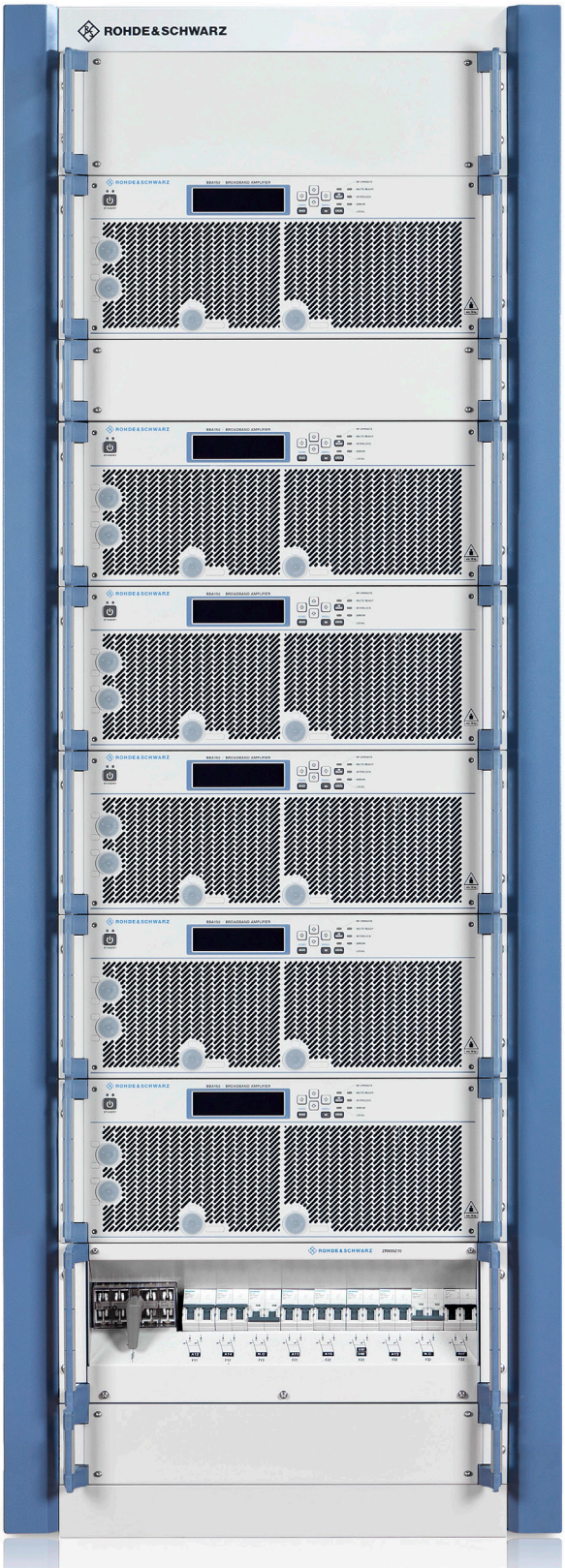
Example applications and the appropriate amplifier parameter settings

Application	R&S®BBA130 settings
Pulse and slam testing These tests require high output power. The R&S®BBA130 protects itself even in the case of catastrophic DUT failures with sudden high VSWR levels.	class AB and high power
Signals with high spectral integrity Here, linearity, peak power capability and efficiency need to be optimized together. Typical signals include multitone signals and complex modulation schemes with high peak-to-average ratios.	class A/AB (find optimal slide control setting) and high power
EMC susceptibility testing The amplifier must deliver high power to broadband antennas or coupling networks with high input VSWR levels while simultaneously ensuring low harmonic content.	class A and maximum mismatch tolerance
Quiet and ecological operation When only a fraction of the output power is required, the power efficiency of the R&S®BBA130 can be maximized by reducing the quiescent currents. This saves on energy costs, reduces the acoustic noise and increases amplifier MTBF.	class AB

Amplifier characteristics for various control parameter settings and typical applications



ALL IN ONE



Compact, modular design

Though compact, the R&S®BBA130 broadband amplifier offers functions that normally involve significantly higher technical investment. Thanks to its lightweight design with a special aluminum-copper heat sink, the instrument weighs only half as much as conventional amplifiers in the same power class. An RF output power of up to 750 W below 1 GHz and up to 300 W above 1 GHz in just four height units results in excellent power density.

The design is optimized for maximum flexibility in a small footprint. The compact, modular design of the amplifier stages and other components enables highly integrated system setups based on 19" rackmounts. The frequency and power of these rackmounts can be flexibly configured.

Compact and flexible: twin-band and dual-band amplifiers in four height units

Two frequency bands can be integrated into a four HU desktop model, either as a twin-band or a dual-band amplifier.

Twin-band amplifiers consist of two amplifiers, both with the same frequency band, that operate in parallel. These types of amplifiers are ideal for two-tone measurements and for applications that require the same test setup for multiple tests in a small space. Multiple twin-band units fit in a single rack.

Dual-band amplifiers contain two amplifiers with different frequency bands, and only one of these amplifiers is active at any given time. The optional switches for this option are integrated into the housing. The dual-band amplifiers cover the following frequency ranges: 80 MHz to 3.2 GHz and 690 MHz to 6 GHz.

The R&S®BBA130-BC1500D1200 amplifier system in a 19" rack with 35 HU consists of:

- Power amplifier, frequency band BC, 1.5 kW
- Power amplifier, frequency band D, 1.2 kW
- Input switch
- Output switch
- Sample port switch

Extensive switching options for inputs, outputs and sample ports

Single-band and dual-band amplifiers can be combined to build a single system with multiple frequency bands. Numerous switching options allow you to mix and match the individual amplifiers to obtain the best configuration for your specific application.

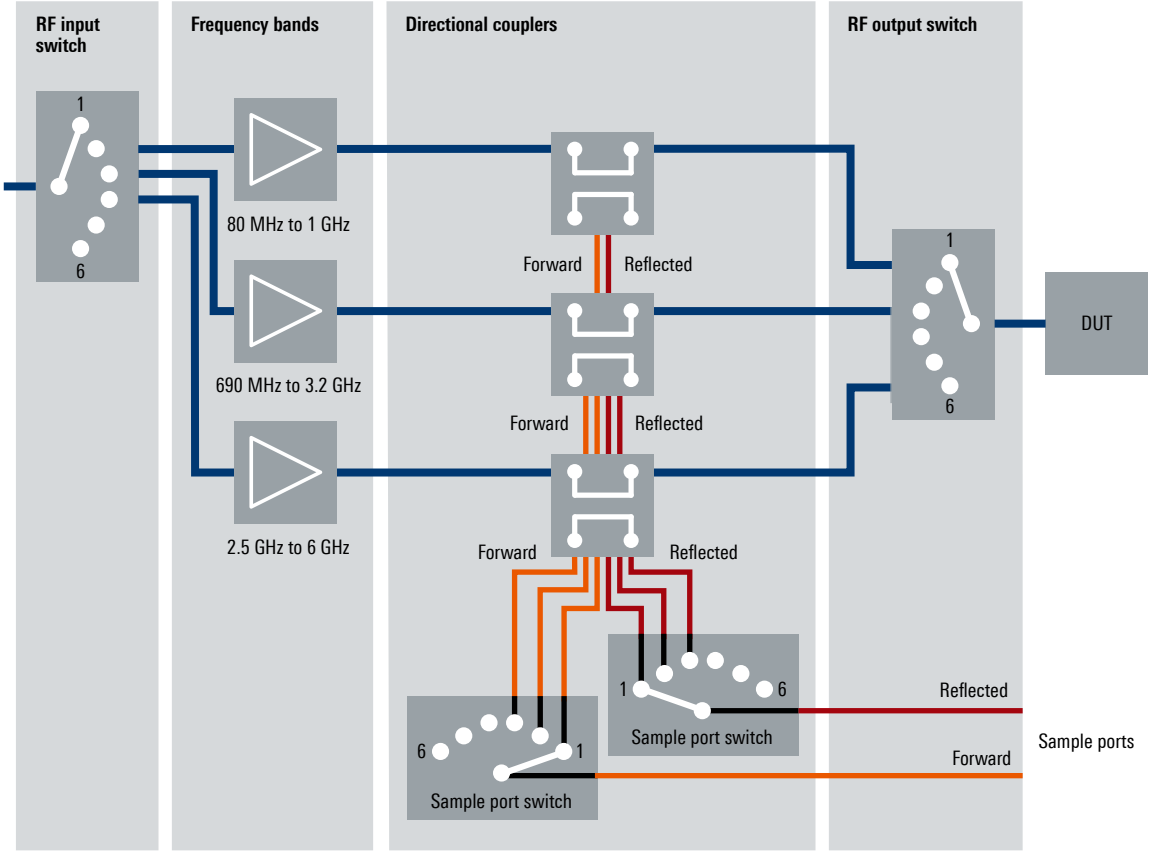
Every scenario is covered by flexibly combining the following components: the input switch sets the RF input signal to one of the frequency bands so that a central input can be used without having to disconnect and reconnect the signal source.

Optional sample ports are available to measure the forward and reflected power at the amplifier's output. Sample port switches make the signals from the various frequency bands available at two central outputs.

RF output switches allow flexible connection of the frequency bands to different loads, e.g. clamps or antennas. Different RF output switches can be configured in an application-specific manner.

All switches in the system are controlled via the built-in system controller. The desired RF path can be selected with a single remote control command or the press of a button. An RF path is the signal path from the input to the output of the amplifier system.

Combined amplifier system with switching options



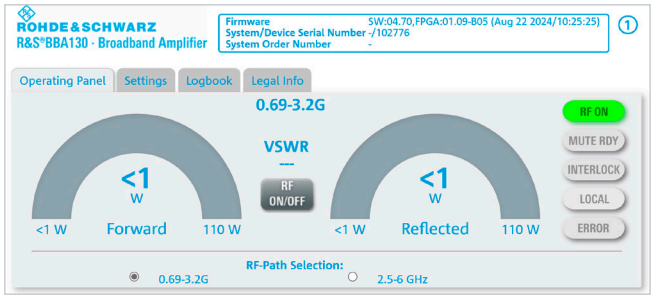
FLEXIBLE CONTROL AND OPERATION

Manual operation

The R&S®BBA130 can be operated manually via the display and the buttons on its front panel. This is ideal for use in labs, for example, to easily change settings. A clever menu structure provides straightforward access to all essential information and settings. During operation, the RF output power, reflected power and VSWR are displayed.

Local and remote operation via web browser and PC

The web GUI integrated into the R&S®BBA130 can be accessed via LAN and web browser. The broadband amplifier can be conveniently operated via its graphical user interface using a laptop near the amplifier or a control workstation PC. A common web browser (e.g. Google Chrome, Mozilla Firefox, Microsoft Edge) is all that is needed.



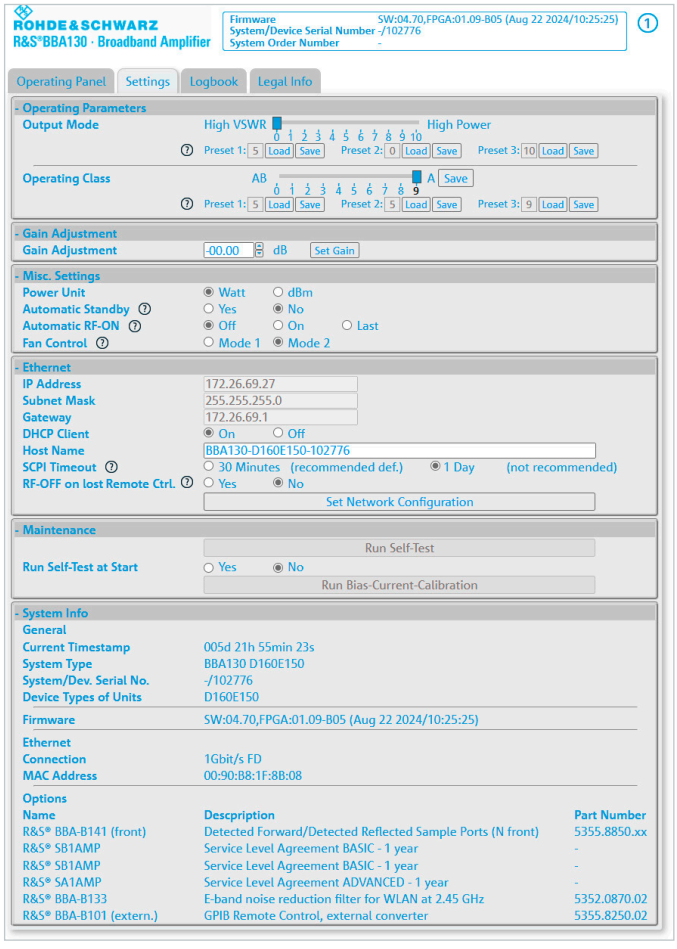
Operating panel in the R&S®BBA130 web GUI

Remote control via Ethernet

The standard Ethernet interface enables the automation of test sequences using remote control SCPI commands. To make integration especially easy, the IP network address can be set manually or assigned automatically via DHCP.

Safety thanks to two different interlocks

Two different interlocks are available. You can choose the one that best suits your application. The automatic interlock restarts the amplifier without user interaction as soon as the interlock circuit is closed again. The interactive interlock requires user confirmation before RF power can be output again.



Settings panel in the R&S®BBA130 web GUI

DEVELOPED WITH EXPERIENCE AND COMPETENCE

Outstanding expertise in amplifier development founded on decades of experience

Rohde&Schwarz has accumulated many years of experience in developing power amplifiers, starting in 1949 with radio and TV transmitters. Their reliability is well-known and a major reason for the company's global market leadership in digital terrestrial transmitter technology. The R&S®BBA130 fulfills the Rohde&Schwarz promise to offer stable, reliable amplifiers that maximize user effectiveness. Low downtime is an important economic factor.

Sophisticated RF design

State-of-the-art design and simulation software used during development, the use of power semiconductors from internationally leading manufacturers and Rohde&Schwarz engineers' decades of experience in developing amplifiers produce one of the most advanced amplifiers currently available. Semiconductor dies directly bonded onto printed boards prevent parasitic effects caused by housed transistors and thus make it possible to achieve high output power in the frequency range from 2.5 GHz to 6 GHz.

Series production in one of Europe's most advanced plants

The R&S®BBA130 broadband amplifiers are series-produced in one of Europe's most advanced plants. The multiple award-winning Rohde&Schwarz plant in Teisnach, Germany offers excellent manufacturing depth.

Awards received by the Rohde&Schwarz Teisnach plant include

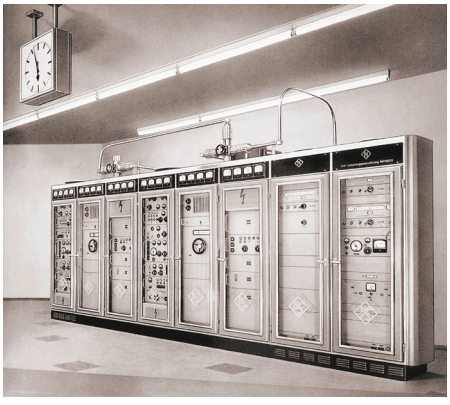
- 2010: Factory of the Year, Germany
- 2013: Best German Factory Finalist, European Industrial Excellence Award
- 2014: Bavarian Quality Award
- 2014: Factory of the Year, Germany
- 2015: TOP Innovation Award
- 2016: Global Excellence in Operations (GEO) overall award winner, Germany
- 2017: Best Business Award
- 2020: Manufacturing Excellence Award
- 2023: Factory of the Year, Germany, Excellence in Small Series Production category

From precision mechanical engineering and machining to printed board production and final assembly, all manufacturing steps are brought together under one roof. Automated final test setups ensure that all products that the Rohde&Schwarz plant delivers to its customers comply with specifications.

Knowledge transfer

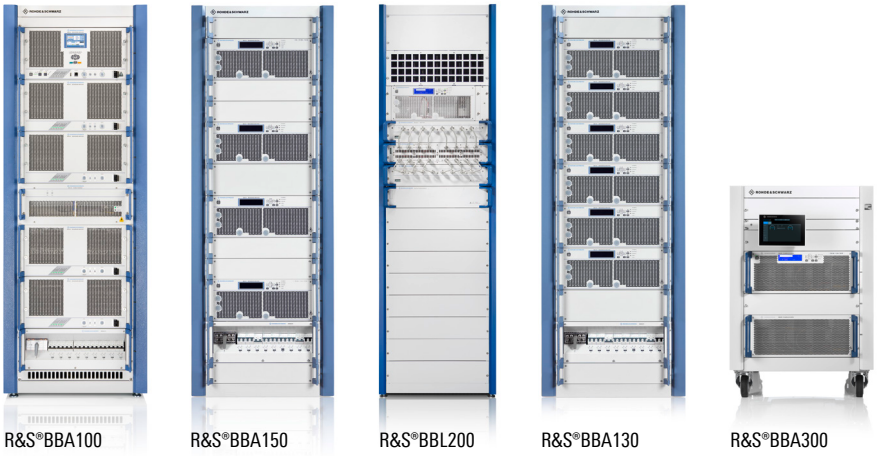
All of the Rohde&Schwarz radio and TV transmitter manufacturing expertise has gone into the development of the broadband amplifiers.

Radio transmitters



VHF radio transmitter with 2 × 5 kW

Broadband amplifiers

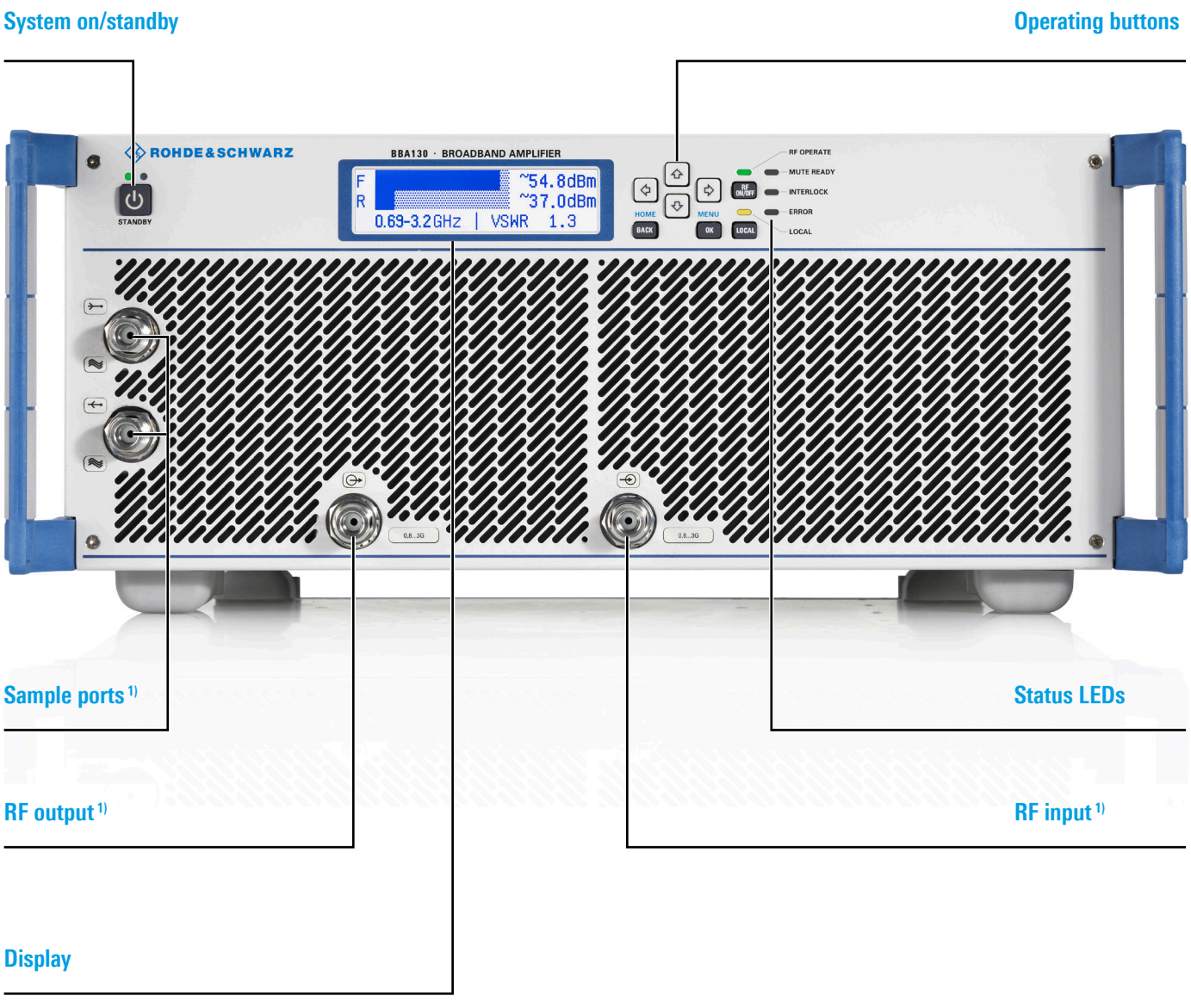


R&S®BBA100 | R&S®BBA150 | R&S®BBL200 | R&S®BBA130 | R&S®BBA300

1963 | 2010 | 2013 | 2014 | 2016 | 2022

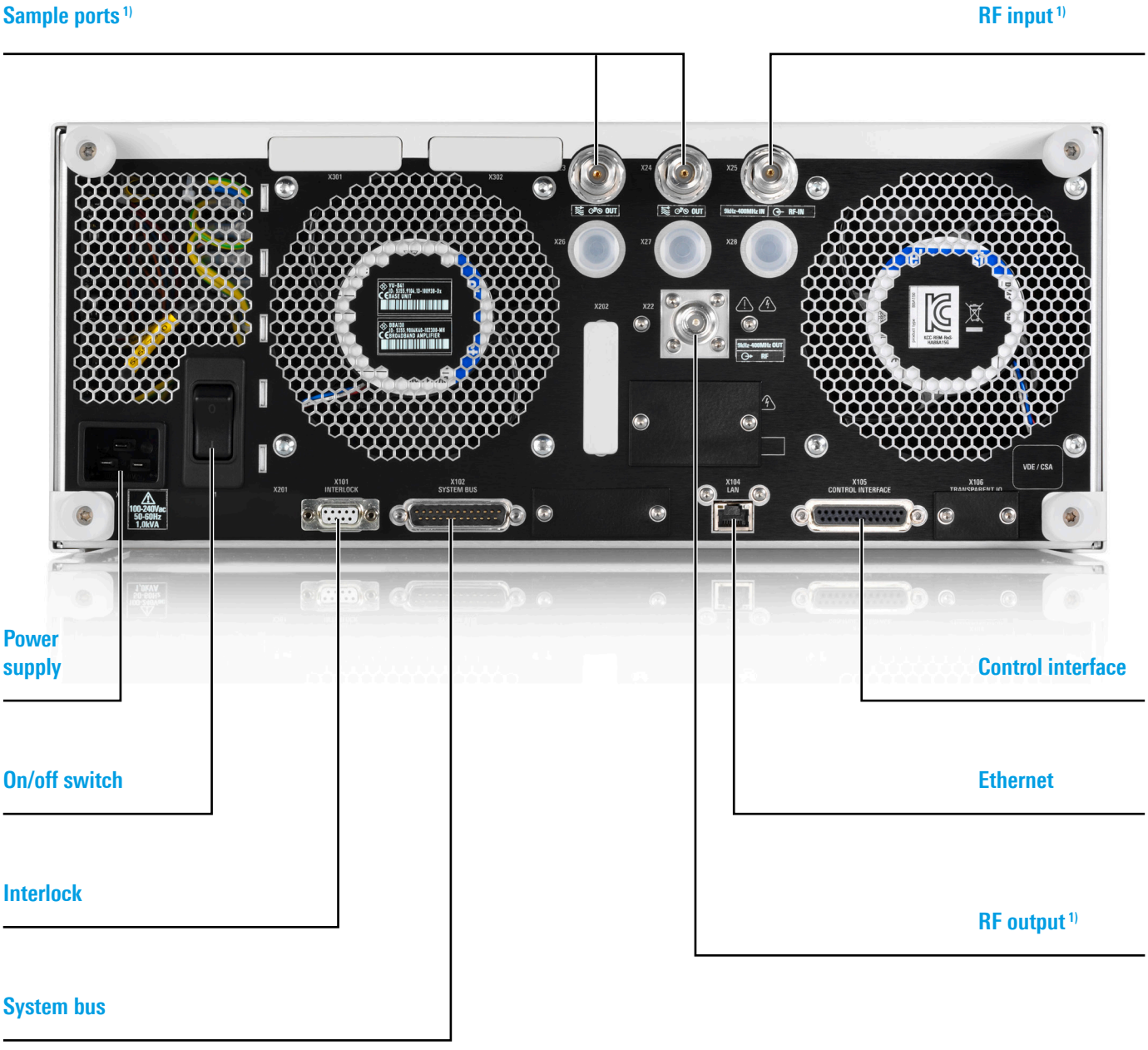
CLEARLY STRUCTURED FUNCTIONAL ELEMENTS

FRONT VIEW OF DESKTOP MODEL



1) Optional or configuration-dependent.

REAR VIEW OF DESKTOP MODEL



1) Optional or configuration-dependent.

SPECIFICATIONS IN BRIEF

Specifications in brief		
RF specifications		
Frequency range	continuous	▶ 80 MHz to 1 GHz ▶ 690 MHz to 3.2 GHz ▶ 2.5 GHz to 6 GHz
Nominal output power	80 MHz to 1 GHz	100 W to 13 kW
	690 MHz to 3.2 GHz	45 W to 1.2 kW
	2.5 GHz to 6 GHz	22 W to 550 W
Nominal output load		50 Ω
Gain flatness		±4.5 dB (or better; see specifications document, PD 5214.8331.22)
Gain adjustment range		> 15 dB
Bias	adjustable	class A through class AB, continuous
Mismatch tolerance	adjustable	VSWR 2:1 to 6:1, continuous
Modulation capability		AM, FM, φM, PM
Nominal input impedance		50 Ω
Maximum RF input level		+15 dBm
Input level for nominal output power		–3.4 dBm (nom.)
Nominal output impedance		50 Ω
Output mismatch protection, VSWR		100 %, without damage
RF and sample connectors		
RF input port		N female
RF output port		N female, 7/16 DIN female, 1 5/8" EIA female or 3 1/8" EIA female
RF sample ports	forward output power, optional	N female
	reflected output power, optional	N female
Detected sample ports	forward output power, optional	N female
	reflected output power, optional	N female
Graphical user interface		
Local graphical display		200 × 48 pixel, monochrome
Web GUI	via Ethernet	RJ-45, 10/100 Mbit/s, autonegotiation, half/full duplex
Remote control		
Ethernet		RJ-45, 10/100 Mbit/s, autonegotiation, half/full duplex
Environmental conditions		
Temperature range	operating temperature	0 °C to +40 °C
	storage temperature	–20 °C to +70 °C
Damp heat		max. +40 °C at 95 % relative humidity, without condensation
Altitude	operating altitude	up to 2000 m
	storage altitude	up to 4600 m
Protection		
Load VSWR		infinite
Interlocks		1 automatic interlock, 1 interactive interlock
Input protection against bias voltage	optional	DC block level ≤ 50 V DC
Transient voltage compatibility		category II, in line with IEC 60364-4-443
Short-circuit breaking capacity		all-pole 20 A circuit breaker
Thermal overload		shutdown in case of thermal overload

Specifications in brief		
General data		
Operating voltage range	R&S®BBA130-BC100, R&S®BBA130-BC180, R&S®BBA130-D45 to -D160, R&S®BBA130-E22 to -E150	100 V to 240 V AC ± 10%, single phase, 47 Hz to 63 Hz
	R&S®BBA130-BC240, R&S®BBA130-BC350	110 V to 240 V AC ± 10%, single phase, 47 Hz to 63 Hz
	R&S®BBA130-BC750, R&S®BBA130-D300, R&S®BBA130-D600, R&S®BBA130-E280	200 V to 240 V AC ± 10%, single phase, 47 Hz to 63 Hz
	R&S®BBA130-BC1500 to -BC13000, R&S®BBA130-D1200, R&S®BBA130-E550	380 V to 415 V AC ± 10%, three-phase, with N, 47 Hz to 63 Hz
Air cooling		forced air, built-in fans, air entry at front, air exit at rear
Dimensions (W × H × D)		
Desktop model	including fans, handles and feet	430 mm × 196 mm × 580 mm (16.9 in × 7.7 in × 22.8 in)
	for rackmounting	19" 1/1, 4 HU
Rack models	R&S®BBA130-BC1500/-D600	19" × 12 HU × 800 mm (31.5 in)
	R&S®BBA130-D1200	19" × 20 HU × 800 mm (31.5 in)
	R&S®BBA130-BC1800/-BC2100/-BC2700	19" × 20 HU × 1000 mm (39.4 in)
	R&S®BBA130-BC4200	19" × 35 HU × 1000 mm (39.4 in)

All specified parameters are valid for an ambient temperature of +25°C, input impedance of 50 Ω and output impedance of 50 Ω.

ORDERING INFORMATION

Designation	Type	Configuration No.
R&S®BBA130 single-band power amplifiers		
Frequency band: 80 MHz to 1 GHz		
100 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC100
180 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC180
240 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC240
350 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC350
750 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC750
1.5 kW, air-cooled, 12 HU, rack model	R&S®BBA130	BBA130-BC1500
1.8 kW, air-cooled, 20 HU, rack model	R&S®BBA130	BBA130-BC1800
2.1 kW, air-cooled, 20 HU, rack model	R&S®BBA130	BBA130-BC2100
2.7 kW, air-cooled, 20 HU, rack model	R&S®BBA130	BBA130-BC2700
4.2 kW, air-cooled, 35 HU, rack model	R&S®BBA130	BBA130-BC4200
6.5 kW, air-cooled, 2.5 × 42 HU, rack model	R&S®BBA130	BBA130-BC6500
9.5 kW, air-cooled, 2.5 × 42 HU, rack model	R&S®BBA130	BBA130-BC9500
13 kW, air-cooled, 4.5 × 35 HU, rack model	R&S®BBA130	BBA130-BC13000
Frequency band: 690 MHz to 3.2 GHz		
45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D45
90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D90
160 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D160
300 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D300
600 W, air-cooled, 12 HU, rack model	R&S®BBA130	BBA130-D600
1.2 kW, air-cooled, 20 HU, rack model	R&S®BBA130	BBA130-D1200

Designation	Type	Configuration No.
Frequency band: 2.5 GHz to 6 GHz		
22 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E22
45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E45
90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E90
150 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E150
280 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E280
550 W, air-cooled, 12 HU, rack model	R&S®BBA130	BBA130-E550
Accessories supplied: power cord, user manual on CD		
R&S®BBA130 twin-band power amplifiers [1)]		
Frequency bands: 2 × 80 MHz to 1 GHz		
100 W/100 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC100BC100
180 W/180 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC180BC180
240 W/240 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC240BC240
350 W/350 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC350BC350
Frequency bands: 2 × 690 MHz to 3.2 GHz		
45 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D45D45
90 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D90D90
160 W/160 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-D160D160
Frequency bands: 2 × 2.5 GHz to 6 GHz		
22 W/22 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E22E22
45 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E45E45
90 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E90E90
150 W/150 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-E150E150
R&S®BBA130 dual-band power amplifiers [1)]		
Frequency bands: 80 MHz to 1 GHz and 690 MHz to 3.2 GHz		
180 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC180D45
180 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC180D90
180 W/160 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC180D160
240 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC240D45
240 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC240D90
240 W/160 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC240D160
350 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC350D45
350 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC350D90
350 W/160 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA130-BC350D160
Frequency bands: 690 MHz to 3.2 GHz and 2.5 GHz to 6 GHz		
45 W/22 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D45E22
45 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D45E45
90 W/22 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D90E22
90 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D90E45
90 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D90E90
160 W/45 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D160E45
160 W/90 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D160E90
160 W/150 W, air-cooled, 4 HU, desktop model	R&S®BBA130	BBA150-D160E150
Accessories supplied: power cord, user manual on CD		

Designation	Type	Configuration No.
Options		
GPIB remote control, external converter	R&S®BBA-B101	5355.8250.02
GPIB remote control, for racks up to and including 30 HU	R&S®BBA-B101	5355.8250.03
GPIB remote control, for racks higher than 30 HU	R&S®BBA-B101	5355.8250.04
RF input switch (1:2 or 2:1, N)	R&S®BBA-B110	5355.8866.02 [2]
RF input switch (1:6, N)	R&S®BBA-B116	5355.8950.02
RF output switch (2:1 or 1:2, N)	R&S®BBA-B120	5355.8795.02 [2]
RF output switch (2:2, 7/16")	R&S®BBA-B121	5355.8895.02 [2]
RF output switch (2:2, 7/8" EIA)	R&S®BBA-B122	5355.8989.02
RF output switch (2:2, 1 5/8" EIA)	R&S®BBA-B123	5355.8943.02
RF output switch (6:1, N)	R&S®BBA-B126	5355.8995.02
Fast amplifier mute	R&S®BBA-B130	5355.8114.02
DC block input protection (N)	R&S®BBA-B132	5353.9236.03
RF forward/RF reflected sample ports (N front)	R&S®BBA-B140	5355.8837.02
RF forward/RF reflected sample ports (N rear)	R&S®BBA-B140	5355.8837.03
Detected forward/detected reflected sample ports (N front)	R&S®BBA-B141	5355.8850.02
Detected forward/detected reflected sample ports (N rear)	R&S®BBA-B141	5355.8850.03
Sample port switch (dual-port, N front)	R&S®BBA-B142	5355.8872.02
Sample port switch (dual-port, N rear)	R&S®BBA-B142	5355.8872.03
Transparent I/O	R&S®BBA-B160	5355.8889.02

[1] Amplifier systems with two or more frequency bands are available in many combinations. The table shows only a selection of the multiband power amplifiers.
[2] The last two digits of the order number depend on the system configuration.

Service options	
Frequency range/output power upgrade	on request
Calibration	on request
Service level agreements (SLA)	
BASIC Coverage of repair costs (material and performance), access to the Rohde&Schwarz Support Center and basic support	Contact your local Rohde&Schwarz sales office
CUSTOMIZED The BASIC SLA plus additional modules to achieve the required coverage, e.g. on-site service, technical support or regular product maintenance	
PREMIUM On-site service within two working days (for rack systems) or prioritized repair within nine working days at the plant/service center (for benchtop models), provision of spare parts and components, software/firmware updates, fast technical support during business hours, regular product maintenance, annual review meeting and access to the Rohde&Schwarz Support Center	

For more information on the individual services and their availability, see "Service Levels Description for Rohde&Schwarz Broadband Amplifiers" (PD 3607.6467.92).

Your local Rohde&Schwarz expert will help find the best solution for you.
Contact your local Rohde&Schwarz sales office for more information: www.sales.rohde-schwarz.com

Service at Rohde&Schwarz
You're in great hands

- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

Rohde&Schwarz

The Rohde&Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test&measurement, technology systems and networks&cybersecurity. Founded 90 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

www.rohde-schwarz.com

Sustainable product design

- Environmental compatibility and eco-footprint
- Energy efficiency and low emissions
- Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

Rohde&Schwarz training
www.training.rohde-schwarz.com

Rohde&Schwarz customer support
www.rohde-schwarz.com/support

PD 5214.8331.12 | Version 02.00 | December 2024 (ch)
R&S®BBA130 Broadband Amplifier
Data without tolerance limits is not binding | Subject to change