R&S®GB4000V
Audio Unit
Remote audio operation

ROHDE&SCHWARZ

Secure Communications

Product Brochure | 03.01

R&S®GB4000V Audio Unit

At a glance

The R&S®GB4000V is a remote audio unit, designed for use in both civil and military applications. It is ideally suited to small ATC systems where a dedicated voice switch is not present.

The R&S®GB4000V provides audio, PTT and squelch to and from radios in a remote location. The unit is compact and fits into any console. The R&S®GB4000V can be connected to the radios using 4-wire E&M (analog line) or voice over IP (VoIP). When connected using an analog line, either 4-wire E&M lines (PTT, SQ) or in-band tones for E&M can be used. The available tones are 2040 Hz (PTT) and 2440 Hz (SQ). In-band signaling is handled by the R&S®GB4000V, thus eliminating the need for other external devices.

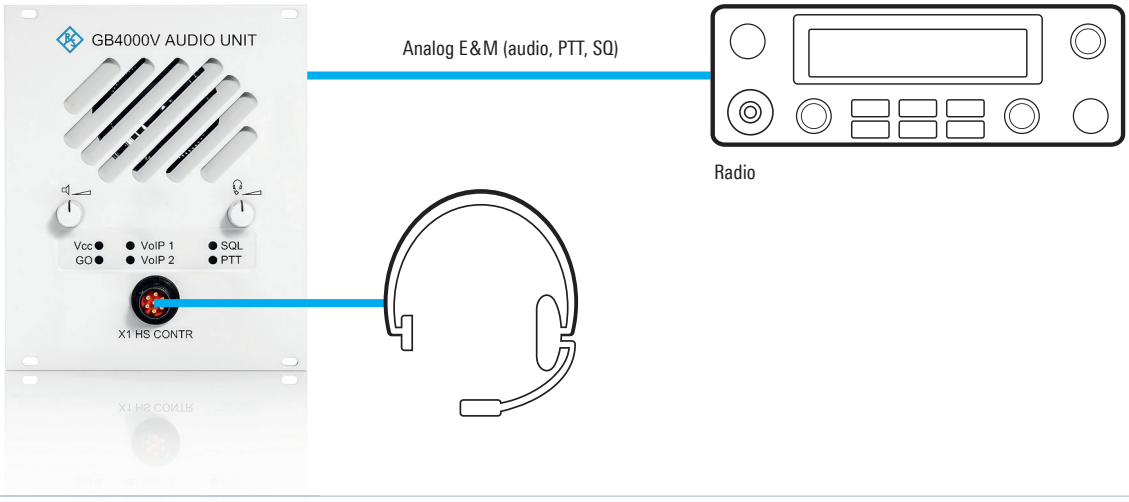
When used with the R&S®GB4000T touchscreen control unit, the R&S®GB4000V can be connected to any of up to nine channels using R&S®Series4200 radios via VoIP.

Key facts

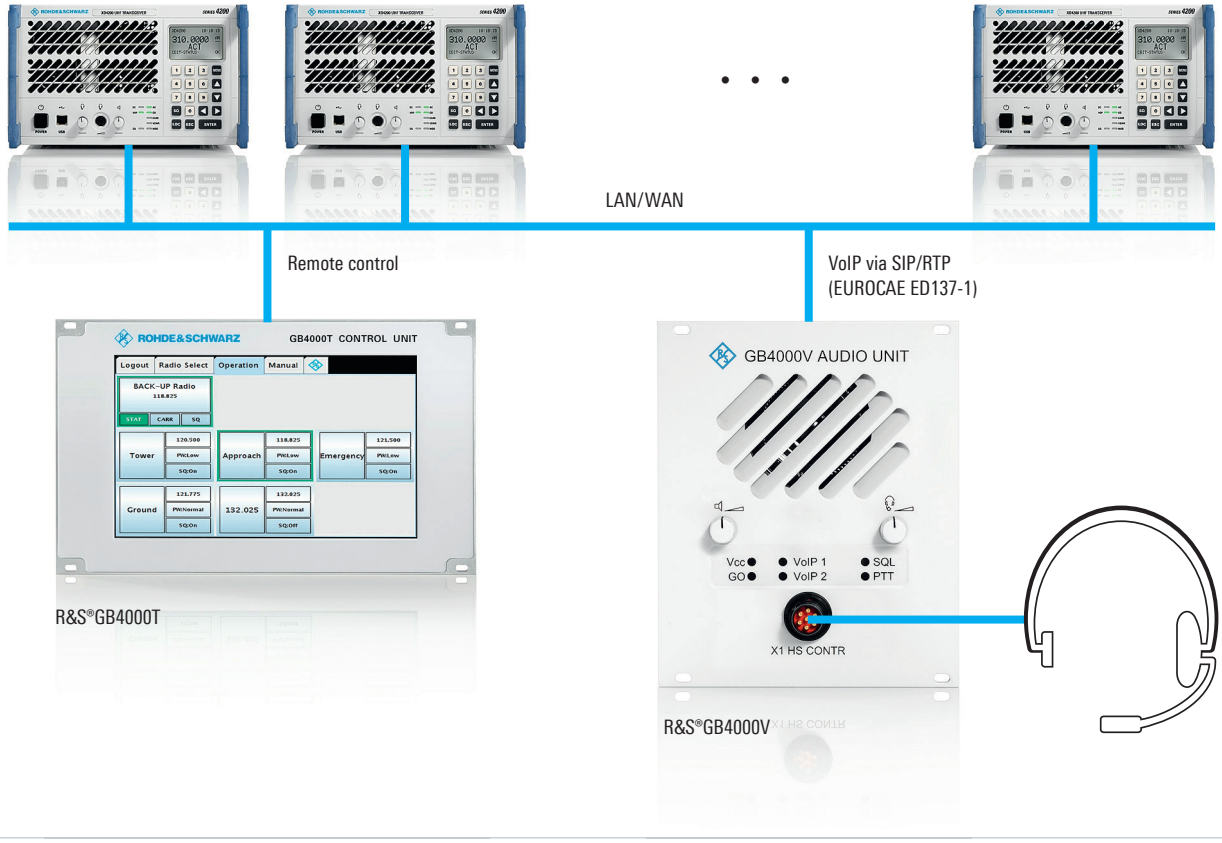
- Compact design to minimize the space required in operator consoles
- Analog connection for use with all Rohde&Schwarz radios
- In-band PTT and SQ signaling for use with R&S®Series4200 radios
- EUROCAE ED137-1 compliant VoIP connection to R&S®Series4200, R&S®Series4400 and R&S®Series4100 radios
- Built-in loudspeaker with volume control
- Configurable mininum volume setting to ensure safety
- LEDs indicate the status of the radios (PTT, squelch, VoIP)
- Available with an additional headset connector for instructor operation
- External loudspeaker connection for monitoring
- Can be mounted in a 19" rack or in operator consoles
- Two independent DC connections for redundant power supply
- Easily configurable via a web browser
- Splash-proof front panel

Applications

R&S®GB4000V with radio connected via analog interface



R&S®GB4000V and R&S®GB4000T with R&S®Series4200 radios connected via VoIP



Specifications

Specifications		
Analog audio interface to radio		
Frequency response	at 600 Ω	300 Hz to 3.4 kHz (+1 dB/–3 dB (1 kHz))
Input impedance	software-configurable setting	600 Ω/10 kΩ
Output impedance	software-configurable setting	600 Ω/60 Ω
Input level	software-configurable setting	–30 dBm to +10 dBm at 600 Ω
Output level		0 dBm ± 1.5 dB at 600 Ω
Signal quality	at 600 Ω without CCITT-Filter	THD < 0.5 %, S/N > 60 dB at 0 dBm input
Digital audio interface to radio		
LAN interface		100BaseT
Session control		SIP in line with EUROCAE ED137-1
Audio stream		RTP in line with EUROCAE ED137-1
Audio codec		in line with ITU-T G.711, A-Law
Microphone/headset interface		
Microphone input level for dynamic microphone	input impedance 200 Ω, with AGC	1 mV (± 20 dB)
Microphone input level for electret microphone	input impedance 330 Ω, with AGC	100 mV (± 20 dB)
Headset output level	output impedance 200 Ω	max. 2 V
Loudspeaker		
Output power, built-in loudspeaker		≤ 2 W at 8 Ω, adjustable
Output power, external loudspeaker		≤ 5 W at 8 Ω, adjustable
Minimum level	software-configurable setting	1 mW to 2.5 W for external loudspeaker, 1 mW to 1.5 W for internal loudspeaker, 1 mV to 17 mV for headphone
Electrical data		
Power supply		dual supply, 2 × 19 V (± 5 %) to 32 V (± 5 %) DC each
Current consumption		max. 1.0 A
Electrical safety		in line with EN 60950
EMC emissions		in line with ETSI EN 301 489-1/-22; in line with MIL-STD-461F CE101 figure CE101-4, curve 2, CE102 figure CE102-1, RE101 figure RE101-2, RE102 figure RE102-1, RE102-3 fixed wing > 25 m (nose to tail), RE102-4 navy fixed and air force
EMC immunity		in line with ETSI EN 301 489-1/-22; in line with MIL-STD-461F CS101 figures CS101-1 and CS101-2, curve 2, CS114 ships (metallic, below decks), curve 2, RS101 figure RS101-2 (max. field strength 160 dBpT), RS103 ships (metallic, below decks), RS103 navy (2 MHz to 1 GHz, field strength 10 V/m)
Environmental data		
Temperature range	operational	–20 °C to +55 °C
	storage	–40 °C to +70 °C
Humidity		≤ 95 % at +55 °C
Mechanical data		
Dimensions		
Front panel (W × H)	models .02 and .03 (mounting in line with IEC 60297)	19"/4, 3 HU 106.4 mm × 128.7 mm (4.2 in × 5.1 in)
	model .12	100.6 mm × 131 mm (4.0 in × 5.2 in)
Body (W × H × D)		93 mm × 103 mm × 120 mm (3.7 in × 4.1 in × 4.7 in)
Weight		< 0.8 kg (< 1.8 lb)
Degree of protection		IPx4 for front panel

Ordering information

Designation	Type	Order No.
Audio Unit, for remote operation of analog or VoIP-enabled radios, front panel IEC 60297 21TE, for one headset (NF-7 connector)	R&S®GB4000V	6148.3073.02
Audio Unit, for remote operation of analog or VoIP-enabled radios, front panel IEC 60297 21TE, for two headsets (NF-7 connector)	R&S®GB4000V	6148.3073.03
Audio Unit, for remote operation of analog or VoIP-enabled radios, front panel 19"/4, for one headset (NF-7 connector)	R&S®GB4000V	6148.3073.12
Accessories		
Mating Connector Set for R&S®GB4000V	R&S®ZF4000V	6148.3444.02
External Power Supply 24 V/45 W	R&S®NGRA24-GB	6148.3944.00
Headset, dynamic, with cable and NF-7 connector	R&S®GA015	0583.6012.02
Headset, ultralight electret microphone, one earphone (dynamic), with cable and NF-7 connector	R&S®GA015L	6082.9663.02
Handset, incl. microphone with cable and NF-7 connector, ruggedized	R&S®GA013	0693.7712.02
Headset, incl. microphone with cable and NF-7 connector, ruggedized	R&S®GA012	0693.7664.03
Microphone with PTT, handheld	R&S®GA2100	6064.5001.02
Handset with PTT, standard	R&S®GA2120	6064.6008.02
Handheld Microphone, with cable and NF-7 connector	R&S® GA016H1	0583.5568.02

Your local Rohde&Schwarz expert will help you determine the optimum solution for your requirements.
To find your nearest Rohde&Schwarz representative, visit
www.sales.rohde-schwarz.com

R&S®GB4000V with two connectors.

Rear view of the R&S®GB4000V.

Service you can rely on

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

About Rohde&Schwarz

Rohde&Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde&Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment

- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system

Certified Quality System ISO 9001

Certified Quality System EN 9100

Certified Quality System AQAP-2110

Certified Quality System EN 9110

Rohde&Schwarz GmbH&Co. KG
www.rohde-schwarz.com

Regional contact

- Europe, Africa, Middle East | +49 89 4129 12345
  customersupport@rohde-schwarz.com
- North America | 1 888 TEST RSA (1 888 837 87 72)
  customer.support@rsa.rohde-schwarz.com
- Latin America | +1 410 910 79 88
  customersupport.la@rohde-schwarz.com
- Asia/Pacific | +65 65 13 04 88
  customersupport.asia@rohde-schwarz.com
- China | +86 800 810 8228/+86 400 650 5896
  customersupport.china@rohde-schwarz.com

R&S® is a registered trademark of Rohde&Schwarz GmbH&Co. KG
Trade names are trademarks of the owners | Printed in Germany (ch)

PD 5214.4259.12 | Version 03.01 | April 2013 | R&S®GB4000V

Data without tolerance limits is not binding | Subject to change
© 2010 - 2013 Rohde&Schwarz GmbH&Co. KG | 81671 München, Germany

5214425912