



# RA4000 MAGNA Digital High-Noise Headset

## The RA4000 Magna digital headset for best-in-class hearing protection and sound quality in harsh high-noise environments

Racal Acoustics has engineered its Magna digital headset to address current operator requirements with state-of-the-art solutions in electronics, materials, and ergonomics in a product category that has typically relied on older technologies.

Our Magna headset offers unprecedented performance in hearing protection, sound quality, reliability, and versatility, for outstanding overall value. As a complete solution, it offers modular, customizable, and upgradeable features and accessories to match specific mission requirements and extend useful life.

### Features and Benefits

- **High-noise attenuation**  
Our exceptional passive and active noise reduction features protect the hearing of users exposed to high levels of continuous noise.
- **Autonomous, battery-powered ANR**  
Advanced digital active noise reduction (ANR) technology improves attenuation performance at low frequencies, providing better protection. Users enjoy this protection even when untethered from a communication system.
- **Local sound awareness and talk-through**  
Our electronic compression circuitry presents local environment sounds to the wearer at safe levels, so they are more aware of hazards and risks and can have face-to-face conversations without defeating the hearing protection. The output is electronically compressed so its level does not exceed a 85 dB(A) safety level. This capability remains effective during untethered use.
- **Adjustable neckband**  
A fully adjustable neckband ensures consistent attenuation and comfort for extended durations.
- **Noise-cancelling boom microphone**  
The removable noise-cancelling boom microphone makes clear radio communication possible in high-noise environments, and a respirator microphone can be attached.
- **Removable cables**  
The interface cable can be detached from the headset earshell, allowing full hearing protection while untethered. Alternative cables can be attached to connect with other audio equipment.
- **Press-to-talk switch**  
For convenience, the press-to-talk switch is ergonomically positioned on the headset.
- **Mechanical robustness**  
The Magna headset's robust mechanical design and construction survive rough handling in harsh environments.
- **IP68 waterproofing**  
Continuous outdoor use and exposure to wind and rain, snow, and ice are not a problem. The headset also withstands immersion in water.
- **Headset wearing options**  
You can wear the Magna headset with a neckband or headband, or in a soft helmet liner for bump protection. The liner supports easy attachment of protective shells.



## Specifications

Weight on the head	650 g (23 ounces)	Environmental tests	EN60068, MIL-STD-810G
Napeband force (adjustable)	12.2/14.5 N (2.7/3.3 pounds)	Certified to shock, bump, impact, vibration, dust, sand, humidity, mist, salt fog, driving rain, immersion, solar, altitude, fungal and fluid contamination.	
Communications modes	Binaural, monaural, programmable	Temperature	-40° / +65° C operating -57° / +71° C storage
Frequency response	100 Hz to 10 kHz	Immersion	IP68, 1.1 meter for 2 hours
Input impedance	500 Ω	Electromagnetic conformity	EN61000, MIL-STD-461F 50 V/m, EN55022, EN55024, ESD
Input range	Programmable 0-5 V	Safety	EN60950-1
Comms sensitivity	Programmable up to 114 dB SPL	Noise attenuation	EN352, ANSI S3.19, ANSI S12.42
Removable boom microphone	150 Ω dynamic noise canceling, anti-magnetic, immersible	MTBF	42,710 hours
Microphone sensitivity	Sensitivity -90 dB	Approvals, directives	CE, LVD, RoHS, WEEE, PPE
Microphone output range	Programmable 0-1.5 V		
Active noise reduction (ANR)	Advanced digital ANR, battery or external powered		
Binaural talk-through	Digital compression to 85 dBA, battery or external powered		
PTT switch	3 positions, located on left earshell		
Talk-through volume control	Off/on, adjustable -6/0/+6/+12 dB		
Comms volume control	Adjustable -6/0/+6/+12 dB		
External power	4.5 to 36 VDC, 1 W (3.5 W peak)		
Internal power	1 x AA 1.5 V cell operation when untethered		
Interface cable	Detachable, configured and terminated to suit equipment requirements		
Compatibility	Radios, intercoms, smart phones		

### Attenuation RA4000 headset with headband

Frequency	HZ	63	125	250	500	1000	2000	4000	8000
Mean	dB	21.0	26.2	32.4	32.2	36.2	38.0	39.5	37.5
STDEV	dB	3.6	2.9	3.8	3.5	4.9	2.8	6.1	4.7

SNR = 34, H = 34, M = 31, L = 28, NRR = 29

### Attenuation RA4000 headset with soft liner with neckband

Frequency	HZ	63	125	250	500	1000	2000	4000	8000
Mean	dB	23.4	28.0	33.4	33.6	34.2	38.2	40.3	40.1
STDEV	dB	3.3	2.6	2.5	3.6	4.6	2.7	4.5	2.3

SNR = 34, H = 34, M = 31, L = 30, NRR = 29

For more information about the RA4000 headset please email [sales@racalacoustics.com](mailto:sales@racalacoustics.com) or call our sales office +44 (0)20 8515 6200

