



KNOWLES BALANCED ARMATURE RECEIVERS
FOR HEARING HEALTH - SELECTION GUIDE

MARCH 2023

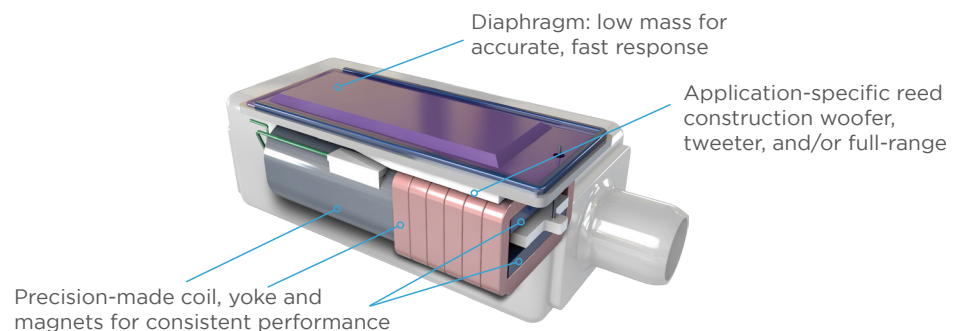
INTRODUCTION

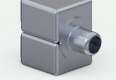


Knowles is the leading manufacturer of balanced armature drivers for the fast-evolving high-volume hearing health sector. These receivers support the full spectrum of hearing augmentation for both traditional and OTC hearing devices delivering high standards of sound quality in small form factors that offer improved fidelity, realism and detail over traditional dynamic drivers. Knowles' balanced armature technology platform uplifts the design and development of receivers for more advanced hearing aid solutions. Precise, custom-crafted performance is facilitated by such proprietary design possibilities as Pantograph™ higher audio output, Ferrofluid™ damping, Wide Bandwidth for high-frequency hearing loss, D-Amp™ internal power management, and Vibration Isolation for superior gain-before-feedback.

Features:

- ▶ Optimal Size
- ▶ Low power consumption
- ▶ Various form factors
- ▶ Better acoustic performance



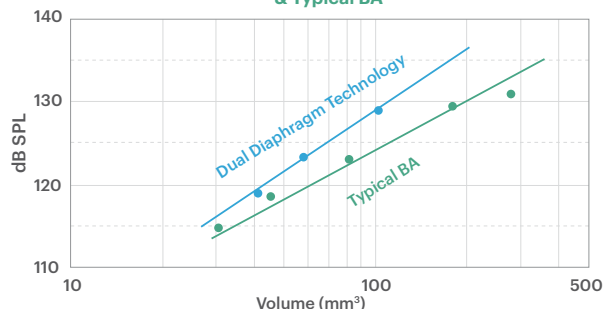
	FAMILY	APPLICATIONS	DESCRIPTION	SIZE IN (mm) (LxWxH)	MPO @ 500Hz @ 5% THD (dB SPL)	OPTION FOR VENTING	
SINGLE RECEIVERS	RAH	ITE/ITC/CIC	Ideal custom fit receiver	3.00 x 3.00 x 2.00	105	No	
	FK	RIC ITE/ITC/CIC	Smallest RIC receiver	5.00 x 2.73 x 1.93	110	Yes	
	RAP	RIC ITE/ITC/CIC	Fully automated RIC receiver	5.09 x 2.83 x 2.03	110	No	
	RAB	RIC ITE/ITC/CIC	Best available receiver for mid-power output	5.15 x 2.96 x 2.58	117	Yes	
	RAQ	RIC ITE/ITC/CIC	Fully automated mid-power receiver	5.16 x 3.06 x 2.69	116	No	
	RLQ	BTE, RIC ITE/ITC/CIC	Receiver with dual diaphragm technology for enhanced mid-power output	5.32 x 3.06 x 3.33	123	Yes	
	RAI	BTE, RIC	Leading receiver for power RIC solutions	7.87 x 4.09 x 2.79	124	Yes	
	RLI	BTE, RIC ITE/ITC/CIC	Receiver with dual diaphragm technology for high-power output BTE devices	7.87 x 4.09 x 3.56	132	Yes	
	CI	BTE	Ultra-high power single receiver	9.47 x 7.18 x 4.10	132	Yes	
DUAL RECEIVERS	RDH	BTE, RIC ITE/ITC/CIC	Compact, high gain for ITE devices	3.00 x 3.00 x 4.14	111	No	
	RDJ	BTE, RIC	High gain to size ratio for RIC devices	5.94 x 2.54 x 3.10	118	No	
	GD	ITE/ITC/CIC	High sensitivity dual receiver	5.99 x 3.10 x 2.59	112	No	
	RDL	BTE	Dual receiver for BTE applications	6.09 x 4.31 x 3.20	119	No	
	GR	BTE, RIC ITE/ITC/CIC	Enhanced gain for BTE and ITE devices	6.10 x 3.20 x 4.32	119	No	
	RDI	BTE ITE/ITC/CIC	High gain for high power BTE	7.87 x 4.09 x 5.23	128	Yes	

Dual Diaphragm Technology

Superior Audio Balanced Armature Receivers

- ▶ Proven technology with 2 separate diaphragms driven by a single motor
- ▶ Each diaphragm has its own chamber, resulting in rich sound
- ▶ Demonstrated to provide significant output improvement while maintaining a small footprint
- ▶ Multiple configurations available

Size vs. Output Comparison of Dual Diaphragm Technology & Typical BA



RLI



RLQ



New Generation Fully Automated Receivers

Redefining receiver performance with fully automated technology providing following advantages



Continuity of Supply

Higher Capacity

- Continues supply
- Loss time to ramp up

Consistency

Ground-Up DFM

- Consistent process increases reliability and improve Cpk

Traceability

Full Process Analytics

- Machine, Raw Material, Operator
- Immediate containment & RCCA

Acoustics

Tightened Tolerances

- More high frequency
- Increased bandwidth



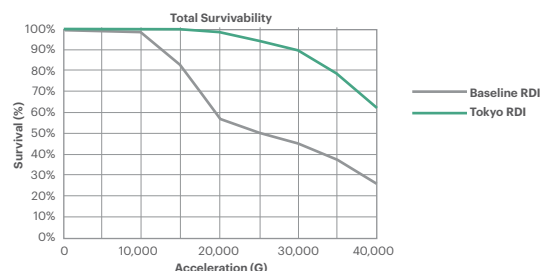
RAP



RAQ

Shock and Drop Improvement

- ▶ Technology demonstrated to provide significant shock improvement.
- ▶ 30% improved shock resistance compared to based models
- ▶ Multiple configurations available



ADDITIONAL RESOURCES

Hearing Instruments BA Receivers: <https://www.knowles.com/subdepartment/dpt-ba-receivers/subdpt-hearing-instruments-receivers>

Application Notes: <https://www.knowles.com/subdepartment/application-notes/dpt-ba-receivers/subdpt-hearing-instruments-receivers>

Technical Data Sheets: <https://www.knowles.com/subdepartment/technical-bulletins/dpt-ba-receivers/subdpt-hearing-instruments-receivers>

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