



vicMIC A2B(O)

Vehicle Outdoor Microphone with A2B Interface

The vicMIC A2B(O) vehicle microphone has been specially developed for demanding applications in the fields of mobility and AD/ADAS. It enables reliable audio capture even under extreme conditions – such as heavy rain and mud, cleaning with high-pressure washers, or at high driving speeds.

The integrated A2B technology ensures interference-free transmission of crystal-clear audio signals, thereby laying the foundation for applications such as emergency communications and acoustic environmental analysis. At the same time, the microphone is designed to withstand high mechanical stresses and harsh weather conditions.

Via the A2B audio bus, both individual microphones and arrays of microphones can be integrated into the outer skin of commercial, emergency and rail vehicles. The microphone signals are transmitted centrally via the A2B bus to a high-performance vehicle amplifier (ECU), where they are processed. A suitable amplifier is included in our optionally available evaluation kit.

PRODUCT FEATURES

- A2B-compatible single microphone for outdoor use
- Extreme weather resistance: Certified to IP68 and IP69K (dust-tight, waterproof and resistant to high-pressure steam cleaning)
- Automotive-grade quality: Designed for durability and reliability in volume production
- Optimised acoustics: Low wind noise at high speeds (up to 140 km/h) ensures clear signal quality
- Plug & Play integration: Direct connection via A2B interface for efficient daisy-chain configuration with infotainment systems / vehicle amplifiers
- Robust housing: Manufactured from high-quality PC/ASA material with a special surface finish ($R_a \leq 3\mu\text{m}$)

APPLICATIONS

- Vehicle communication systems and infotainment solutions
- Emergency signals (siren detection): Detection of emergency vehicles in the immediate surroundings
- External speech communication: Interaction between the vehicle and pedestrians / the surrounding environment
- Road surface analysis: Monitoring of road and track conditions through analysis of wheel acoustics
- ADAS & AD systems: Support for autonomous driving systems through improved acoustic perception

vicMIC A2B(O) VEHICLE MICROPHONE

The vicMIC A2B(O) audio sensor provides a robust input signal for in-vehicle acoustic perception algorithms. It is ideally suited to accurately detect signals such as sirens or voices, despite environmental influences.



Fig. 1.: vicMIC A2B(O) external microphone (colours shown for illustrative purposes only; can be customised to customer specifications)

SPECIFICATION

Sampling Rate:	48 kHz
Max. SPL:	130 dB
SNR(Signal-to Noise):	67 dB
Sensitivity:	-36 dBFS
Operating temperature:	-40 °C ... 85 °C
Housing material:	PC/ASA
Protection class:	IP68 / IP69K
Power consumption:	Typ. 30 mA

CONNECTIONS

- Digital interface: A2B Automotive Audio Bus (Analog Devices) for daisy-chain configurations
- Connector system: 4-pin micro Quadlok interconnection system (MQS) from TE connectivity (coding A)
- Compatibility: Suitable for pairing with additional sensors for beamforming applications

EVALUATION KIT vicMIC A2B KIT

The evaluation kit provides everything you need to get started quickly with audio evaluation: the vicMIC ECU embedded audio platform, a loudspeaker, a suitable cable set and the vicMIC A2B(O) audio sensors.

The included SDK, which features a sample application, makes it easy to evaluate the microphones. Audio signals can be monitored directly via a connected headset or streamed via Ethernet for further processing.



Fig. 2: Evaluation kit vicMIC A2B kit

DIMENSIONS



Fig. 3: Dimensions vicMIC A2B(O)

- Note on installation depth: supports material thicknesses of up to 5.4 mm
- Hole diameter: 18 mm (for the acoustic membrane)

