Pā Variant

MODEL: TPC-004L

ADDRESSABLE 2 WAY TALK BACK SYSTEM CONTROLLER

(1 LOOP, EXPANDABLE UPTO 4 LOOPS)

KEY FEATURES

- Real-Time Performance – Embedded architecture ensures consistent, reliable system response.
- Ultra-Low Latency Communication – Half-duplex digital audio transmission optimized for seamless, real-time interaction.
- High-Fidelity Audio Processing – Integrated noise suppression and echo cancellation deliver clear, intelligible sound.
- Versatile Connectivity – Multi-protocol serial communication via RS485 for flexible system integration.
- Power-Efficient Design – Optimized for embedded applications, minimizing energy consumption without compromising performance.
- Intelligent Audio Management – Dynamic speaker routing with precise output control for enhanced communication efficiency.
- Scalable Communication Loops – Supports four independent asynchronous loops for simultaneous, reliable data handling.
- Emergency-Ready Functionality – Built-in emergency tone activation for instant alerts and critical notifications.
- Targeted Messaging – Group-based communication and paging options for efficient, role-specific announcements.
- Seamless System Integration – Compatible with third-party fire alarm systems and Building Management Systems (BMS).
- Industrial-Grade Reliability – Wide operating voltage range designed to support diverse and demanding environments.

The Triobrics Addressable 2-Way Talk Back System Controller serves as a high-performance central hub for managing audio signal routing in addressable communication networks. Designed with advanced serial communication protocols and ultra-low-latency processing, it ensures efficient, real-time audio handling even under emergency conditions. The system features four independent communication loops for precise speaker output control, dynamic audio distribution, and seamless interoperability with fire alarm systems and building management systems (BMS). Fully embedded and built for durability, it offers reliable operation in mission-critical environments, with optional functions including emergency tone activation and group-based communication for enhanced operational flexibility.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Audio Input	High-sensitivity microphone (Analog/Digital)
Audio Output	Low-distortion speaker/headphone driver with adaptive routing
Audio Performance	THD+N < 0.05%, SNR > 90 dB
Communication Interface	RS-485 (Multi-drop, fail-safe biasing)
Loops Supported	4 independent, asynchronous communication loops
Speaker Control	Dynamic routing with programmable priority and zone selectio
Emergency Tone	Configurable alert tones for emergency scenarios
Integration Support	RS-485 interface for Fire Alarm & Building Management Systems (BMS)
Watchdog Timer	Integrated for real-time operational reliability
Operating Voltage	230V AC
Power Consumption	650 W
Operating Temperature	-20°C to +45°C