

# MZA-7010

INDUSTRIAL MULTI-ZONE AMPLIFIER



## A STEP BEYOND THE DIGITAL REVOLUTION

The MZA-7010 is the most advanced Multi-Zone Amplifier available on the market today. Designed for harsh environments with unfriendly electrical situations such as rail, marine, bus, and other transit applications, this industrial unit is ready for any public-address application and prepared to withstand the toughest challenges.

Built upon twenty years of successful deployments within the metropolitan transit space, this next generation digital device brings your installation or application up to the 21st century with a fully forward-looking, yet backward-compatible solution.

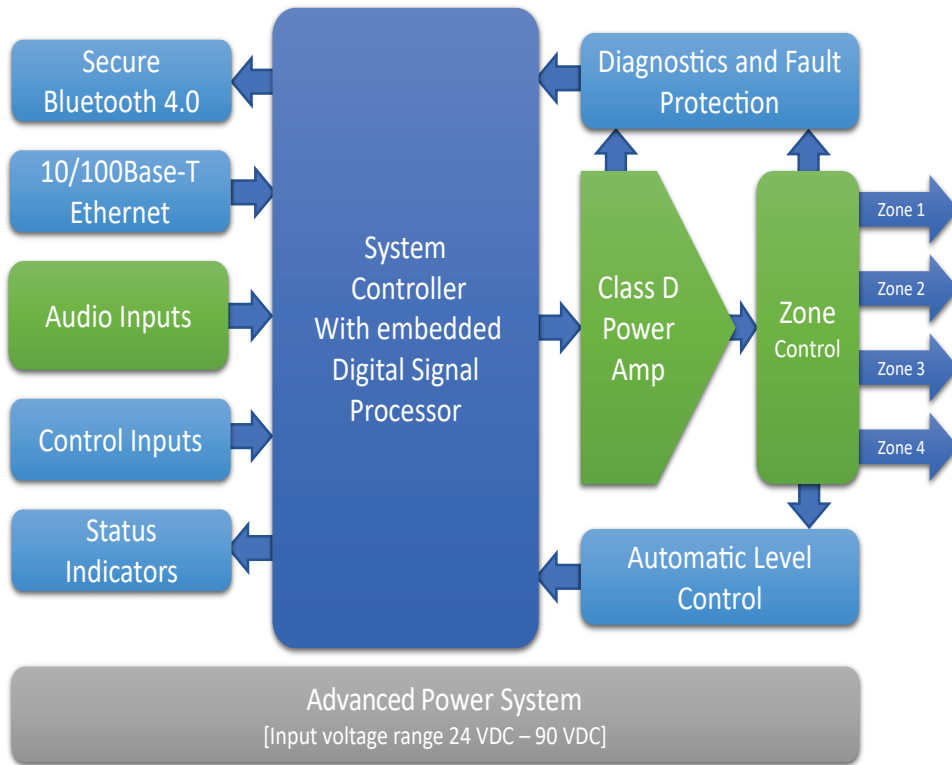
A robust and efficient CLASS-D amplifier platform, powered by Texas Instruments PurePath™ technology, the MZA-7010 provides state-of-the-art audio quality for any program material and will drive direct connection loudspeaker loads. With flexible audio and control inputs, it provides four independent zone outputs that will interface to most any application.

Built to last, it incorporates a well-defended wide-range DC input power system, over-engineered ESD protection on all connections, transformer input isolation for ground loop prevention, and is protected by an aluminum-alloy extruded enclosure that is IP67 rated and meets IEC 60068-2 environmental standards.

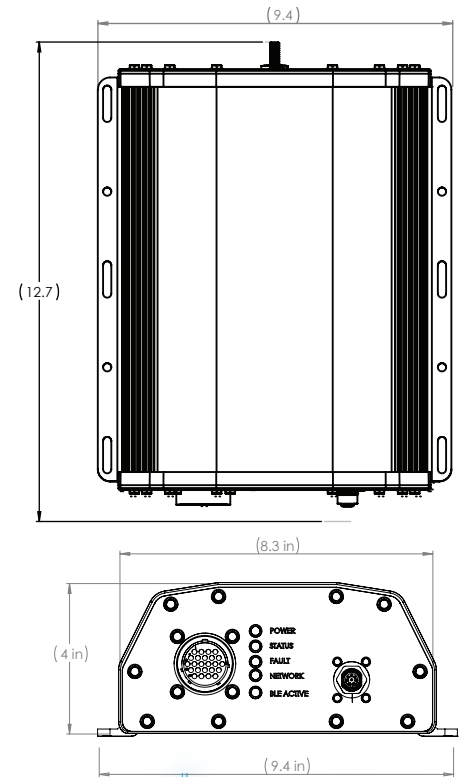
Advanced features include 24-bit analog-to-digital conversion, 32-bit digital signal processing, digital filtering, automatic adjustment of announcement level referenced to ambient noise, dynamic fault protection, and advanced diagnostics such as real-time signal level, supply voltage, supply current, and load impedance monitoring.

Equipped with advanced communications capabilities, the MZA-7010 includes a high speed Ethernet interface and Bluetooth 4.0 interface; both protected by industry standard encryption and advanced security measures. The Ethernet link can be used for control, diagnostics and streaming audio to the device. The Bluetooth interface securely connects to our configuration and diagnostics mobile application (iOS and Android platforms) for real time signal metering, control status reporting, dynamic level adjustment, loudspeaker configuration, and system diagnostics.

## MZA-7010 FUNCTIONAL BLOCK DIAGRAM



## MZA-7010 DIMENSIONS (in.)



### ADVANCED CLASS-D AMPLIFIER

Rated Output Power:  
 Nominal: 100W  
 Maximum: 125W  
 Zone Outputs: 4 Total  
 Direct 4-16 Ohm: 4  
 Frequency Response, 70V output:  
 ±0.5dB: 70 Hz to 12 kHz  
 ±1.0dB: 55 Hz to 15 kHz  
 ±1.5dB: 45 Hz to 20 kHz  
 Distortion (THD): < 0.05%  
 Dynamic range: 96dB, analog inputs  
 SNR at Nominal Power: >90 dB unweighted

### INTEGRATED DIGITAL SIGNAL PROCESSOR (DSP)

Dynamic Level Control  
 Digital IIR/FIR Filtering and Processing  
 Glitch-Free Signal Path Switching  
 Real-time System Signal Analysis  
 Streaming Audio Decoding  
 Load Impedance Monitoring

### ADVANCED FEATURES

Wide-range DC Power Input  
 Automatic Level Adjusting:  
 Uses Loudspeakers as microphones  
 Adjustable 20 dB Range Control  
 Fixed Gain During Announcements  
 Outputs Adaptable to Loudspeaker Type  
 Passive Cooling  
 Remote Diagnostics  
 3-Axis MEMS Accelerometer  
 Event Logging / Audio Memory (64MB)  
 Software Updatable via Ethernet

### FAULT TOLERANCE

Output Short Circuit Protection  
 Fail-Safe Power Down under Fault Condition  
 Continuous Self-Diagnostics:  
 Wiring & Load Fault Detection  
 Load Impedance Monitoring  
 Power Rail Voltage and Current

### SYSTEM INTERFACES

AMP CPC 24 Pin Connector:  
 Power, Audio Signal, Control  
 Compatible with Legacy Wiring  
 10/100Base-T Ethernet:  
 M12 or RJ-45 Receptacle with Cover  
 DHCP, TCP/IP, UDP  
 AES 256 Bit Encryption  
 Control and Streaming Audio  
 Event Logging  
 Software Updates  
 Wireless Connectivity:  
 Bluetooth 4.0  
 Stealth and Secure Connectivity  
 LED Indicators:  
 Power, Status, Fault, Network, BLE Active

### POWER SYSTEM

Input Voltage Range for Rated Output:  
 DC Input: 24 VDC to 90 VDC  
 Lowest Operational Voltage:  
 DC Input: 12 VDC  
 Efficiency at Rated Output:  
 30-40 VDC: > 75%  
 Quiescent (Idle) Power: < 5W  
 Ground Isolation: 2000 V  
 Input protection and Reliability:  
 Conforms to EN50155 Standards

### BLE CONFIGURATION TOOL

Secure Bluetooth Mobile Application:  
 iOS and Android Devices  
 Unit Configuration & Diagnostics  
 Authentication:  
 Encrypted Key Exchange  
 Re-programmable Keys  
 Telemetry and Control Functions:  
 Audio Level Meters  
 Zone Control and Feature Status  
 Power System Monitoring  
 Fault Indications

### PHYSICAL & ENVIRONMENTAL

Extruded Aluminum Alloy Case:  
 Integral Thermal Management  
 IP67 Rating  
 Dimensions:  
 Size: 9.4 x 4.0 x 12.7 inches  
 Weight: 12 lbs.  
 Mounting:  
 Flexible Slot and Hole Pattern  
 Ground Connection:  
 1/4-20 Stud  
 Operating / Storage:  
 Temperature: -40 °C to +85 °C  
 Humidity: 0 ~ 100% (Condensing)

### STANDARDS COMPLIANCE

EMC Compatibility:  
 FCC Part 15C Certified, EN50121-3-2  
 Rolling Stock:  
 EN 50155:2017  
 Vibration/Shock/Environmental:  
 Meets IEC 60068-2 Standards  
 Quality Management:  
 Manufactured to ISO 9000 Standards