

# 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.

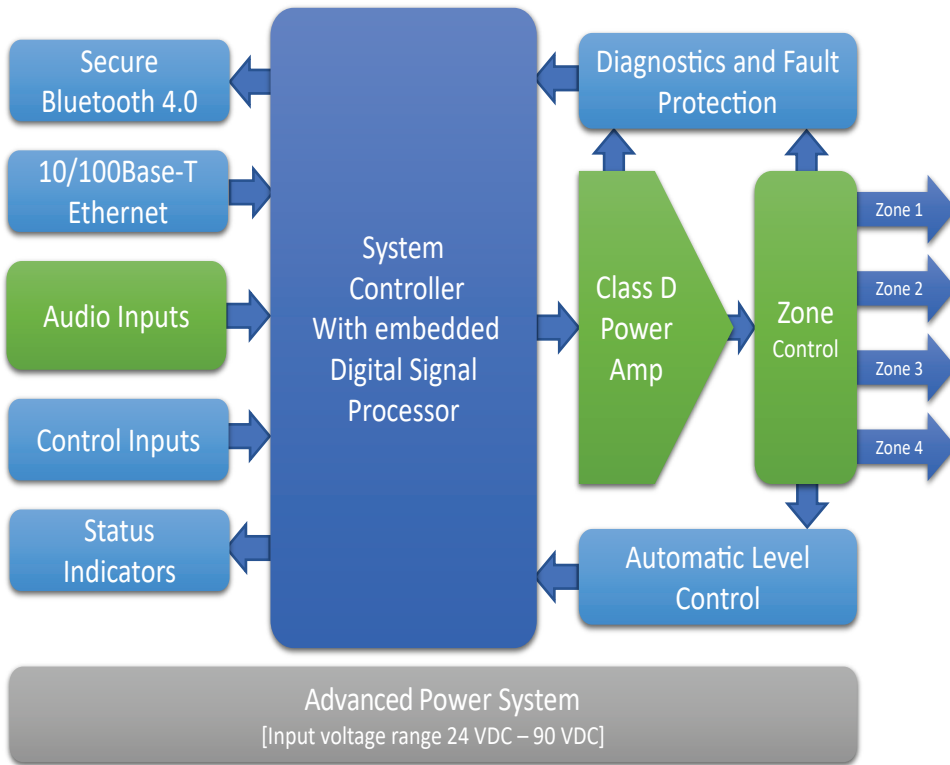
A robust and efficient CLASS-D amplifier platform, powered by Texas Instruments PurePath™ technology, the MZA-7010 provides state-of-the-art audio quality for any program material and will drive both 70V and direct connection loudspeaker loads. With flexible audio and control inputs, it provides four 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 and output 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.

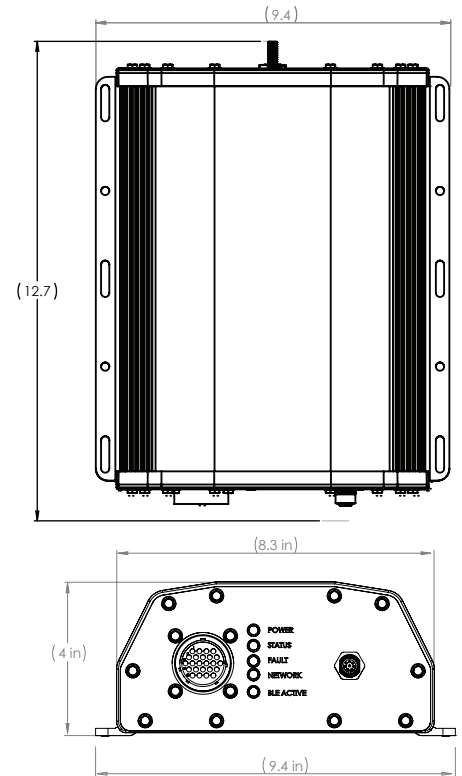
Advanced features include 24-bit analog-to-digital conversion, 32-bit digital signal processing, digital filtering, automatic adjustment of announcement level referenced to ambient noise, dynamic fault protection, and advanced diagnostics such as real-time signal level, supply voltage, supply current, 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: 60W  
Maximum: 100W

#### Zone Outputs: 4 Total

Direct 4-16 Ohm: 2  
70 V Line: 2

#### 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  
Vibration/Shock/Environmental:  
    Meets IEC 60068-2 Standards  
Quality Management:  
    Manufactured to ISO 9000 Standards