

# MZA-1880

INDUSTRIAL MULTI-ZONE AMPLIFIER



## A STEP BEYOND THE DIGITAL REVOLUTION

The MZA Family of Amplifiers are the most advanced Multi-Zone Amplifiers 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.

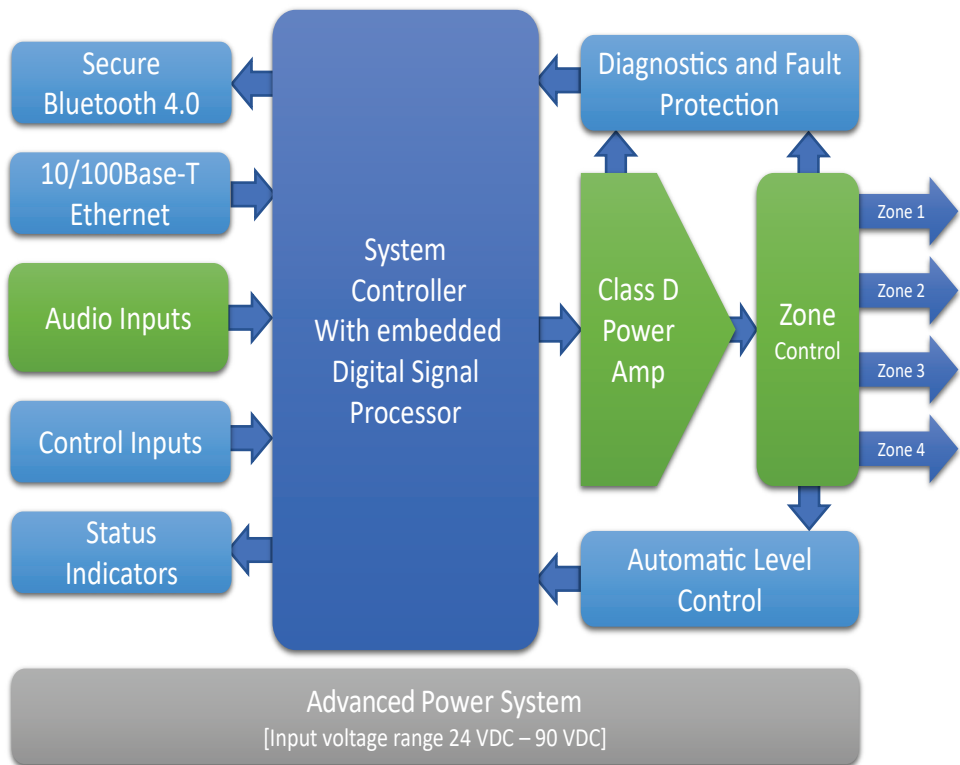
A robust and efficient CLASS-D amplifier platform, powered by Texas Instruments PurePath™ technology, the MZA-1880 provides state-of-the-art audio quality for any program material and will drive both 18V and direct connection loudspeaker loads. With flexible audio and control inputs, it provides four 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.

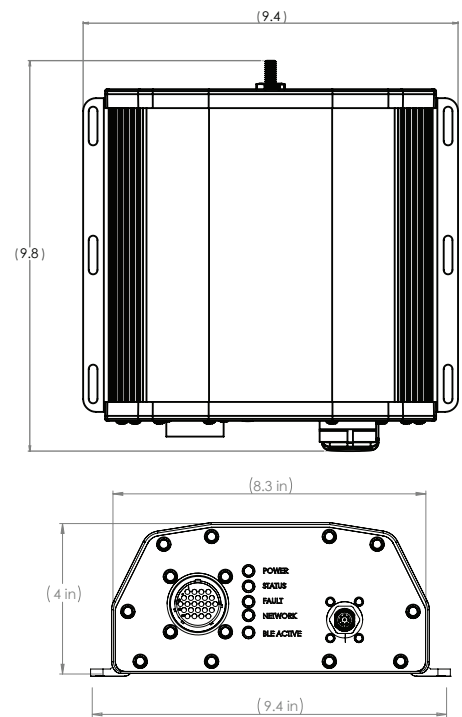
Advanced features include 24-bit analog-to-digital conversion, 32-bit digital signal processing, digital filtering, automatic adjustment of announcement level referenced to ambient noise, dynamic fault protection, and advanced diagnostics such as real-time signal level, supply voltage, supply current,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

Equipped with advanced communications capabilities, the MZA-1880 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-1880 FUNCTIONAL BLOCK DIAGRAM



## MZA-1880 DIMENSIONS (in.)



### ADVANCED CLASS-D AMPLIFIER

#### Rated Output Power:

Nominal: 2x90W, 4 Ohm  
Maximum: 2x110W, 4 Ohm

Zone Outputs: 4 Total

Direct 4-16 Ohm: 4

#### Frequency Response:

±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 9.8 inches

Weight: 7.2 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