PAVA9425E

4-Zone Expansion Amplifier with Main/Backup Switching

Description

EN54-16 fire emergency broadcasting system provides manual operation and timing programming, and gives priority to the former over the latter; supports real-time monitoring of equipment operating status and recording of operating logs. It meets the relevant standard of “EN54-16 Voice Alarm Control and Indicating Equipment”. The broadcasting system can be used for fire emergency broadcasting, daily service broadcasting and background broadcasting; this system is positioned as a small emergency broadcasting system, mainly used in small shopping malls, small office buildings and exhibition halls, etc.

PAVA9425E is a 4-zone expansion amplifier with main/backup switching function in the EN54-16 system, and is designed to be 2U high, with 2 microphone inputs, 4 analog inputs and 1 line output; features a backup amplifier module; supports the total power of up to 1000W; holds 4 zone outputs, with the total power of 1000W for all zones.

Features

- Designed with a standard 2U chassis, made of high-end oxidized blackened aluminum alloy with a frosted panel, revealing a premium look and high-class quality.
- Work with the amplifier host PAVA9500, and can be combined with the expansion amplifier PAVA9500E for emergency broadcasting and background music broadcasting.
- With a built-in local customized alarm or voice signal player, and 4MB storage space (in MP3 format, the storage length of the program source is determined by the sampling rate and storage space) to store up to 10 different program sources, which can be changed via the MICRO USB interface. Trigger settings for input dry contacts can be completed via a PC sub control software.
- With 2 built-in 1000W digital power amplifiers for automatic switching and backup as well as BGM broadcasting.
- With AB line speaker output for 4 zones, with independent switch and volume control for each zone, with master volume and treble/bass adjustment, with an output of 1000W for each zone and a total power of no more than 1000W for 4 zones.
- With 4-zone on/off function, including on/off buttons for independent zones and all zones.

- Support 6 external inputs, including 2 balanced microphone inputs, 4 balanced line inputs for fire audio input and background music broadcasting; and 1 line output for external expansion or recording backup.
- Featuring dual RJ45 network ports and CAN bus transmission, the host and expansion amplifier are cascaded hand-in-hand or looped. If the host is connected to a single expansion amplifier, it can support a maximum transmission distance of 600 meters; if connected to expansion amplifiers in a centralized manner, it can support up to 19 PAVA9500E expansion amplifiers, with a total of 160 zones, or up to 30 PAVA9425E expansion amplifiers, with a total of 128 zones.
- Work with the host to realize automatic playback and timing functions, enabling timed fixed-point and fixed-area track playback and unattended operation.
- Work with the host to realize remote microphone paging and zone/group broadcasting.
- With 4 trigger inputs (with dry contact and level optional), 4 dry contact trigger outputs, and 4 24V override outputs.
- Support remote computer detection and control, audio priority settings, operating records review, and impedance detection parameters settings.
- Support speaker line detection (grounded, open circuit, short circuit).
- Support AC power supply and DC24V power supply, which can be identified and switched automatically, with AC power supply as the main power supply normally.
- With AC and DC power connection detection and warning functions.
- With 5-digit DIP address settings.
- Support system fault detection, emergency output and emergency reset input.
- With multi-function display for device working status: working/fault/normal.
- With monitoring function, it can work with the host for dry contact programming output.
- Support simultaneous output of dual audio, support remote paging for any single or multiple zones while broadcasting background music, without interrupting background music broadcasting of other zones. In this mode, the emergency broadcast remains the highest priority and will be broadcast to all zones forcibly, followed by the paging broadcast, and the background music channel will act as a backup to the emergency broadcast channel.
- Priority level: Bus Emergency Audio (output from the host data audio bus to each expansion amplifier) = Fire Alarm Dry Contact Trigger > Bus BGM Audio (output from the host data audio bus to each expansion amplifier) = 1-6 External Inputs.

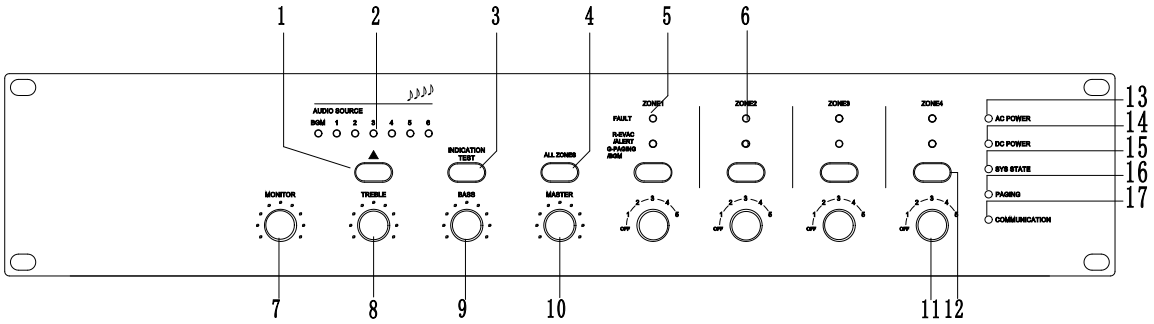
Specifications

Model		PAVA9425E
Rated Output Power		≥1000W (100V)
Input Sensitivity	EMC MIC	——
	MIC	5±0.5mV 10kΩ
	LINE	1000±100mV 10kΩ
Harmonic Distortion	EMC MIC	<1% 1kHz
	MIC	1%1khz
	LINE	<1% 1kHz
Frequency Response	EMC MIC	80Hz-15kHz (±3dB)
	MIC	1%1khz
	LINE	50Hz-18kHz (±3dB)
S/N Ratio	EMC MIC	>75dB (A weighted)
	MIC	1%1khz
	LINE	>80dB (A weighted)

EMC LINE AUX OUT	Output Voltage		1000mV
	Frequency Range		80Hz-15kHz（±3dB）
	Harmonic Distortion		<1% 1kHz
System Connection Control Contact Output/Input	System Fault Relay Output		Short circuit, no voltage
	Emergency Mode Relay Output		Short circuit, no voltage
	Fire Reset Input		Short circuit, t≥0.5S, no voltage
	4-Channel Dry Contact Output		Short circuit, no voltage
	4-Channel Dry Contact Input	Short Circuit Mode	Short circuit input, no voltage
		Level Mode	3.3V~24V
Working Power	AC		AC220V-240V/50-60Hz
	DC		DC 24V/34A
Package Dimensions (L*W*H)			625×635×165mm
Machine Dimensions (L*W*H)			483*430*88mm
Gross Weight			14kg
Net Weight			12.05kg

Front / Rear Panel

Front Panel



1/2—Line Audio Source Selection Button / Indication

- Mainly used for displaying the audio output of the current zone.
- The MP3 playback of the host corresponds to the audio of the SD card on the rear panel, while the MP3 of the expansion amplifier corresponds to the background music audio of the host.
- Channel 1-6 correspond to the 6 external line input audios mentioned in the item 13, 14 and 15 on the rear panel.

Note: The line audio source selection button is used to switch audio sources among MP3/BGM and 6 external lines, with the LED indication status synchronized, which can be displayed on the control interface of the software PAVA9000 where the audio output of the current zone can be changed.

3—INDICATION TEST Button

Press this button to enter the LED test mode synchronously.

4—ALL ZONES / ALL ON/OFF Button

a. When all zone output indicator lights of the machine are currently off, press this button to turn on the output of all zones of the machine.

b. When all zone output indicator lights of the machine are currently on, press this button to turn off the output of all zones of the machine.

5—ZONE FAULT / Zone Working Status Indicator

- Off - The zone is normal.
- Green - The zone is open-circuited.

- Flashing Green - The zone is lightly loaded.
- Yellow - The zone is short-circuited.
- Flashing Yellow - The zone is overloaded.
- Red - One of the zone lines is connected to the ground, that is, the amplifier is grounded.

6—R-EVAC/ALERT&G-PAGING/BGM / Zone Service Type Status Indicator

- This indicator light is both for zone on/off indication and zone service type status indication, off for zone off, on in any color for zone on.
- Normally Red - EVAC/ALERT voice message broadcasting, fire dry contact triggering, EMC or fireman MIC paging.
- Normally Green - BGM background music playing.
- Green Strobe - PAGING normal remote paging broadcasting.

7—Monitor Volume Control

8/9—Audio Treble/Bass Control

10—Master Zone Output Volume Control

11—Zone Output Volume Control

Note: There are 6 gears in total.

12—Zone ON/OFF Button

a. When the output indicator light of the current zone is off, press this button to turn on the output of the zone.

b. When the output indicator light of the current zone is on, press this button to turn off the output of the zone.

13—System Host / Expansion Amplifier AC Power Indicator

- Green - Indicates that the current system host / expansion amplifier AC power supply is normal.
- Yellow - Indicates that the current system host / expansion amplifier AC power supply is faulty.
- Yellow 1-Second Strobe - The AC power fuse is faulty.

14—System Host / Expansion Amplifier DC24V Backup Power Indicator

- Green - Indicates that the backup power supply of the current system host / expansion amplifier is normal.
- Off - Indicates that the backup power supply of the current system host / expansion amplifier is normal or not configured.
- Yellow - Indicates that the backup power supply of the current system host / expansion amplifier is faulty.
- Yellow 1-Second Strobe - The DC power fuse is faulty.

Note: The host backup power supply is configured in the system control software interface.

15—System Status Indicator

- Yellow 1-Second Strobe - The system equipment is faulty.
- Normally Yellow: If ACK is received for a system fault, this indicator light will light up normally yellow.
- Off - Each module is working normally or the master detection switch is not turned on.

Note: If the master detection switch of the system is turned off, this indicator light will go out, but it does not mean that all modules are normal.

16—Remote Pager Connection Status Indicator

- Green - Indicates that a pager is currently working.
- Off - Indicates that the system pager is connected normally.
- Yellow - Indicates that the pager is not logically or physically connected to the system host.

Note: Please configure according to the actual number, address and type.

17—System Host / Expansion Amplifier Connection Status Indicator

- Green - Indicates that the current device is connected normally.

a. Host: Indicates that the current host is logically or physically connected to the PC sub control software, and logically or physically connected to the expansion amplifier or paging microphone.

b. Expansion Amplifier: Indicates that the current device is logically or physically connected to the host.

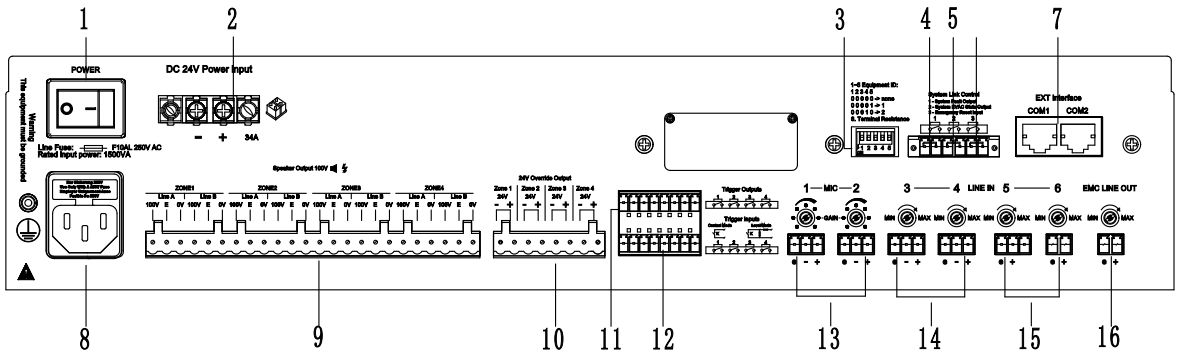
- Off - Indicates that the current host is connected normally, while the current expansion amplifier is connected abnormally.

a. Host: Indicates that the current host is not logically or physically connected to the PC sub control software, but logically or physically connected to the expansion amplifier or paging microphone.

b. Expansion Amplifier: It is not logically or physically connected to the system host.

- Yellow - Indicates that the current host is not logically or physically connected to the expansion amplifier or paging microphone.

Rear Panel



1— Power Switch

2—Backup DC24V Power Input Interface

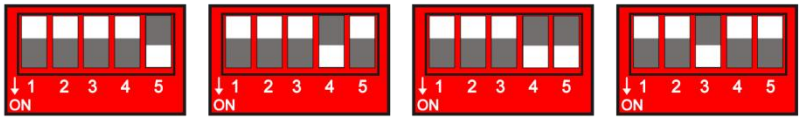
- It is an external battery interface and the capacity of the battery is configured according to the actual usage requirements.

3— Expansion Amplifier Module Configuration Switch (Down for "Enabled" or "Connected", Up for "Disabled" or "Disconnected")

- Expansion amplifier:

"1~5" indicate the IDs for device connection. The following devices are connected with the IDs as shown below (that is, the binary value of the device ID1~5, dialed down for "1", dialed up for "0"). Note: The silk screen printing "1" on the DIP switch is the highest binary bit, and "5" is the lowest binary bit. For the correspondence between the device address order and the binary value, please refer to the "Attached Table: Comparison Table of Zone Address and Dialing Code Settings". Dial down "6" to access to the communication bus termination resistor, so as to ensure that the host side and the last expansion amplifier of the communication bus of the host and expansion amplifier are connected to the termination resistor in the whole system. Generally, the host is terminated. The host is terminated with this resistor by default, which can be determined according to the actual communication situation.

(Note: The equipment calibrates the impedance of the speaker circuit through the DIP switch "5" on the rear panel of the host. Dial it down and dial it up to calibrate the impedance.)



1 2 3 4

4—System Fault Output Interface

- When the system is faulty, the output interface is disconnected, otherwise it is closed.

5—System Voice Alarm State Output Interface

- When the system is working in the fire alarm state, the output interface is closed, otherwise it is disconnected.

6—Fire Alarm Reset Input Interface

- When the current device is working in fire alarm mode, the interface can be used to reset and switch to normal mode.
- When the current device is working in normal mode, no operation is required.

7—CAN Bus Data Dual-Channel Audio Bus Interfaces

With dual RJ45 interfaces, the host can be connected to up to 19 8-zone expansion amplifiers or 30 4-zone expansion amplifiers hand in hand.

8—AC220V-240V Power Input Interface

9—4 Channels of Speaker A&B Loop Output Interfaces

- If the detection function is enabled, the line open-circuit, short-circuit or ground fault will be alarmed accordingly based on the device enabling settings on the PC control software.
- If the detection function is disabled, no loop detection will be performed and all zones are in normal state.
- It can be connected to external constant voltage speakers.
- Output voltage: 0~100V.

10—4 Channels of DC24V Output Interfaces

- In EMC mode (host EVAC/ALERT, host EMC MIC, fireman microphone ECAV/ALERT, fireman microphone EMC MIC, fireman FUNCTION 1-6, fire dry contact trigger), the DC24V output is forcibly enabled. The timing point can allow you to select whether to enable DC24V output or not.
- It can be connected to external four-wire sound control.
- The rated output current is 0.2A per channel.

Note: The total power of 4-channel outputs shall not exceed 19W.

11—4 Channels of Programmable Dry Contact Output Interfaces

- The timed output of any dry contact can be programmed and configured.
- The triggered output of any dry contact can be configured for a fire alarm input signal.

12—4 Channels of Programmable Input Contact Interfaces

- It can be configured in two ways: dry contact input and level input. When configured as a dry contact input, no polarity should be distinguished; when configured as a level input, the left one of two terminal blocks is the positive end, and the right one is the negative end when facing the rear panel, with the input voltage of 3.3-24V.

13—MIC1-2 Two Microphone Balanced Input Interfaces

With ±2.5mV input sensitivity and independent volume control.

14—LINE1-2 Two Line Balanced Input Interfaces

With ±500mV input sensitivity and independent volume control.

15—LINE3-4 Two Line Single-Ended Input Interfaces

With 1000mV input sensitivity and independent volume control.

16—LINE OUT Single-Ended Output Interface

With 1000mV input sensitivity and independent volume control.

Note: When installing the equipment into the rack and routing the cables, the signal input and power output of the expansion amplifier can not be bundled together. If bundled, it may cause the amplifier to self-oscillate, potentially leading to amplifier damage.