Digital Network PAVA Controller

VAC/C

DESCRIPTION:

VAC/C is a system manager combine with an audio input, audio output unit, matrix, DSP, speaker line controller and network switch in one device. Flexibility of this CU allows for optimization of both equipment and costs of operation in both minor and major structures as well as scattered groups of buildings. While working in the network system and when losing connection with a superior unit VAC/C is able to carry out Evacuation scenarios independently thanks to the locally recorded configuration.

VAC/C control unit distributes audio signals to individual zones and supervises the correctness of functioning of individual zones. It also controls the condition of a loudspeaker line and amplifiers. It detects and signals defects and insets a backup amplifier with the help of changeover module. VAC can be equipped also with an LCD colour and touch display that gives a direct access to the managerial function and monitoring of the whole system – in this way we obtain additional configuration.

VAC/C is a full digital controller and EN54 Approved for public address (PA), Voice alarm and background music system. It can stand alone control the complete system and inquiry the status thought its 4.3" colourful touch screen, from another side the Pc with software enable to customized program control automatic zone & equipments monitor and management. The programmable control input and output could be interactive with AV alarm module or other third-party low voltage security system.

Microphone inputs are connected via RJ45 connections using 0dBu balanced analogue audio works on CAN bus communication. To provide maximum security of operation, normally assigned to Fireman's microphones can implement CU hardware bypass to ensure continued all-call microphone operation even if the matrix DSP or CPU have failed. A full range of audio processing is available within the VAC/C. DSP based 24 bit / 48kHz audio functions include input dynamics processing, individually adjustable digital output delay of up to 5 seconds and parametric equalisation.

FEATURES:

- EN 54-16 certified system.
- Fully network-based system allowing for configuration, control, and diagnostics via ethernet.
- A possibility expanding up to 255 zones over the network.
- Built in audio card with 4 balanced audio inputs.
- Provides zone monitoring and equipment status with real-time check.
- 16 messages played simultaneously into different zones.
- Built in 8 control inputs and 8 control outputs.

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- 2 Rj45 1 Gigabit ports are available for network connection.
- Integrated DSP with implemented 3 band parametric equalizer on all inputs on control units, 8 band parametric equalizer, delay lines (2,5 seconds), audio limiter and feedback eliminator each of the audio output.
- Microphones interfaced with control unit the standard RJ-45 port with CAT-5 network Each mic inputs supports up to 300 meters and provide redundance wire circuit.
- CU provides full back up function, by adding multiple CU, also can be based on the "cloud" architecture, when ensure the system is more safe and sound, increase the total expansion system control point.
- Provides scheduling and event based trigger and message broadcast.
- 3 memory cards in-built for background music, EVAC message, Alert message and chime with specify playback modes, support Mp3 and WAV audio formats.

SPECIFICATION:

Model	VAC/C
Audio Inputs	
Number of Audio Inputs	4
Type of Audio Inputs	Differential
Distortion	<0.1% (rated output power) 1KHz
Frequency response	20 Hz-20KHz
Sensitivity	350mV
Impedance	10Kohm
S/N Ratio	>70dB
Audio Output	
Number of Audio Output	1
Type of Audio Output	Balanced
Distortion	<0.05% (rated output power) 1KHz
Frequency Response	20 Hz-20KHz
Sensitivity	200mV
Impedance	600 ohm
S/N Ratio	>70dB
Control Input	
Number of Control Input	8
Mode of Control Input	Level Mode and Short circuit Mode
Level Mode	3.3V voltage
Short Circuit Mode	Short circuit, no voltage

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Control Output	
Number of Control Output	8
Mode of Control Output	Short circuit Mode, Potential-free
Voice Message	
Audio Format	Mp3 and WAV
Storage type	SD
Message capacity	255 programmable
Log Data Information	
Data Format	HEX
Storage Type	NAND FLASH
Data Capacity	1000 events
Storage Time	>10 years
Network Connectivity	
Number of Port	2
Type of Port	Standard Rj45
Communication Protocol	TCP/IP and Cobranet
LCD Display	4.5" resistive LCD touch screen with 272x480 resolution
Power Supply	210-230V AC 50/60 Hz and 24V DC, +/- 20%
Power Consumption	36W
Current Requirement	Less than 0.2A AC and 1.5A DC
Operating Temperature:	+5°C – +40°C
Storage Temperature:	-20°C – +70°C
Relative Humidity	<95%
Dimensions	484mm x 132mm x 44mm
Weight	Up to 8.0 KG
Mounting	19" Rack Cabinet
Finish and Colour	Steel Cabinet, Black

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Front Panel
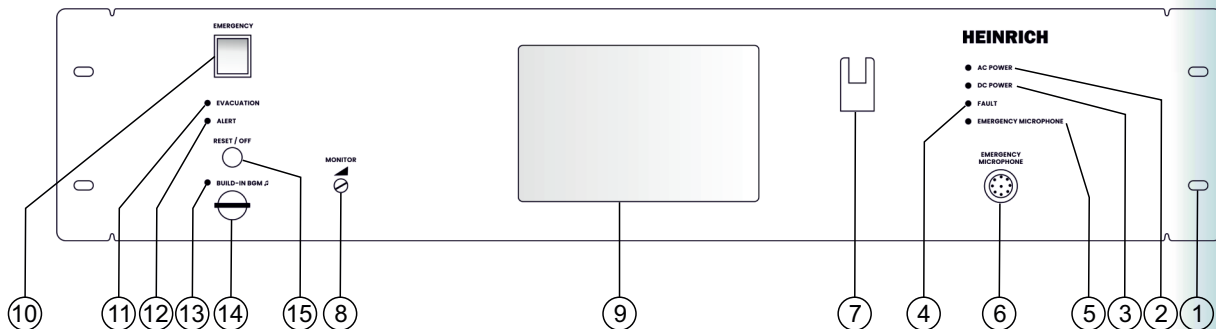
1) Mounting positioning holes (19-inch cabinet).
2) Main power indicator:
   ·Green - the current host AC power supply is normal.
   ·Yellow - the current host AC power is in failure.
3) The host DC24V standby power indicator:
   ·Green - current host AC power supply is normal.
   ·Out - current host standby power supply is not configured.
   ·Yellow - current host standby power supply fault.
4) System status indicator:
   ·Yellow - indicates the current system is fault, long shine means the user performs a manual reset,
   lasted about 1 minute, if the fault does not be eliminated, will continue shining; when the system
   fault be removed, the led automatically extinguished.
   ·Out - each module is running normally or the system does not open module detection;
(5)(6)(7) Panel emergency PTT (Push to Talk) microphone.
  "(5)" Colour status description:
  ·Out - PTT in normal.
  ·Green - PTT is broadcasting.
  ·Yellow - fault.
  " (6) " Aviation socket, used to connect the PTT microphone.
  " (7) " PIT microphone hanger.

If the user presses PT switches, the host will do the following judgment, function reference implementation are as follows:
· Selects partition for selective broadcast.
· Without selecting partition, it is for all zone broadcast.
· If the system is working in emergency mode, no partition is selected then it broadcasts to the current trigger output partition.

Note: in the process of broadcasting the PT microphone unclip switch for more than 5 seconds, the system will automatically cut off the radio.

(8) The man-machine interface (5-inch TFT with touch LCD, please refer to the user manual operation).

(9) Partition monitor speaker volume control knob: used to adjust the volume to monitor the current partition audio output after open the monitor.

(10) System work mode switch:

·Red quick flash - the system is currently in reset mode, prohibition all manual operation.

·Red flash slowly - the system is currently in emergency mode (press about 3 seconds to manually entered or automatically triggered - automatically enter, this mode allows to play EVAC audio, normal mode is not allowed.

(3) Out - working in normal mode.

Note: 1. When the indicator light is flashing press by about 3-4 seconds to exit from emergency mode.

2. When the indicator light is off press about 3-4 seconds to enter emergency mode.

(11)(12)(13) Evacuation /warning voice message / BGM work state indicator:

·Extinguished - evacuation /warning voice message / BGM normal.

·Yellow - evacuation /warning voice message / BGM fault.

(14) Background music storage (SD) card, used to store the background music, can be MP3 and WMA format. (Note: the memory card song quantity cannot surpass 255).

(15) Multi-functional multiplexing keys (RESET/OFF).

· The user selects the partition can dose the currently selected by a user partition output.

· The panel PTT microphone was broadcasting, press this button to quickly end the broadcast.

· The system failure by pressing this button can be temporarily dosed the buzzer output (About 1 minutes to close the buzzer output, all faults or corresponding fault module prohibition detection function should be got rid of).

· Press this button to enter the non-main interface into the system log interface when the system is no in the log interface.

Note: Order of execution - PTT broadcast - Select the zones - System faults - Back to the main interface.

Back Panel
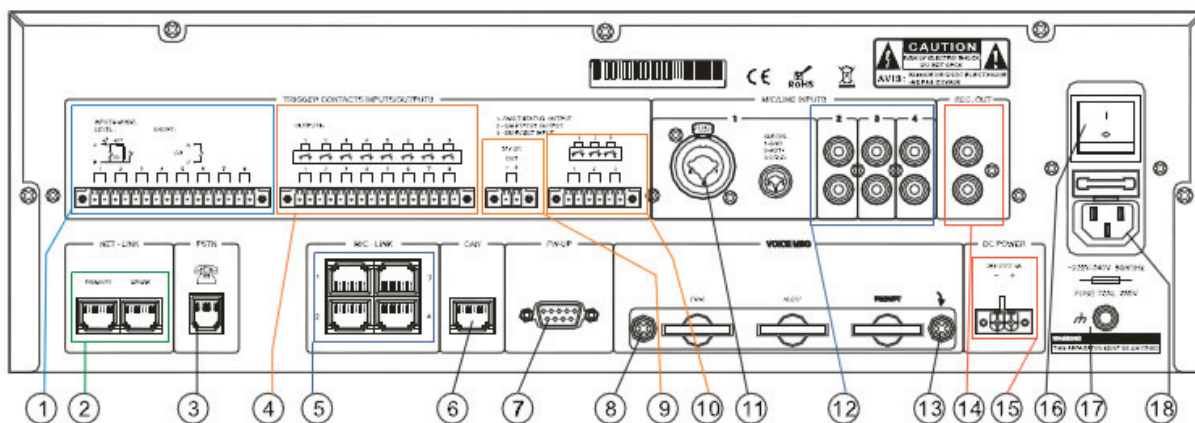
(1) 8 level signal or short no voltage input signal.

(2) System network interface.

(3) Telephone interface.

(4) 8 relay output interfaces.

(5) 4 remote MIC interfaces (note MIC address should be corresponding with the number).

(6) CAN bus interface, connecting to external.

(7) System firmware upgrade interface.

(8) (13) Speech SD card plate and fastening screws.

(9) DC24V power output (programmable, manually or automatic control output).

(10) From left to right: system fault status output interface - any module fails, this interface is shorted output, otherwise disconnected, working state output, pull-in when the system is in emergency mode is, off when in normal mode; emergency reset input interface - when the system is working in emergency mode, input a low lever signal bigger than 0.55 from this interface to reset the system in to normal working mode.