HUAIN 华音

产品规格书

Specification

Product Name	Integrated Conference System Controller
Product Model	HY-ST5E
Company Name	Zhuhai Huain Electronic Technology Co., Ltd.

Revision history				
Serial Number	**Version number**	**Revision Summary**	**Reviser**	**Revision Date**
1	V1.0	First formulation		2019/10/22
2	V2.0	Page Update		2025/11/5

1. Product Overview

1.1 Product Overview

The converged management platform is a portable, multi-functional conference terminal that integrates the functions of a conference discussion system, audio processor, power amplifier, and other devices into one unit. Its lightweight and portable design allows for easy connection to speakers, enabling complete conference functionality. It is plug-and-play, requiring no complex setup, and is widely applicable to various scenarios such as conference rooms, multimedia classrooms, corporate training centers, and broadcasting systems. It supports ad-hoc meetings and outdoor events, enabling rapid setup of conference systems.

1.2 Product Images



2. Product Specifications and Parameters

2.1 Functional Parameters

1. It adopts DSP/DDOV digital processing and transmission technology, and complies with the GB4943.1-2022 standard for security requirements of audio and video, information technology and communication technology equipment;

2. Equipped with a 2.0" LCD display screen, featuring a Chinese and English display interface, providing a user-friendly interface and improving debugging efficiency;

3. Built-in perpetual calendar; the display screen can dynamically show the date, day of the week, and time; the system can automatically synchronize the computer's date, day of the week, and time.

4. Equipped with a high-performance industrial-grade FPGA and a domestically produced embedded processor, it can realize custom digital logic and run faster;

5. It adopts a frequency band between 630-690MHz, has 5 UHF channels to choose from, supports 5 systems to be used simultaneously, easily avoids various interferences, and prevents crosstalk interference.

6. Supports the mixed use of wired conference units, wireless conference units, handheld microphones, etc., allowing for flexible combinations to meet the needs of various conference scenarios;

7. Equipped with 2 wired conference unit connection interfaces, supporting the connection of 60 wired conference units and 256 wireless units;

8. It features four meeting modes: first-in-first-out, free discussion, chairperson approval, and voice-activated start;

9. The number of speakers can be set from 1 to 20, the number of wireless speakers is 1 to 4, and the free discussion mode of wired units can be turned on without restriction.

10. Employs high-fidelity lossless audio transmission technology, with a 48kHz audio sampling frequency and a frequency response of 20Hz-20kHz;

11. Built-in DSP digital audio module with adaptive feedback suppression, digital equalizer, and automatic gain control to minimize interference, distortion, crosstalk, and other issues;

12. It adopts ID addressing, allows for custom unit numbering, ensures unique ID numbers,

and effectively avoids ID duplication and conflict;

13. Built-in camera tracking function, supports connection of 4 high-definition cameras, and is compatible with PELCO-D, PELCO-P, SONY and other protocols. It can adjust, save and recall preset positions;

14. Built-in 4×100W/8Ω digital amplifier with independent volume control knob;

15. Built-in 4×4-channel audio processor, with 2 channels used internally, supports 2 external audio device connections, and supports 48V phantom power;

16. Supports bidirectional USB sound cards, supporting USB audio input and output on PCs;

17. Equipped with a Bluetooth module, users can view the corresponding Bluetooth name on the main unit and connect their mobile phones via Bluetooth to play custom audio files;

18. Supports USB flash drive recording function;

19. Features no-debugging functionality, supports preset scene selection, and allows for quick selection and setting of all functions;

20. Built-in network interface, supporting remote control via network devices such as computers and switches;

21. Equipped with WiFi/Bluetooth/UHF antenna interfaces, supporting network function control and wireless audio transmission;

22. It has a factory reset function, supporting one-click reset to factory state to prevent parameter misalignment;

2.2 Product Specifications

Technical parameters	
Noise floor (A-weighted)	-79dBu
Display screen	2.0" LCD display

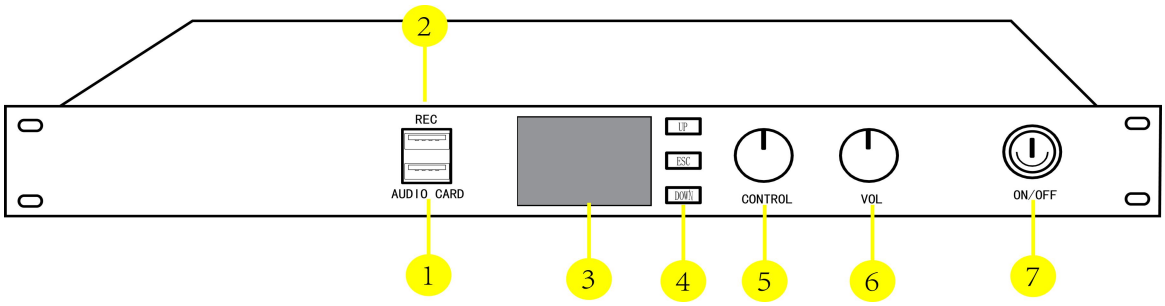
Input impedance (balanced)	20KΩ
Output impedance (balanced)	100Ω
System delay	<3ms
Dynamic range	>106dB
Total Harmonic Distortion	< 0.05%
SNR	>96dBA
Max input level	+18dBu, balance
Frequency response	20Hz~20kHz
Max output level	+18dBu, balance
Equivalent input noise EIN (20-20kHz, A-weighted)	≤-110dBU
Phantom Power (per IO Card Input)	48V
Channel isolation, 1kHz	100dB
wireless frequency range	UHF: 630-690MHz, WiFi: 433MHz
RF effective communication distance	≥50 meters (barrier-free environment)

Effective communication distance of WIFI	≥30 meters (barrier-free environment)
BT effective communication distance	≥10 meters (barrier-free environment)
Wireless security	AES (Advanced Encryption Standard), Frequency Hopping Spread Spectrum (FHSS) technology
Max number of simultaneous messages	Supports simultaneous speaking by 4 units
Meeting Mode	Four meeting modes: First-In-First-Out, Open Discussion, Chair's Permission, and Voice-Activated Start.
Meeting minutes	Supports high-definition audio recording
Video control	RS-485 Phoenix Terminal
Meeting Management and Control	Mobile app and PC software (to be upgraded)
Installation method	rack-mount
Power parameters	
Input power	AC100~240V 50/60Hz
Input current	1.5A
Power consumption	Static 30W, maximum 350W
physical parameters	

Overall machine dimensions (length × width × height)	500×270×44mm
Packaging dimensions (length × width × height)	555×410×80 mm
Net weight/Gross weight	3.8kg/4.7kg
Product accessories included (if different from the actual product, the actual product shall prevail).	
Power cord	1 item
UHF antenna	2
433 antenna	1
Fuse	2
Bluetooth antenna	1
USB cable	1 item
manual	1 copy
Warranty card	1 copy
Certificate of Conformity	1 copy

3. Product Introduction

Front panel:



1. USB sound card interface: Supports bidirectional USB sound cards, supporting USB audio input and output on PCs;

2. REC Recording Interface: Insert a USB flash drive to record audio from the meeting discussion system;

3. Display Screen: A 2.0" LCD display screen is used to show the system's function setting options;

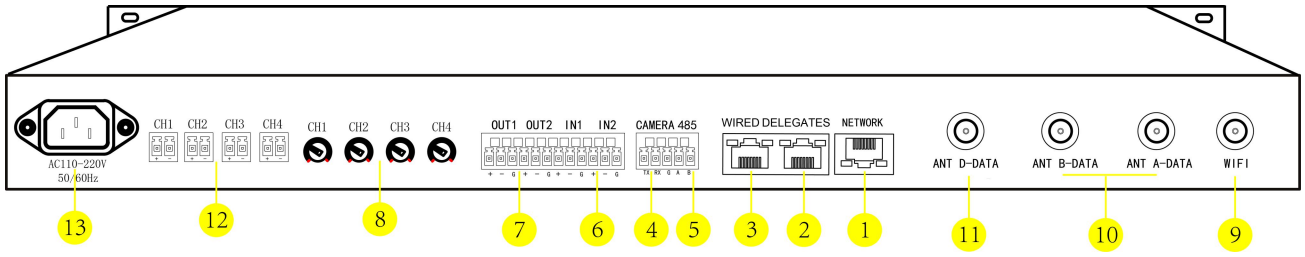
4. Physical buttons: used for system function settings (UP: Up, ESC: Back, DOWN: Down);

5. CONTROL control knob: The encoder knob is used to control the main unit's functions, enabling menu switching and parameter adjustment.

6. VOL Control Knob: Controls the overall amplifier output volume.

7. Switch: Main unit power switch.

Rear panel:



1. Network Interface : Connects to network devices such as computers and switches, enabling network control of host functions ;

2/3. Unit Interface : Supports two-way daisy-chain connection of conference units, with a maximum of 28 units per channel;

4. CAMERA Interface : 1 RS232 interface for connecting a camera for video tracking.

5. External control serial port : 1 RS485 interface, which can be connected to an external control panel or central control system to control the host function ;

6. Analog audio input interface : 2-channel 3-pin Phoenix terminal balanced input, supports external audio input , supports 48V phantom power;

7. Analog audio output interface : 2-channel 3-pin Phoenix terminal balanced output, compatible with external mixing consoles, audio processors, or recording equipment;

8. Amplifier Interface Audio Control : Used for volume adjustment of the 4-channel amplifier interface;

9. WiFi/Bluetooth Antenna Connector : Connect the WiFi/Bluetooth antenna. WiFi is used to connect to the network for function control, and Bluetooth is used to connect for audio playback.

10. UHF Audio Antenna Channels : Two audio antenna channels are used for connecting audio signals from wireless conference units and handheld microphones. A maximum of four units can speak simultaneously. The system supports a first-in-first-out speaking mode and has no limit on the number of units.

11. 433MHz control antenna channel: used for connecting control signals of the wireless unit;

12. Amplifier Interface : 4-channel amplifier output socket (8 Ω) 100W x4CH), with 1 cooling fan;

13. Power socket ;