



Video Conference Controller

Embedded software: HD video conference MCU embedded software V1.08

VCS8000 (Specification B8C4)



Description

The new-generation server integrates CMS, CRS, MCU, GK, live broadcast, and storage services. It adopts a plug-in module design and supports HD resolution, bringing the ultimate remote video conference experience.

Feature:

- * Standard rack-mount structure, employing professional domestic audio and video codec chips and a telecom-grade plug-in card design, supporting 24/7 continuous operation.
- * Supports B/S architecture, manageable via built-in web interface, with support for switching between Chinese and English languages; supports hierarchical and permission-based management, allowing different user levels to be assigned different permissions.
- * Supports ITU-T H.323 and IETF SIP protocols, compatible with mixed access of devices using H.323, SIP, RTSP, and other protocols, exhibiting excellent compatibility.
- * Supports bandwidth rates from 64Kbps to 8Mbps; supports CIF, 4CIF, 720P, and 1080P video resolutions, expandable to support 4K 60fps video resolution.
- * Supports H.263, H.263+, H.264, H.264 HP, and H.265 video codec protocols; supports G.711, G.722, G.722.1, G.722.1C, OPUS, and other audio codec protocols, with audio quality up to 48kHz.
- * Supports intelligent speed mixing, protocol mixing, and format mixing, allowing terminals with different speeds, protocols, and video formats to simultaneously access the conference.
- * Supports displaying server CPU and memory usage in chart form for daily, weekly, monthly, and yearly time periods. It supports real-time statistics and display of manageable online devices, conference details (including number of conferences, number of meeting rooms, conference name, conference status, conference duration, etc.), registration status (including VCS registration, SIP registration, and gatekeeper registration), and server CPU, memory, and disk usage, providing a clear overview of server resource data.
- * A single machine supports 4 physical conferences, 8 concurrent 4K users, and 20 concurrent virtual conferences.
- * Supports MCU cascading functionality, with cascading mode supporting over 1000 users; supports MCUs forming resource pools and creating a distributed MCU architecture, enabling unified management, dynamic allocation, and mutual backup of MCU resources.
- * Supports H.239 and BFCP dual-stream protocols, with both main and auxiliary streams achieving 4K 60fps.
- * Virtual meeting mode supports simultaneous sending of auxiliary streams from all terminals (supports N terminals sending N auxiliary streams simultaneously in the same meeting), and supports mixed display of main and auxiliary streams; supports simultaneous 4K 60fps high-definition effect for auxiliary videos while the main video is at 4K 60fps.
- * Supports 19 multi-screen layouts, with up to 64 screens per screen, and automatic screen splitting; auxiliary streams can be composited into multiple screens, and screen windows support automatic filling, voice activation, video polling, auxiliary stream display, etc., and live video and audio can be viewed directly on the same interface.
- * Supports multi-screen polling, supporting simultaneous 64-screen multi-screen polling for 4 meetings; polling windows, polling rooms, and polling intervals can be specified.
- * Supports meeting room preview snapshot function, saving as JPG images to the server.
- * Built-in GK module, supports terminal registration of E.164 extension numbers, and mutual calls using E.164 extension numbers. Supports NAT, H.460, and other technologies, enabling firewall traversal.
- * Built-in meeting recording module, enabling real-time recording and storage of multiple meeting videos and audios; supports simultaneous recording of up to 4 meetings with 64 split-screen multi-view capability.
- * The server comes standard with 240GB of storage space (approximately 200GB for user space), used to store data files such as voting, attendance, roll call, shared files, recorded videos, and photos from video conferences; supports expansion of storage capacity up to 4TB.
- * Supports video roll call functionality, allowing users to set the roll call topic, screen layout, main meeting room, main meeting room display window, and display windows for the rooms being called. After the roll call, a complete roll call result Excel spreadsheet can be generated and downloaded.
- * Supports broadcast meeting room functionality. In broadcast meeting room mode, the meeting layout is switched to only display the broadcast meeting room; all participants in the meeting room can only view the broadcast meeting room's feed.
- * Supports RTSP video stream integration, allowing surveillance IP cameras to directly join the meeting via RTSP video stream integration, enabling seamless integration with monitoring platforms.
- * Built-in video wall output function, equipped with 8 HDMI video output interfaces, capable of outputting composite images from different meetings, or selecting to output single images or auxiliary streams from any meeting room; and when the meeting is not occupying board resources, the board's input signal source can be looped out from the other 2 output ports.
- * Supports hot-swappable board detection function for HDMI output interfaces on the video wall, which can identify boards with connected HDMI cables when scheduling meetings and designate the board to be used for the meeting.
- * Supports categorized management of media resources by meeting, including voting information, attendance information, roll call information, shared files, member logs, meeting minutes, recorded videos, and captured images.
- * Supports network ping testing, route tracing testing, and network bandwidth testing on the backend web management interface; supports real-time display of audio, main stream, and auxiliary stream network status, including parameters such as packet loss rate, bitrate, frame rate, and latency.
- * Supports FEC forward error correction function; with 30% network packet loss, the sound is clear and continuous, and the video is clear and smooth, without stuttering or pixelation; with 80% network packet loss, the sound is clear and smooth, and can be accurately understood.



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Feature:

- * Supports live streaming, including RTMP and HLS methods; supports simultaneous 64-screen multi-view live streaming for up to 4 meetings, allowing users to select any meeting room or synthesized media stream as the live stream source and switch sources at any time; supports viewing the live stream via QR code on mobile devices, with text chat available during the live stream, and chat content automatically saved to the server.
- * Supports viewing the live stream via a browser or media player, with live stream access password management; the meeting control panel supports switching terminals from live to interactive or vice versa; supports 500 concurrent live stream participants per device, with viewer counts accessible through the backend management system. Supports live stream push functionality, allowing the live stream to be pushed to third-party live streaming platforms.
- * Allows setting meeting passwords, meeting control passwords, live stream passwords, and administrator passwords; supports H.235 signaling encryption under the H.323 protocol; supports TLS and SRTP encryption under the SIP protocol; media streams support AES128/256, SM3, and SM4 national cryptographic algorithms to ensure meeting security.
- * Supports third-party systems using API calls to schedule meetings, retrieve meeting lists, stop meetings, delete meetings, call offline members, set member viewing content, set recording, set live streaming, set polling, adjust cameras, send scrolling messages, set banners, switch screen layouts, and control speaking rights for each meeting room.
- * Meeting notification methods support extended notifications via SMS or email. Corresponding notification messages can be set for meeting start, meeting changes, and meeting cancellation.
- * Supports simultaneous sending of dual streams and simultaneous viewing of multiple auxiliary streams by all participating terminals.
- * Supports video soft terminals joining the meeting and implementing dual-stream data functionality. It also supports features such as electronic whiteboards, voting, meeting check-in, and file sharing. Soft terminals can be installed on Windows or Mac computers, iOS or Android phones/tablets.
- * Supports intelligent flow control, including notification encoding and automatic bitrate adjustment. After notification encoding is enabled, the MCU automatically adjusts the terminal's encoding parameters based on the window size displayed on the MCU. After automatic bitrate adjustment is enabled, the MCU automatically adjusts the MCU's transmission bitrate and resolution based on packet loss, delay, and other factors.
- * Features rich audio processing mechanisms and management modes, supporting lip-sync, intelligent multi-channel mixing, echo cancellation, automatic gain control, noise cancellation, and meeting room speech management; supports automatic mute upon entry, and the backend management terminal supports functions such as all mute, all speaking, and all silent.
- * Supports intelligent mixing of any number of audio channels, and supports wideband voice frequencies above 20kHz.
- * Supports voice stimulus control mode; the meeting room with the loudest speaker automatically switches to the designated voice stimulus window for display.
- * Virtual meetings support chairman-controlled meeting mode and free mode. In this mode, the chairman terminal can perform meeting management, screen layout, and other functions; it also supports speaker mode, where other meeting rooms automatically view the speaker's screen after a terminal speaks.
- * Scheduled meetings support selecting the meeting media type as pure audio or audio + video.
- * Supports meeting room re-invitation function; when always inviting is selected, after a terminal abnormally disconnects, the MCU will re-invite the terminal every 10 seconds until the terminal rejoins the meeting. When selecting limited invitations, you need to set the number of invitations. The MCU will stop inviting after the set number is exceeded. If you select no invitations, the MCU will not actively invite terminals back to the meeting if they experience abnormal disconnection.
- * Supports remote control of the terminal's camera, including panning, zooming, and tilting.
- * Supports setting and displaying meeting room names. You can set whether all meeting room names are displayed on the meeting screen, their display position, font color, background color, and font size.
- * Supports banner functionality. You can add banners to the meeting screen and set whether to enable banners, their font size, font color, and background color.
- * Supports scrolling message functionality. You can send scrolling messages and set whether to enable them, their font size, font color, background color, scroll count, and scrolling speed.
- * Supports meeting management functions for ongoing meetings, including extending meeting time, ending the meeting, autofilling, switching layouts, audio reception and transmission, video reception and transmission, video adjustment, information query, roll call, hanging up/calling, group management of meeting rooms, and specifying viewing screens.
- * Employs a bilingual (Chinese and English) management interface, enabling web-based management in both languages to suit Chinese user habits. Device, user, and meeting management are handled via the web, supporting remote maintenance via Telnet and SSH. Partitioned management is available based on user and regional characteristics.
- * Supports AI real-time speech-to-text transcription, eliminating the need for an additional integrated speech-to-text system. It transcribes audio from meetings into subtitles in real-time, supporting both Chinese and English. Users can customize subtitle background color, font color, background transparency, font type, and font size. Subtitle modes can be set to dynamic or full subtitles.
- * Supports AI electronic nameplate functionality. Pre-recorded images are displayed during meetings upon image recognition. Font background color, color, size, and type are customizable.
- * Supports AI meeting minutes functionality, recording and exporting transcribed subtitles based on meeting room name and speaking time.
- * Supports meeting merging functionality, allowing multiple ongoing meetings to be combined into a single meeting.
- * Supports log management functionality, allowing users to choose between different log levels, including debug, information, warning, error, and fatal error logs.
- * Supports monitoring system hardware functions, including CPU usage, memory usage, and disk usage.
- * Supports remote control and remote upgrade functions.
- * Supports voice priority and QoS policy modes.
- * Supports IPv4 and IPv6 protocols, enabling it to bypass routers and firewalls, ensuring system security. Supports setting parameters such as QoS, NAT, and H.245 tunneling.
- * Supports virtual meeting room functionality. The system can independently allocate virtual meeting rooms for individual users, allowing for multi-party meetings without platform reservations. Virtual meeting rooms do not consume port resources when no other participants join.
- * Supports dual network port backup. Failure of either network port does not affect normal device operation. Supports board backup. When a board fails, the MCU switches the data and services on that board to another board within 8 seconds, ensuring uninterrupted meetings and 24/7 continuous operation.
- * Supports resource pool creation for unified MCU management and dual-machine hot standby. When one MCU fails, terminals can automatically reconnect to another MCU within 15 seconds, and the meeting automatically resumes.
- * Supports batch software version upgrades for terminal devices. Upgrade times are customizable, eliminating the need for individual device upgrades using other tools; upgrades are automatic upon terminal startup.
- * Supports device management and maintenance functions. Users can modify configurations for managed devices, including name, call bandwidth and protocol, audio/video equipment, registration, and network settings. Users can also view terminal IP addresses, MAC addresses, registration status, version information, and system operation information.

Specification:

Model	VCS8000
Capacity	8 channels
Concurrent conference	4 groups of physical conferences
Card board quantity	3 cards: 2 resource cards and 1 network card
Video output	8 HDMI ports
Power supply	100VAC~240VAC 50Hz~60Hz
Network port	2 RJ45 standard network ports, 100M/1000M
Ambient temperature	0℃~35℃ (working state) -40℃~55℃ (non-working state)
Relative humidity	10%~80% (working state) 0%~95% (non-working state) (no condensation)
Dimension	484×530×176mm
Weight	15Kg