



Video Conference Controller

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

VCS8000 (Specification B8C6)



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 6 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 6 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 6 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, featuring 12 HDMI video output interfaces, capable of outputting composite images from different meetings, or selecting single-view or auxiliary stream images 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 two 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 them 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. Even with 30% network packet loss, audio remains clear and continuous, and video is clear and smooth, without stuttering or pixelation. Even with 80% network packet loss, audio remains clear and smooth, allowing for accurate understanding.



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Feature:

- * Supports live streaming, including RTMP and HLS streaming methods. It supports simultaneous 64-screen multi-view live streaming from up to 6 conferences, allowing users to select any conference room or synthesized media stream as the live stream source and switch sources at any time. It supports viewing the live stream via QR code on mobile devices, and text chat is available during the live stream, with chat content automatically saved to the server.
- * Supports viewing the live stream via a browser or media player by accessing the live stream link address. It supports live stream access password management. The meeting control panel supports switching terminals from live to interactive or interactive to live. A single machine supports 500 concurrent live stream participants, and the number of viewers can be viewed through the backend management. It also 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 streaming 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 calling the system via API 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 all participating terminals simultaneously sending dual streams and simultaneously viewing multiple auxiliary streams.
- * Supports video soft terminals accessing the meeting and implementing dual-stream data functionality; also supports electronic whiteboards, voting, meeting check-in, file sharing, and other functions; soft terminals can be installed on Windows or Mac computers, iOS or Android phones and tablets.
- * Supports intelligent flow control, including notification encoding and automatic bitrate adjustment. When notification encoding is activated, the MCU automatically adjusts the terminal's encoding parameters based on the window size displayed on the MCU. When automatic bitrate adjustment is activated, the MCU automatically adjusts its 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. It also supports automatic mute upon entry, and the background management terminal supports functions such as full mute, full speaking, and full silence.
- * Supports intelligent mixing of any number of audio channels, and wideband voice frequencies above 20kHz.
- * Supports voice-activated control mode; the meeting room with the loudest speaker automatically switches to the designated voice-activated window for display.
- * Virtual conferencing supports chairman-controlled meeting mode and free mode. In this mode, the chairman terminal can manage the meeting and screen layout; it also supports speaker mode, where other meeting rooms automatically view the speaker's screen after a terminal speaks.
- * Scheduled meetings support selecting either pure audio or audio + video as the meeting media type.
- * Supports a re-invitation function for meeting sessions that have been interrupted. When "Always Invite" is selected, the MCU will re-invite the terminal every 10 seconds after an abnormal disconnection until the terminal rejoins. When "Limited Invite" is selected, the number of invitations needs to be set. The MCU will stop inviting after the set number of invitations is exceeded. When "No Invite" is selected, the MCU will not actively invite the terminal after an abnormal disconnection.
- * Supports remote control of the terminal's camera, including panning, zooming, and tilting.
- * Supports setting and displaying meeting room names. It allows setting whether all meeting room names are displayed on the meeting screen, their display position, font color, background color, and font size.
- * Supports banner functionality. Banners can be added to the meeting screen, and their activation, font size, font color, and background color can be set.
- * Supports scrolling message functionality. Scrolling messages can be sent, and their activation, font size, font color, background color, scroll count, and scrolling speed can be set.
- * Supports meeting management functions such as extending meeting time, ending the meeting, autofilling, switching layouts, audio reception, audio transmission, video reception, video transmission, video adjustment, information query, roll call, hang-up/call, group management of meeting rooms, and designating viewing screens.
- * Employs a bilingual (Chinese and English) management interface, enabling web-based management in both languages, conforming to Chinese usage habits. Device management, user management, and meeting management are achieved via the web, supporting remote maintenance methods such as Telnet and SSH. Partition management is available based on user and regional characteristics.
- * Supports AI real-time speech-to-text functionality. No additional integrated speech-to-text system configuration is required. It can transcribe audio from meetings into subtitles in real time, supporting both Chinese and English transcription. Users can customize the 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. After pre-recording a person's image, the system can recognize the image during the meeting and display the corresponding name. Font background color, color, size, and type are customizable.
- * Supports AI-powered meeting minutes, recording and exporting transcribed text based on meeting name and speaking time.
- * Supports meeting merging, combining multiple ongoing meetings into a single session.
- * Supports log management, allowing users to choose from different log levels such as debug, information, warning, error, and fatal error.
- * Supports monitoring system hardware, including CPU, memory, and disk usage.
- * Supports remote control and remote upgrades.
- * Supports voice priority and QoS policy modes.
- * Supports IPv4 and IPv6 protocols, enabling communication across routers and firewalls to ensure system security. Supports QoS, NAT, and H.245 tunnel settings.
- * Supports virtual meeting room functionality, allowing individual users to independently allocate virtual meeting rooms 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; if a board fails, the MCU will switch the data and services on that board to another board within 8 seconds, ensuring uninterrupted conferencing and 24/7 continuous operation.
- * Supports resource pool creation for unified MCU management and dual-machine hot standby. When one MCU fails, the terminal can automatically reconnect to another MCU within 15 seconds, and the conference automatically resumes.
- * Supports batch software version upgrades for terminal devices. Upgrade times are customizable, eliminating the need for individual device upgrades using other tools; terminals automatically upgrade upon startup.
- * Supports device management and maintenance functions. Users can modify configurations such as device name, call bandwidth and protocol, audio/video equipment, registration, and network settings. They can also view terminal IP addresses, MAC addresses, registration status, version information, and system operation information.

Specification:

Model	VCS8000
Capacity	8 channels
Concurrent conference	6 groups of physical conferences
Card board quantity	4 cards: 3 resource cards and 1 network card
Video output	12 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	15.5Kg