HD recording controller   TS -0663L

Automatic recording control embedded software V3.11

Description

It adopts integrated hardware design and embedded Linux operating system, and is highly integrated with embedded ultra-high-definition video acquisition, recording, live broadcast, director switching, image segmentation and splicing, and local echo output. It realizes multiple functions such as video live broadcast, intelligent director, ultra-high-definition recording, remote control, image recognition and tracking, and multi-party interaction. It is the latest generation of multimedia information recording and dissemination equipment independently developed to meet the needs of the education industry, comprehensive live teaching, learning interactive teaching, practical training, etc.

Features

1. Hardware parameters:

*Adopt domestic main control chip octa-core 64-bit processor, 8GB running memory. Integrated hardware design, embedded Linux operating system, highly integrated audio and video acquisition, encoding, decoding, professional directing, live broadcast, on-demand, recording and other system modules, easy to use, easy to maintain and highly secure.

*The controller comes with 1TB of storage space, and can store up to 1,000 hours of recorded content. It supports frequent use of the device for more than one year, and supports automatic overwriting of the oldest file when the hard disk memory is full, for loop recording.

*The controller has 4 physical buttons, which enable one-click recording, stop, live broadcast and one-click copy of recorded files.

*Video input: The controller has 2-channel HDMI input interfaces, 4K resolution image acquisition and audio acquisition; it has 2-channel 3G-SDI signal input interfaces, and the SDI interface has POC function, supports POC device adaptive recognition, and realizes video transmission, PTZ control and power supply functions in one line.

*Video output: The controller has 2-channel HDMI output interfaces, one of which has 4K resolution and audio output; it has 1-channel Type-C video interface, supports custom configuration input and output, and supports 1080P resolution.

*Audio interface: The controller has 1-channel 3.5mm audio interface and 2 Phoenix terminals for audio collection; 1 3.5mm audio interface and 2 Phoenix terminals for audio output, meeting various audio input and output requirements.

*Control interface: The controller has 3-channel RS-232 Phoenix terminal interfaces and 1 RS-485 Phoenix terminal interface. 1-channel RS-232 terminal and 1-channel RS-485 terminal have 12V power supply, which can be connected to various serial port protocol devices and power the device; it has 4 USB interfaces and 1-channel Type-C interface, which can be used to connect U disk or keyboard and mouse, and supports video capture, file copying and upgrading functions; it comes with a 2.4G remote control, which can be used to control recording and directing functions.

*Network interface: The controller has 4-channel 802.3ab 1000Base-T Gigabit network interfaces, three of which have POE function, so that one network cable can be used for power supply and network supply; it supports IPv4 addresses and IPv6 addresses.

2. Software functions:

*Based on the B/S architecture, you can log in to the web terminal to realize functions such as director, live broadcast management, signal management, group management, user management, file management, scheduled recording, central control management and system management.

*Support H.264/H.265 video codec protocols, support AAC, PCM, G711A, G711U, ADPCM audio encoding protocols, to ensure high audio restoration and accurate synchronous recording of audio and video.

*The device can realize simultaneous access and decoding of 6-channel 4K network cameras, and can synthesize 4-channel resource images to output 4K resolution PGM images. Support 2-channel SDI video acquisition, one-line simultaneous transmission of video, power supply and control; support 2-channel HDMI input acquisition, support 3840x2160@30fps, with audio input. Support video file upload preview, video files support MP4, AVI, MOV, FLV, TS and MKV formats.

*Support 7-channel video stream recording, the recorded file formats support MP4, AVI, MOV, FLV, TS and MKV formats, and the bit rate supports 256kbps~20Mbps.

*Supports segmented recording of video files, and the segment duration can be customized. The segmentation duration of TS file format supports 30~480 minutes, and the duration of other file formats provides 30~240 minutes. A single recording can be up to 12 hours of uninterrupted recording, and users can end the recording early as needed.

*Audio management: Supports mixing settings management, and each audio acquisition and output port supports individual control of volume or mute.

*Supports local video preview and playback function, can preview and view the currently recorded video, provides multiple playback switching, and supports 0.5x, 0.75x, 1.5x, and 2x video playback speed adjustment.

*Supports web-side file preview and built-in VOD on-demand module. Users can play, pause, jump and perform other operations on video files online through the Internet.

*Support multiple directing modes: It has an embedded directing console, which can preview 7 channels of images, 1 PGM channel and 6 resource channels in real time; it supports web-based directing, and supports fully automatic directing mode with the built-in automatic directing module; it supports serial port control protocol and standard network API protocol, and can be connected to various third-party directing tools for device recording and directing control; it supports built-in peripheral 4-inch control touch panel, and can realize input source image monitoring or directing switching, recording mode switching, starting and stopping recording by clicking the control screen button.

*Support screen layout: support picture-in-picture, three-screen, four-screen and dialogue screen, and support 7 screen layouts including 2 custom screen layouts to meet personalized needs; support custom screen layout, 4-way layer custom overlay, free setting of overlay position.

*Support switching special effects: including gradient, upward flying, downward flying, blinds, box state expansion, and other 12 screen switching special effects.

*Support subtitle settings: users can customize the size of subtitles, and the font color provides red, green, blue, white, and black options. The subtitle position can be dragged at will with the mouse, and the selection of solid color background for letters and the uploading of slogan background images are supported.

*Support adding opening and ending credits: the opening and ending credits can be displayed by selecting the resource channel screen or custom uploaded pictures, and the uploaded picture formats support jpg, jpeg, png, and bmp. Support adding watermark logo: users can customize the uploaded logo picture and support red, green, blue, and white transparent color selection.

*Live broadcast management: Supports web live broadcast function, supports live broadcast to 50 users at the same time in the local area network, has standard RTMP streaming function, supports 3-way streaming at the same time, connects to third-party live broadcast platform for online live broadcast, facilitates expansion of the number of live broadcasts, and supports customized start and end time of streaming.

*File upload: The controller supports cooperating with a third-party FTP file server to automatically upload backup files. It supports the rapid construction of a file server through FTP server tools, and the courseware is automatically pushed to the file server. File upload and download can automatically adjust the bandwidth to prevent network congestion.

*Factory settings: The controller supports software/hardware reset function. Users can easily restore the device to factory settings through physical buttons or remote commands to avoid file damage, IP address loss, administrator password loss, etc. that cause the system to become unusable.

*User management: The controller supports the group management function of B/S users, and can assign an account and password to each user. Users can watch live and on-demand files only after authentication and authorization. In addition, with the user group management function, the corresponding users can only access the corresponding courseware.

*Scheduled recording: After the scheduled recording schedule is edited, the recording will be automatically performed at the scheduled time, and the file name will be automatically generated with information such as venue, speaker and topic. Web signal management supports the function of recording small resources separately.

*Support one-key reset function to avoid system unusability caused by file damage, IP address loss and administrator password loss.

*Abnormal repair: Video files damaged by power supply abnormality can be repaired. The repaired file formats include MP4, AVI, MOV, FLV and MKV video packaging formats.

*Equipped with software central control, fill in the central control instructions in the recording and broadcasting management interface, you can perform central control operations through the interface, and connect other devices for one-click control; support recording and broadcasting Android APP docking and control; support docking with private cloud platform servers. After successful docking, the cloud platform can uniformly control the devices, making it convenient to manage multiple recording and broadcasting devices.

*Support one-click upgrade function. When the system has new function iterations, the function upgrade can be achieved by importing firmware.

*Supports docking with the public service platform for educational resources to realize resource on-demand and shared application functions; supports selection of viewing content by platform, stage, subject, version and textbook, automatic caching and high-definition video playback; supports on-demand, drag and drop, playback, jump and other video content playback operations.

3. Interactive function:

*Built-in video interactive function, which enables interaction between 4 recording and broadcasting controllers, and supports two interactive modes: discussion and mute. In discussion mode, the lecturers can choose to speak or mute their microphones at will; in mute mode, the lecturers cannot speak, but can watch the live broadcast of the lecturer.

*Support address book function: In discussion mode, users can enter the device name or IP address in the top search box to search for the corresponding contacts that have been added, or they can add contacts by clicking on the right side of the search box. The added contacts can be dialed, edited, deleted, etc. by the buttons on the right side.

*Support classroom convening function: In the interactive interface, the main classroom can directly convene the classroom terminals that have participated in the classroom interaction with one click, without the need for additional configuration, which is convenient and fast.

*Support permission control function: In interactive mode, the lecturer in the main classroom can set the opening and closing of the terminal screen and sound in the listening classroom, and can set the layout of the interactive screen.

*Support dual-screen dual-display function: In audio and video interactive mode, the main venue and the branch venue can output the screen. When the main venue opens auxiliary stream sharing, the main venue and the branch venue both output the computer courseware content of the main venue; when the main venue does not open auxiliary stream sharing, the main venue outputs the computer courseware content of the main venue, and the branch venue outputs the computer courseware content of the branch venue.

*Supports docking with the multimedia control unit (MCU) to enable interaction with 50 recording and broadcasting controllers. Supports multiple screen layouts, can display up to 16 screens at the same time, and can automatically poll interactive character screens.

*Dial-up call: supports dial-up function, and audio and video interactive function can be realized by entering the interactive terminal IP.

*Supports customized interactive frame rate, bit rate function, dynamic or static encoding to ensure smooth interactive audio and video under various network conditions.

4. AI tracking function:

*Built-in tracking strategy algorithms, no need to configure additional tracking analysis controller. Supports free switching of tracking strategies to meet the needs of different tracking scenarios.

*Supports free setting of teacher image tracking screen mode, and sets the size of the teacher tracking screen according to actual needs.

*Support setting tracking lock release time. When the locked teacher leaves the screen tracking area, the person lock will be automatically released after the tracking lock release time is reached, and the system will return to the default state, waiting for the next person to enter the screen to start re-locking and tracking.

*Support setting tracking shielding areas, such as actively shielding teacher observation areas, window curtains, classroom doors, large-screen LCD TVs and other places that are easy to interfere with the tracking effect. The system will not perform image analysis and tracking operations on the shielded areas to avoid these places interfering with the overall tracking effect.

*Student tracking supports locking the tracking object and multiple people appearing in the shooting screen, switching to a panoramic screen.

*Teacher tracking supports height adaptation function. After setting the close-up size, the system automatically identifies the teacher's height and centers the character in the picture.

*Supports full-time camera tracking of the teacher, always keeping the person in the center of the shot, achieving a stable tracking method without switching.

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Specification

Storage space	1TB
power supply	DC 24V/5A
Power consumption	120W
Button	1×switch button, 4×function buttons
Software reset function	Support factory reset
Software upgrade	Support USB upgrade and web network upgrade
Indicator lights	3*led, system operation, hard disk failure and recording prompt lights
Video protocol	H.264, H.265
Bit stream	256Kbps~20Mbps
Video output format	Support MP4/MOV/MKV/FLV/AVI/TS
Audio protocol	AAC, PCM, G711A, G711U, ADPCM
Live broadcast protocol	Support RTSP and RTMP real-time protocol streaming
Network protocol	Support TCP, UDP, RTMP, RTSP, FTP, DHCP, HTTP protocols
Interaction	Bluetooth remote control/mouse/USB touch
Input resolution	3840x2160@30fps, 2560*1600@60fps, 2560*1440@60fps, 2048*1152@60fps, 192 0*1200@60fps, 1920x1080@60/50/30/25fps, 1680*1050@60fps, 1280*720@60fps
Output resolution	3840x2160@30fps、1920x1080@60/50/30/25fps
Network port	4-channel 802.3ab 1000Base-T Gigabit network interfaces, 3 of which support POE power supply
USB interface	4-channel USB3.0 ports, support mouse/U disk/director switch
Control interface	3-channel RS-232 interfaces, 1 RS-485 interface
Audio input interface	1-channel 3.5mm audio interface and 2-channel Phoenix terminals for audio collection; 2 HDMI with audio input
Audio output interface	1-channel 3.5mm audio interface and 2-channel Phoenix terminal audio outputs; 1 HDMI with audio output
Video input interface	2-channel HDMI video interface, 2-channel 3G-SDI video interface (support POC power supply)
Video output interface	HDMI OUT1: adjustable resolution, up to 4K30 with audio output, fixed PGM screen HDMI OUT2: 1080P60 (fixed) without audio output, fixed director interface output
Operating temperature	-10℃-55℃ (ambient temperature under good ventilation conditions)
Operating humidity	20%~80% relative humidity, no condensation
Dimensions (W x D x H)	482.6×258×56mm
Weight	3.89 kg