

WX-SE500 4K EasyStream Solution



SE500 Host

1. Specifications

Processor: Octa-core ARM processor (China-made)

Operating System: Embedded Linux

Memory: 8GB RAM

Storage: 512GB SSD

Noise Level: $\leq 20\text{dB(A)}$

2. Integrated Camera System

Dual 4K Cameras:

- **Close-up Camera:**

- **Sensor:** 8.29MP, 1/2.7" CMOS
- **Lens:** $f=7.37\text{mm}$, 43° FOV
- **Zoom:** 2x digital zoom
- **PTZ Range:** $\pm 40^\circ$ (horizontal), $+5^\circ$ to -30° (vertical)
- **Presets:** 255 positions, $\leq 0.5^\circ$ accuracy
- **Auto-focus**, 2D/3D noise reduction ($\text{SNR} \geq 55\text{dB}$)

- **Panoramic Camera:**

- **Sensor:** 4.93MP, 1/2.7" CMOS
- **Lens:** f=2.2mm, 110° ultra-wide FOV
- **Tilt Range:** 0° to +24° (vertical)

3. Video & Audio Interfaces

- **Video Input/Output:**

- 1× HDMI IN, 1× HDMI OUT

- **Audio Input/Output:**

- 1× Line IN, 1× Line OUT

- **Supports 2 wireless microphones (with power supply)**

- **USB-powered microphone support (single-cable solution)**

4. Network & Control Interfaces

- **Network:**

- Dual Gigabit Ethernet (RJ45×2)
- IPv4/IPv6 support, DHCP
- PoC (Power over Cable) for external cameras
- **Control Ports:**
 - 1× RS232/RS485 serial port
 - 2× USB (for keyboard/mouse/USB storage)
 - 1× Type-C (UVC protocol, compatible with Zoom/Tencent Meeting/DingTalk)

5. Key Features

- **Recording & Streaming:**
 - 4K video capture (H.265/H.264)
 - Live streaming & on-demand playback
 - AI auto-tracking, virtual chroma key
 - Audio-video sync ≤80ms

- **AI Functions:**
 - Speech-to-text transcription
 - Behavior analysis

- **Remote Management:**

- Web-based control for cameras & microphones

6. Compatibility & Power

- Conferencing: Works with Zoom, Tencent Meeting, DingTalk (via Type-C UVC)
- Wireless Mics: Dual-frequency pairing support
- Power over Cable (PoC): Single RJ45 for power + data



SE-500 RBS System

1. System Overview

- Login: Username/password authentication

- **Dual recording modes:**
 - Movie Mode (1 channel)
 - Resource Mode (5 channels simultaneously)
- **Composite recording includes:**
 - Combined view
 - Teacher (Panorama + Close-up)
 - Student (Panorama + Close-up)
 - Computer screen

2. Recording Specifications

Output Formats: MP4, FLV, TS

Resolutions: 4K (3840×2160), 1080p (1920×1080)

Frame Rates: 25fps, 30fps

Bitrate Range: 1000-20000 kbps (adjustable)

3. Production Features

- **Real-time Monitoring:**
 - CPU usage
 - Disk status
 - Multi-channel preview
- **Production Modes:**
 - Local/remote direction

- Drag-and-drop video switching with preview tracking
- **Subtitles:**
 - 9 presets (including auto-synced system time)
 - Customizable position/size/color (9 sizes, 8 colors)
 - Virtual keyboard (supports Chinese/English/symbols)

4. Advanced Functionality

- **AI-Powered Features:**
 - Behavior analysis (attendance, posture detection)
 - Real-time speech-to-text
 - Hotword extraction
- **Virtual Production:**
 - 3-layer compositing (foreground + human + background)
 - Virtual chroma keying
- **Device Integration:**
 - Supports drones/mobile devices
 - Unlimited distance streaming

5. Technical Specifications

- **Video Encoding:**

- H.264, H.265, MJPEG
- 32Kbps-16384Kbps bitrate

- **Audio Encoding:**

- AAC, G.711A
- 48KHz sampling rate
- 96/128/256Kbps bitrate

6. Network & Compatibility

- **Streaming Protocols:**

- 5x RTMP simultaneous outputs
- SIP/H.323 compliant

- **Network Diagnostics:**

- Bandwidth monitoring
- Packet loss detection
- Latency measurement



Dual-Lens Camera

1. Camera Design & Imaging

● Dual-Lens System:

- Close-up Lens: 8MP (1/2.7" CMOS), 26° FOV, 2x digital zoom
- Panoramic Lens: 4MP (1/2.7" CMOS), 43° FOV
- Resolution: 4K (3840×2160), compatible with 1080p/720p
- Sensor Sync: Unified image processor for consistent brightness/color between lenses

2. Video Performance

Encoding: H.264, MJPEG

Frame Rate: 1–30fps adjustable

Bitrate: 32Kbps – 16,384Kbps

Profile: Baseline/Main/High Profile

Scan Mode: Progressive (50Hz/60Hz)

Digital Zoom: 2x (close-up lens)

3. Optical & Mechanical**● PTZ Range:**

- Close-up: ±40° horizontal, -30° to +5° vertical
- Panoramic: -24° to 0° vertical
- Speed: 30°/s (horizontal/vertical)
- Presets: 255 positions, ±0.5° accuracy
- Flip: Horizontal/vertical mirroring supported

4. Low-Light & Image Processing

Minimum Illumination: 0.5 Lux (F2.2, AGC ON)

Shutter Speed: 1/30s – 1/10,000s

Noise Reduction: 2D+3D digital noise
reduction (SNR ≥ 55 dB)

WDR: Backlight compensation

White Balance: Auto/Indoor/Outdoor/
One-push/Manual

5. Audio & Connectivity

- **Audio Encoding:** AAC, G.711A (48KHz, 96/128/256Kbps)

- **Interfaces:**

- 1× RJ45 (10/100Mbps, PoE+)
- 1× Type-C (UVC/UAC, 4K@30fps)
- 1× 3.5mm Line-in/Line-out

- **Protocols:** TCP/IP, RTSP, RTMP, ONVIF, GB/T 28181, multicast

6. AI & Tracking

- **Auto Tracking:**

- Built-in AI algorithms for smooth subject tracking
- Dual-stream output (wide + close-up) with auto-switching
- **Face Detection:** Real-time analysis with edge anti-aliasing
- **Behavior Analysis:** Recognizes raising hands, standing, leaning, etc.

7. Power & Management

- **Power Options:** DC 12V or PoE+ (IEEE 802.3at)
- **Remote Control:** Web-based adjustment of brightness/contrast/sharpness
- **Compatibility:** Works with major conferencing platforms (Zoom/Teams)

Key Advantages:

- ✧ **4K Dual-Lens Sync** – Seamless wide/close-up matching
- ✧ **AI-Powered Tracking** – No external sensors required
- ✧ **Conference-Ready** – UVC/UAC plug-and-play for

meetings

✧ **Education-Optimized** – Behavior analysis for
classroom analytics

Note: All specs subject to verification via IEC/GB standards.



WX-OM600 Audio Microphone System

Main Microphone (Master Unit)

1. Core Audio Performance

- **Type:** Omnidirectional Hi-Fi array (7-mic circular configuration)
- **Pickup Pattern:** 360° full coverage
- **Frequency Response:** 20Hz–20kHz (± 2 dB)
- **Sensitivity:** -35dB
- **SNR:** >68dB(A)
- **Sampling Rate:** 48kHz
- **Max Pickup Distance:** 8m

2. Advanced Audio Processing

AI Noise Reduction: $\geq 36\text{dB}$ suppression

(steady/transient noise)

Automatic Gain Control: -24dB to $+24\text{dB}$

adjustable range

Echo Cancellation: 60dB reduction, 512ms

tail length

Feedback Suppression: 8 fixed + 8 adaptive

filters ($+15\text{dB}$ gain)

Reverb Control: Real-time RT60

measurement & suppression

3. System Integration

● Connectivity:

- 1× RJ45 (audio I/O + power)
- 1× USB Type-C (UAC1.0 for config/upgrades)
- 3.5mm line-out

● **Power:** USB 5V / DC 12V

● **Cascading:** Supports up to 5 slave mics

4. Smart Calibration Tools

● One-Touch Room Tuning:

- Auto-detects room acoustics
- Adjusts EQ/gain to compensate for defects

- **Audio Matrix Control:**

- Per-channel volume/on-off control
- Preset modes for different scenarios

Slave Microphone (Satellite Unit)

1. Core Specifications

- **Type:** Unidirectional Hi-Fi condenser
- **Frequency Response:** 20Hz–20kHz
- **SNR:** >68dB(A)
- **Sensitivity:** -35dB
- **Pickup Distance:** 8m

2. Connectivity

- **Interfaces:**
 - 2× RJ45 (input/output)
 - DIP switch for output selection
- **Power:** Powered by master unit

Key Features Summary

- ✧ **360° AI Beamforming** – 7-mic array with 8m pickup
- ✧ **Pro-Grade Processing** – 60dB echo cancelation, 36dB noise reduction

- ✧ **Plug-and-Play** – USB/UAC1.0 compatible with conferencing apps
- ✧ **Scalable** – Expandable to 6-mic system (1 master + 5 slaves)
- ✧ **Self-Calibrating** – Auto-optimizes for room acoustics