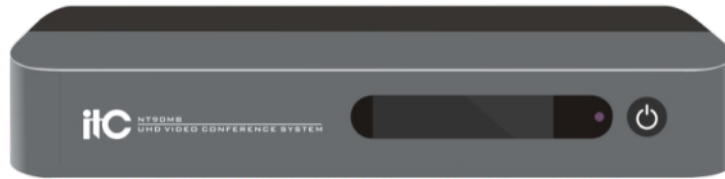# HD Video Terminal NT90MB (MB02M4)

Embedded software: HD video conference with MCU terminal embedded software V4.1

Description:

The brand-new HD video conference split terminal supports H.265 technology and achieves UHD display effects with ultra-low bandwidth. Integrating rich audiovisual interfaces, it is suitable for various small and medium conference venues.

Feature:

* Adopt a split structure, built-in hardware video processing unit, and embedded Linux operating system, non-Windows/Android operating system.
* Support ITU-T H.323, SIP standard protocol, with good compatibility; support H.239, BFCP dual-stream protocol, the main and auxiliary streams can reach 1080P.
* Support 64Kbps-8Mbps call bandwidth, support QCIF, CIF, 4CIF, 480P, D1, 720P, and 1080P video resolutions.
* Support 1280*720 60fps/50fps/30fps/25fps, 1920*1080 60fps/50fps/30fps/25fps HD video signal input.
* Support 1024*768 60fps, 1280*720 60fps, 1920*1080 60fps/30fps, 3840*2160 60fps/30fps HD video signal output.
* Support H.261, H.263, H.263+, H.264, H.264 HP, H.265 video codec protocols, support G.711, G.722, G.722.1, G.722.1C, OPUS audio codec protocols, the sound quality is up to 48KHz.
* Built-in MCU function module, support holding 4-party meetings, support smooth expansion to 8-point built-in MCU function, support built-in MCU holding mainstream and auxiliary stream meetings, and support PC or mobile terminals joining the meeting.
* Support the annotation function of the auxiliary stream, and make real-time annotations on the auxiliary stream screen when sending/receiving the auxiliary stream; set three different pen thicknesses, five pen colors, and set annotation graphics such as circles, squares, arrows, and lines. when sending auxiliary stream, you can set whether to enable annotation permissions for participants to make comments together.
* The terminal can be controlled by 2.4G remote, web, touch control, mouse and keyboard, etc. The wireless mouse control mode is supported.
* Support freely turning on/off the remote video, support changing the window position of the video in the screen layout by drag and drop via the wireless mouse.
* Adopt the B/S management structure, access the browser to log in to the WEB for remote management of the terminal, support Chinese and English language switching;
* Support inviting to join the meeting, you can view the real-time status of the online address book, and the online and offline status of each venue.
* Support applying for speaking: apply to the chairman venue for speaking permission.
* Support the chairman control mode. The chairman can control the dual-stream encoding rate, resolution and other parameters of all remote venues, and control the PTZ camera turning, focusing, and zooming operations.
* The main screen supports 4K signal outputs, and a single screen supports up to 25 video images;
* Support actively turning on the remote auxiliary screens, and watch up to 25 auxiliary screens of different video terminals at the same time.
* Support full-screen display or composite display of auxiliary streams in the meeting.
* Support single-screen dual-display and dual-screen dual-display application functions, realize multi-screen layout, support multiple common layouts such as PIP; a single screen supports simultaneous display of 25 video images.
* Support controlling the dual-stream bandwidth of all remote venues, and support PTZ control.
* Support controlling the speech of other terminals in the same meeting, support sending scrolling messages and banners, etc.
* Support switching the signal sources of mainstream video in the meeting;
* Equipped with a USB interface to connect USB storage devices; support meeting recording function, to directly record video and audio during the meeting; support program upgrades and capture data packets through USB storage devices.
* The terminal has built-in modules such as meeting sign-in, electronic whiteboard, electronic voting, and file sharing, to meet the needs of remote training, teaching and other scenes.
* Support the video polling function, you can choose the polling window, polling interval, and polling participant; support the voice activation function, you can set the voice activation window, and the venue with the loudest speech will automatically switch to this window.
* Support the wireless streaming function. Just install a software on the computer and connect it to the terminal through the network to realize the wireless shared streaming function; no need for external hardware devices.
* No need for registration, enter the meeting number to join the corresponding meeting, and you can choose the meeting interactive mode or live broadcast mode.
* Support one-click meeting initiation on the APP to quickly create a virtual meeting on the MCU and automatically join the meeting; support inviting venues to join the meeting on the APP. The meeting supports functions such as electronic whiteboard, file sharing, electronic voting, and meeting sign-in.
* Support scheduling meetings on APP, select participants, set meeting password, chairman password, live broadcast password, meeting time, etc. After submission, the MCU will automatically hold a meeting according to the timetable. The meeting supports functions such as electronic whiteboard, file sharing, electronic voting, meeting sign-in.
* Support the chairman switching other terminals in the meeting between live broadcast mode and meeting mode on the APP. The meeting mode supports functions such as electronic whiteboard, file sharing, electronic voting, and meeting sign-in.
* Support terminals actively applying to the chairman to switch from live broadcast mode to meeting mode. And they can switch to meeting mode with approval. The meeting mode supports functions such as electronic whiteboard, file sharing, electronic voting, and meeting sign-in.
* Support Auto split screen function, automatically select the appropriate layout according to the number of terminals joining the meeting and automatically turn on the screen; support Autofill function, select a fixed screen layout, and automatically open it on an idle window after the terminal joins the meeting.
* A complete SDK development manual for the terminal can be provided, to invoke the adjustment camera of the terminal, send scrolling messages, set banners, switch screen layout, and control the speech of each venue through the SDK, and third-party systems can be seamlessly integrated.
* Support 3 audio input interfaces (2*3.5mm, 1*HDMI), 2 audio output interfaces (1*HDMI, 1*3.5mm).
* Support IP network packet loss repair mechanism; under 30% packet loss rate, the sound is continuous and the video is smooth, without lagging and blurring; under 80% packet loss rate, the sound is clear and can be accurately understood.
* Super network adaptability, automatically adjust the resolution according to the network to ensure the smoothness of the meeting.
* Support the banner function: you can add a banner on the screen, and set whether to enable the banner and the font size, font color, and background color of the banner.
* Support scrolling message function: you can send scrolling message, and set whether to enable scrolling message and the font size, font color, background color and scrolling times of the scrolling message.
* Support audio processing functions such as automatic noise suppression, automatic gain control, automatic echo cancellation, and lip synchronization.
* Support the venue Mute and Silence function, and the audio output of the venue is adjustable.
* Support voice priority, support QOS strategy mode.
* Support IPV4 and IPV6 protocols, support NAT traversal, and support the ability to cross routers and firewalls to ensure system security.
* Support convenient management and maintenance, support local audiovisual loop diagnostic functions, and one-key local audiovisual testing, support network ping test on the operation interface, and support call log and historical record query.
* Support viewing the media information of audio, mainstream video, and auxiliary video, including the protocol, format, bit rate, packet quantity, packet capacity, packet loss rate, packet loss quantity, jitter, delay, sending/receiving address, encrypted or not.
* Support power-on boot of the device and power management of the fan, and configure whether to enable the device power-on boot and the fan.
* Support the web interactive whiteboard function, you can perform the whiteboard operation on the terminal control web, set three different pen thicknesses, five pen colors, and set annotation graphics such as circles, squares, arrows, and lines, set a solid color background or picture background; when the electronic whiteboard is operated on the web, the terminal output screen synchronously displays the whiteboard content. The electronic whiteboard supports paging function, up to 5 pages.
* Support infrared transparent transmission function, transmit infrared signals to the video conference terminal through the camera using the infrared remote, so as to realize remote control of the terminal by the infrared remote.

Specifications:

Model	NT90MB
Built-in MCU	4 points
Communication protocol	Comply with ITU H.323 and SIP protocol
Video input	3 HD video input interfaces, HDMI*3
Video output	2 HD video output interfaces, HDMI*2
Audio input	3 audio input interfaces, MIC IN*1, LINE IN*1, HDMI*1
Audio output	2 audio output interfaces, HDMI*1, LINE OUT*1
Internet	1 Gigabit Ethernet port, RJ45*1; 1 WIFI network (can be changed to 4G network)
USB interface	2 USB2.0 interfaces can be used for device extensions or online upgrades
Video protocol	Support H.261, H.263, H.263+, H.264, H.264 HP, H.265 video standard protocols
Dual stream protocol	Support H.239, BFCP dual-stream protocol
Display method	Support 4:3 and 16:9
Cooling method	Built-in cooling fan
Ambient temperature	0℃~35℃ (working state) -40℃~55℃ (non-working state)
Relative humidity	10%~80% (working state) 0%~95% (non-working state) (no condensation)
Power supply	DC 12V
Dimension	220×210×30mm
Weight	1.5kg