

AUTO-TRACKING CONFERENCE RECORDER

4K Conference Auto-Tracking Recorder

— 5-Channel Recording, Guide & Live Streaming

BX-M5000

As camera video sources move from 1080p to true 4K (3840×2160), the demand for 4K encoding, recording, live broadcast and on-demand playback has grown alongside it. The BX-M5000 is Bronx's integrated recording and broadcasting appliance, built on an ARM architecture and combining courseware recording, live streaming, on-demand playback, intelligent guide switching and on-board storage in a single 1U chassis. The system captures and encodes 5 channels of 4K video simultaneously in H.265, with every stage from acquisition through recording to output supporting full 4K resolution. Movie mode and resource mode can record in parallel, and the program (PGM) output supports picture-in-picture plus 1/2/3/4/6-way split-screen display and recording.

**5x 4K HDMI
INPUT****H.265 / H.264
ENCODING****AUTO-TRACKING
PTZ CONTROL****RTMP LIVE
STREAMING****1TB BUILT-IN
STORAGE**

BX-M5000 — FRONT CONTROL PANEL (TOP) · REAR I/O PANEL (BOTTOM)

INTERFACE DESCRIPTION

NO.	INTERFACE	DESCRIPTION
1	Headphone Jack	3.5mm monitor / listening output
2	Audio I/O	LINE-IN (unbalanced), MIC-IN (balanced), LINE-OUT-1 / LINE-OUT-2 (unbalanced) — 3-pin Phoenix terminal connectors
3	HDMI OUT 1–4	HDMI signal output; each output can be set in software to carry a guide screen or a PGM feed
4	HDMI IN 1–5	HDMI signal input; supports 5-channel 4K video input simultaneously
5	USB 2.0 / USB-OTG	USB 2.0 for external storage or mouse; USB-OTG for software upgrade
6	NET	Gigabit (1000M) RJ-45 network interface for device networking
7	RS-232 / RS-485	2 groups each, 3-pin Phoenix terminal; for external guide keyboard, central control, PTZ, etc.
8	DC-12V	Device power interface; supplied with 12V/3A power adapter
9	Power	Equipment power on/off switch
10	LCD Screen	Displays recording status, channel status, network information, storage space
11	USB 2.0 / 3.0	1× USB 2.0, 1× USB 3.0 — external storage or mouse operation

FRONT PANEL CONTROLS

POWER & STATUS Front-panel power switch and a status LCD showing recording state, channel status, network info and storage space at a glance.	FRONT USB ACCESS A dedicated USB 2.0 / USB 3.0 pair on the front panel for quick file copy-off or mouse connection without reaching around the rack.
RACK MOUNTING Standard 1U 19" rackmount chassis, drops straight into an AV rack alongside switchers, amplifiers and other broadcast equipment.	SERIAL CONTROL HEADERS Rear RS-232 / RS-485 Phoenix terminals carry PTZ, central-control and guide-keyboard commands independent of the network link.

SPECIFICATION **PARAMETER TABLE**

Model	BX-M5000
Video Input	5× HDMI signal input
Video Output	4× HDMI signal output
Max. Input Resolution	3840×2160 @ 30fps
Max. Output Resolution	3840×2160 @ 30fps
Audio Input	1× balanced input, 3-pin Phoenix terminal · 1× unbalanced input, 3.5mm interface
Audio Output	1× balanced output, 3-pin Phoenix terminal · 1× unbalanced monitor output, 3.5mm headphone jack
Video Encoding	H.264, H.265
Audio Encoding	AAC
Video Output Format	MP4
Video Frame Rate	1–30 fps, adjustable
Video Bitrate	500Kbps – 40Mbps, adjustable
Audio Bitrate	8–128Kbps, adjustable
Data Storage	Built-in 1TB hard drive; supports capacity extension
RS-485	2 groups, 3-pin Phoenix terminal connector
RS-232	2 groups, 3-pin Phoenix terminal connector
Network	1× 1000M (Gigabit) network port, RJ-45
USB Interface	2× USB 2.0, 1× USB 3.0, 1× USB-OTG
Software Upgrade	Network upgrade, OTG upgrade
Storage Mode	Built-in hard drive, external USB storage (USB export), FTP download
Protocol Support	RTMP, RTSP, UDP, TCP, FTP, DHCP, HTTP
Working Power Supply	DC 12V / 3A
Equipment Size	1U rackmount

GUIDE & RECORDING FEATURES

GUIDE MODE SWITCHING

Manual, Half-Auto and Full-Auto guide modes. In manual mode the operator switches PGM with a single touch on the resource-channel preview; in half-auto the tracking camera follows automatically but PGM switching stays manual; full-auto hands both to the tracking system.

TRANSITION EFFECTS

Wipe, cover, push, fade and slide transitions for manual and full-automatic switching, with adjustable speed. Three effects can be pinned to the main guide screen for quick recall.

DUAL-MODE RECORDING

Simultaneous Movie mode (PGM/PGM2 composite) and Resource mode (per-channel) recording for downstream non-linear editing. Timed recording supports up to 8 scheduled slots per day; recording files split automatically every 5–240 minutes.

ON-SCREEN OVERLAYS

Live insertion of course title, station logo (4 screen positions), opening/closing credit rolls, and up to 13 stored subtitle presets — cutting down post-production editing time.

FILE UPLOAD & BACKUP

Automatic FTP/HTTP upload on recording stop, scheduled upload windows, and automatic reload of upload history after a host reboot.

SPLIT-SCREEN & LAYOUTS

Up to 6-way split screen (positions A–F), with picture-in-picture and quad-split presets for teacher close-up, student panorama and PC/content sources. Fully custom region layouts (position, width, height) can be saved per channel.

PTZ CAMERA CONTROL

VISCA, PELCO-P and PELCO-D protocols over RS-485/RS-232 or network (UDP); pan/tilt/zoom/focus/iris control with 8 savable presets plus dedicated big-close-up, close-up, medium, and far-view framing positions.

LIVE STREAMING

RTMP push streaming on independent main/sub streams for both PGM and PGM2 channels, with push address, bitrate and resolution configurable per stream.

INTERACTIVE CLASSROOM

Multi-classroom interactive login with remote camera switching, two-way talk-back, PC screen sharing, and remote record / push-stream / menu control from the presenter interface.

ONE-TOUCH START

A single configurable macro can combine record, PGM/PGM2 push-stream, auto-guide, opening/closing credit insertion and interactive-session start into one button.