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# FOMaKO Broadcasting-Level PTZ Camera

The FMK12UH Pro(20X) camera is designed for professional live streaming, production and broadcasting, suitable for scenarios such as churches, studios and universities. It supports 24/7 non-stop operation and works stably in high-intensity environments. With flexible shooting capabilities, it can capture both panoramic views and details, is compatible with multiple devices, and ensures stable signal transmission. It can restore the solemnity of churches, present studio-level image quality, and record large-scale events, providing solid professional performance to facilitate efficient audio-visual communication.

★ FMK12UH Pro(20X)-B Black

★ FMK12UH Pro(20X)-Silvery



## Features

### ▶ 1/2.8 inch HD CMOS sensor

Equipped with a 1/2.8 - inch high - quality HD CMOS sensor, this 20X camera supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps. It delivers clear, smooth video images with vivid colors and strong depth.

### ▶ 20x Optical Zoom Lens

Employs 20x Optical Zoom + 10x Digital Zoom. Allowing easy switching between wide angle and close - ups shots for various shooting scenarios.

### ▶ Low Noise & High SNR

Utilizing a low - noise CMOS, it achieves super - high SNR images. Combined with advanced 2D/3D noise reduction technology, it further reduces noise interference while ensuring high image clarity, making the video effect more outstanding in low - light conditions.

### ▶ Multiple Video Output Interfaces

Supports multiple video output interfaces including HDMI, LAN, USB3.0. LAN supports optional POE function. It can meet different connection requirements, such as direct HD display and network transmission.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264/H.265 video compression, with a maximum resolution of 1920×1080 at 60fps. For audio compression, it supports AAC.

### ▶ Audio Input and Output

Audio input interface is a double - track 3.5mm linear input, and audio output interfaces include HDMI, USB3.0, and LAN. It can realize two - way audio transmission.

### ▶ AI Human Tracking

Integrating a high - speed processor and exclusive advanced image processing algorithms, the camera provides real - time and regional human tracking modes. Users can select the appropriate tracking mode according to the application environment. Through the web interface, simply click the person object box on the webpage to switch tracking targets.

### ▶ Leading Auto-Focus(AF) Technology

It features fast, accurate, and stable Auto - Focus (AF) technology. It supports Focus Modes: Auto, Manual, and One - Push Focus. It maintains clear HD images during movement and zoom in/out.

### ▶ Multiple Control Protocol

Supports VISCA, ONVIF, PELCO - D, PELCO - P protocols, plus automatic identification protocols.

### ▶ Multiple Network Protocol

It supports protocols including ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, and SRT.

### ▶ Low - Power Sleep Mode

Supports sleep/wake - up function with low power consumption (less than 400mw in sleep mode). It can automatically enter sleep state when idle to save energy, and quickly wake up when needed, extending the service life of the device.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	20X, f=5.05-91.49mm, F1.8 - F2.9
Digital Zoom	10X
Minimum Illuminance	0.5 Lux (F1.8, AGC ON)
Shutter	Auto/Manual(1/25s - 1/10000s)
White Balance	Auto/Manual/One - push /3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	≥50dB
View Angle	3.5°(N) 60°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	0.1°/s~100°/s
Tilt Speed Range	0.1°/s~45°/s
H & V Flip	Support
Image Freeze	Support
Number of Presets	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264, H265 USB 3.0: MJPG, H264, YUY2, NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920*1080/1280*720/640*480
Sub Stream Resolution	640*360/320*240/640*480/320*180/1280*720/1920*1080
Video Bit Rate	64Kbps - 40960Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, ONVIF, GB/T28181; Support Network VISCA control protocol

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPG/H264/H265
Video Format	YUY2/NV12: 1920×1080/1280×720/1024×576/800×600/800×448/640×480/640×360/480×320×180@30fps MJPG/H264: 3840×2160/2560×1440/1920×1080/1690×1280/1280×720/1024×576/960×540/800×600/800×448/720×576/720×480/640×480/640×360/480×320/288×320/240×360@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

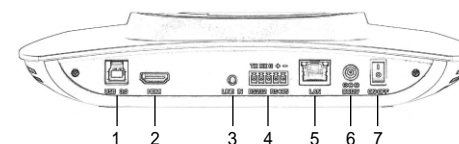
### ▶ Input / Output Interface

HD Output	1 x HDMI 1 x LAN 1 x USB3.0
Network Interface	LAN(POE)
Audio Interface	Input: Double track 3.5mm linear input Output: HDMI, USB 3.0, LAN
USB Interface	1 x USB3.0
Communication Interface	RS485
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	Input AC110V - AC220V; Output DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	253.5mm×144mm×169mm
Weight	1.46KG

## Interface Diagram



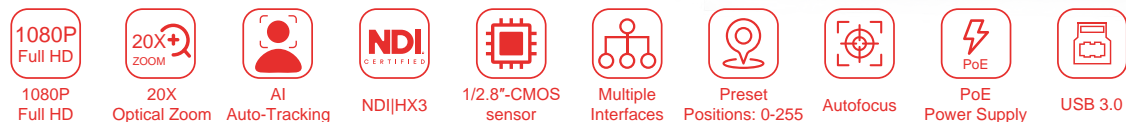
- 1 — USB 3.0 interface
- 2 — HDMI output interface
- 3 — AUDIO IN
- 4 — RS485/RS232
- 5 — Network LAN interface
- 6 — Power interface
- 7 — Power switch button

# FOMaKO Broadcasting-Level PTZ Camera

The FMK20UH NDI camera is designed for professional live streaming, production and broadcasting, suitable for scenarios such as churches, studios and universities. It supports 24/7 non-stop operation and works stably in high-intensity environments. With flexible shooting capabilities, it can capture both panoramic views and details, is compatible with multiple devices, and ensures stable signal transmission. It can restore the solemnity of churches, present studio-level image quality, and record large-scale events, providing solid professional performance to facilitate efficient audio-visual communication.

★ FMK20UH NDI-B(Black)

★ FMK20UH NDI-Silvery



## Features

### ▶ 1/2.8 inch HD CMOS sensor

Equipped with a 1/2.8 - inch high - quality HD CMOS sensor, this 20X camera supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps. It delivers clear, smooth video images with vivid colors and strong depth.

### ▶ 20x Optical Zoom Lens

Employs 20x Optical Zoom + 10x Digital Zoom. Allowing easy switching between wide angle and close - ups shots for various shooting scenarios.

### ▶ Low Noise & High SNR

Utilizing a low - noise CMOS, it achieves super - high SNR images. Combined with advanced 2D/3D noise reduction technology, it further reduces noise interference while ensuring high image clarity, making the video effect more outstanding in low - light conditions.

### ▶ Multiple Video Output Interfaces

Supports multiple video output interfaces including HDMI, LAN, USB3.0. LAN supports optional POE&NDI function. It can meet different connection requirements, such as direct HD display and network transmission.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264/H.265 video compression, with a maximum resolution of 1920×1080 at 60fps. For audio compression, it supports AAC.

### ▶ Audio Input and Output

Audio input interface is a double - track 3.5mm linear input, and audio output interfaces include HDMI, USB3.0, and LAN. It can realize two - way audio transmission.

### ▶ AI Human Tracking

Integrating a high - speed processor and exclusive advanced image processing algorithms, the camera provides real - time and regional human tracking modes. Users can select the appropriate tracking mode according to the application environment. Through the web interface, simply click the person object box on the webpage to switch tracking targets.

### ▶ Leading Auto-Focus(AF) Technology

It features fast, accurate, and stable Auto - Focus (AF) technology. It supports Focus Modes: Auto, Manual, and One - Push Focus. It maintains clear HD images during movement and zoom in/out.

### ▶ Multiple Control Protocol

Supports VISCA, ONVIF, PELCO - D, PELCO - P protocols, plus automatic identification protocols.

### ▶ Multiple Network Protocol

It supports protocols including ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, and SRT.

### ▶ Low - Power Sleep Mode

Supports sleep/wake - up function with low power consumption (less than 400mw in sleep mode). It can automatically enter sleep state when idle to save energy, and quickly wake up when needed, extending the service life of the device.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	20X, f=5.05-91.49mm, F1.8 - F2.9
Digital Zoom	10X
Minimum Illuminance	0.5 Lux (F1.8, AGC ON)
Shutter	Auto/Manual(1/25s - 1/10000s)
White Balance	Auto/Manual/One - push /3000K/3500K/4000K/4500K/5000K /5500K/6000K/6500K/7000K
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	≥50dB
View Angle	3.5°(N) 60°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	0.1°/s~100°/s
Tilt Speed Range	0.1°/s~45°/s
H & V Flip	Support
Image Freeze	Support
Number of Presets	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264, H265 USB 3.0: MJPG, H264, YUY2, NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920*1080/1280*720/640*480
Sub Stream Resolution	640*360/320*240/640*480/320*180 /1280*720/1920*1080
Video Bit Rate	64Kbps - 40960Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, NDI, ONVIF, GB/T28181; Support Network VISCA control protocol

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPG/H264/H265
Video Format	YUY2/NV12: 1920×1080/1280×720/1024×576 /800×600/800×448/640×480 /640×360/480×320×180@30fps MJPG/H264: 3840×2160/2560×1440/1920×1080 /1690×1280/1280×720/1024×576 /960×540/800×600/800×448/720×576 /720×480/640×480/640×360 /480×320/288×320/240×360@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

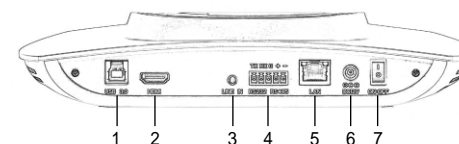
### ▶ Input / Output Interface

HD Output	1 x HDMI 1 x LAN 1 x USB3.0
Network Interface	LAN(POE)
Audio Interface	Input: Double track 3.5mm linear input Output: HDMI, USB 3.0, LAN
USB Interface	1 x USB3.0
Communication Interface	RS485
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	Input AC110V - AC220V; Output DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	253.5mm×144mm×169mm
Weight	1.46KG

## Interface Diagram



- 1 — USB 3.0 interface
- 2 — HDMI output interface
- 3 — AUDIO IN
- 4 — RS485/RS232
- 5 — Network LAN interface
- 6 — Power interface
- 7 — Power switch button

# FOMaKO Broadcasting-Level PTZ Camera

The FMK30UH camera is designed for professional live streaming, production and broadcasting, suitable for scenarios such as churches, studios and universities. It supports 24/7 non-stop operation and works stably in high-intensity environments. With flexible shooting capabilities, it can capture both panoramic views and details, is compatible with multiple devices, and ensures stable signal transmission. It can restore the solemnity of churches, present studio-level image quality, and record large-scale events, providing solid professional performance to facilitate efficient audio-visual communication.

★ FMK30UH-B Black

★ FMK30UH-Silvery



## Features

### ▶ 1/2.8 inch HD CMOS sensor

Equipped with a 1/2.8 - inch high - quality HD CMOS sensor, this 30X camera supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps. It delivers clear, smooth video images with vivid colors and strong depth.

### ▶ 30x Optical Zoom Lens

Employs 30x Optical Zoom + 10x Digital Zoom. Allowing easy switching between wide angle and close - ups shots for various shooting scenarios.

### ▶ Low Noise & High SNR

Utilizing a low - noise CMOS, it achieves super - high SNR images. Combined with advanced 2D/3D noise reduction technology, it further reduces noise interference while ensuring high image clarity, making the video effect more outstanding in low - light conditions.

### ▶ Multiple Video Output Interfaces

Supports multiple video output interfaces including HDMI, LAN, USB3.0. LAN supports optional POE function. It can meet different connection requirements, such as direct HD display and network transmission.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264/H.265 video compression, with a maximum resolution of 1920×1080 at 60fps. For audio compression, it supports AAC.

### ▶ Audio Input and Output

Audio input interface is a double - track 3.5mm linear input, and audio output interfaces include HDMI, USB3.0, and LAN. It can realize two - way audio transmission.

### ▶ AI Human Tracking

Integrating a high - speed processor and exclusive advanced image processing algorithms, the camera provides real - time and regional human tracking modes. Users can select the appropriate tracking mode according to the application environment. Through the web interface, simply click the person object box on the webpage to switch tracking targets.

### ▶ Leading Auto-Focus(AF) Technology

It features fast, accurate, and stable Auto - Focus (AF) technology. It supports Focus Modes: Auto, Manual, and One - Push Focus. It maintains clear HD images during movement and zoom in/out.

### ▶ Multiple Control Protocol

Supports VISCA, ONVIF, PELCO - D, PELCO - P protocols, plus automatic identification protocols.

### ▶ Multiple Network Protocol

It supports protocols including ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, and SRT.

### ▶ Low - Power Sleep Mode

Supports sleep/wake - up function with low power consumption (less than 400mw in sleep mode). It can automatically enter sleep state when idle to save energy, and quickly wake up when needed, extending the service life of the device.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	30X, f=5.2-148.4mm, F1.3 - F4.8
Digital Zoom	10X
Minimum Illuminance	0.5 Lux (F1.8, AGC ON)
Shutter	Auto/Manual(1/25s - 1/10000s)
White Balance	Auto/Manual/One - push /3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	≥50dB
View Angle	2.14°(N) 58.1°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	0.1°/s~100°/s
Tilt Speed Range	0.1°/s~45°/s
H & V Flip	Support
Image Freeze	Support
Number of Presets	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264, H265 USB 3.0: MJPG, H264, YUY2, NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920*1080/1280*720/640*480
Sub Stream Resolution	640*360/320*240/640*480/320*180/1280*720/1920*1080
Video Bit Rate	64Kbps - 40960Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, ONVIF, GB/T28181; Support Network VISCA control protocol

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPG/H264/H265
Video Format	YUY2/NV12: 1920×1080/1280×720/1024×576/800×600/800×448/640×480/640×360/480×320×180@30fps MJPG/H264: 3840×2160/2560×1440/1920×1080/1690×1280/1280×720/1024×576/960×540/800×600/800×448/720×576/720×480/640×480/640×360/480×320/288×320/240×360@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

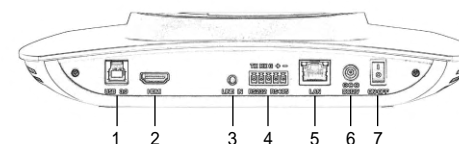
### ▶ Input / Output Interface

HD Output	1 x HDMI 1 x LAN 1 x USB3.0
Network Interface	LAN(POE)
Audio Interface	Input: Double track 3.5mm linear input Output: HDMI, USB 3.0, LAN
USB Interface	1 x USB3.0
Communication Interface	RS485
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	Input AC110V - AC220V; Output DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	253.5mm×144mm×169mm
Weight	1.46KG

## Interface Diagram



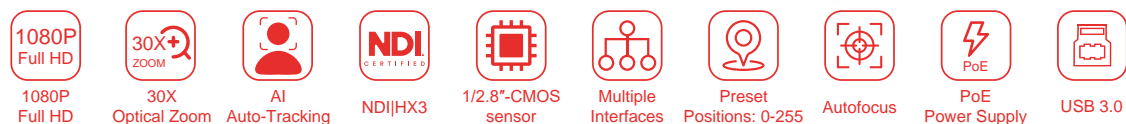
- 1 — USB 3.0 interface
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- 3 — AUDIO IN
- 4 — RS485/RS232
- 5 — Network LAN interface
- 6 — Power interface
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# FOMaKO Broadcasting-Level PTZ Camera

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★ FMK30UH NDI-B(Black)

★ FMK30UH NDI-Silvery



## Features

### ▶ 1/2.8 inch HD CMOS sensor

Equipped with a 1/2.8 - inch high - quality HD CMOS sensor, this 30X camera supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps. It delivers clear, smooth video images with vivid colors and strong depth.

### ▶ 30x Optical Zoom Lens

Employs 30x Optical Zoom + 10x Digital Zoom. Allowing easy switching between wide angle and close - ups shots for various shooting scenarios.

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### ▶ Multiple Video Output Interfaces

Supports multiple video output interfaces including HDMI, LAN, USB3.0. LAN supports optional POE&NDI function. It can meet different connection requirements, such as direct HD display and network transmission.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264/H.265 video compression, with a maximum resolution of 1920×1080 at 60fps. For audio compression, it supports AAC.

### ▶ Audio Input and Output

Audio input interface is a double - track 3.5mm linear input, and audio output interfaces include HDMI, USB3.0, and LAN. It can realize two - way audio transmission.

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It supports protocols including ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, and SRT.

### ▶ Low - Power Sleep Mode

Supports sleep/wake - up function with low power consumption (less than 400mw in sleep mode). It can automatically enter sleep state when idle to save energy, and quickly wake up when needed, extending the service life of the device.

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### ▶ Camera

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Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	30X, f=5.2-148.4mm, F1.3 - F4.8
Digital Zoom	10X
Minimum Illuminance	0.5 Lux (F1.8, AGC ON)
Shutter	Auto/Manual(1/25s - 1/10000s)
White Balance	Auto/Manual/One - push /3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	≥50dB
View Angle	2.14°(N) 58.1°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	0.1°/s~100°/s
Tilt Speed Range	0.1°/s~45°/s
H & V Flip	Support
Image Freeze	Support
Number of Presets	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264, H265 USB 3.0: MJPG, H264, YUY2, NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920*1080/1280*720/640*480
Sub Stream Resolution	640*360/320*240/640*480/320*180/1280*720/1920*1080
Video Bit Rate	64Kbps - 4096Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, NDI, ONVIF, GB/T28181; Support Network VISCA control protocol

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPG/H264/H265
Video Format	YUY2/NV12: 1920×1080/1280×720/1024×576/800×600/800×448/640×480/640×360/480×320×180@30fps MJPG/H264: 3840×2160/2560×1440/1920×1080/1690×1280/1280×720/1024×576/960×540/800×600/800×448/720×576/720×480/640×480/640×360/480×320/288×320/240×360@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

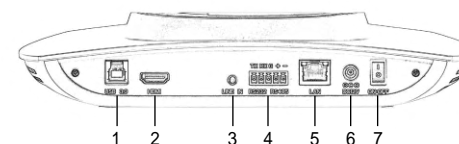
### ▶ Input / Output Interface

HD Output	1 x HDMI 1 x LAN 1 x USB3.0
Network Interface	LAN(POE)
Audio Interface	Input: Double track 3.5mm linear input Output: HDMI, USB 3.0, LAN
USB Interface	1 x USB3.0
Communication Interface	RS485
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	Input AC110V - AC220V; Output DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	253.5mm×144mm×169mm
Weight	1.46KG

## Interface Diagram

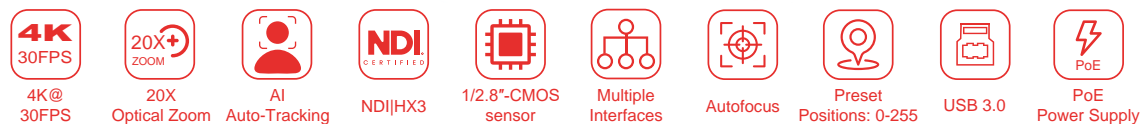


- 1 — USB 3.0 interface
- 2 — HDMI output interface
- 3 — AUDIO IN
- 4 — RS485/RS232
- 5 — Network LAN interface
- 6 — Power interface
- 7 — Power switch button

# FOMaKO Broadcasting-Level 4K PTZ Camera

The K20UH camera is designed and produced for professional AV (audio - video system) live Streaming / live Production / live Broadcasting, and suitable for Church worship live services, studios, universities, factory live events, sports clubs / eSports / dance clubs, training classrooms, large Hard Rock Bars, Texas Hold'em events, high - end summits, large conferences, Theater / concert Live Streaming, etc. It ensures that every frame, whether capturing a wide panorama or capturing extraordinary intricate details, provides an unparalleled viewing experience.

## K20UH



## Features

### ▶ 1/2.8 inch UHD Sony CMOS sensor

Equipped with a powerful 1/2.8 inch Sony CMOS sensor, it supports up to 3840x2160 resolution at 30fps and H.264/H.265 encoding for smoother, clearer motion video under low-bandwidth conditions.

### ▶ 20x Optical Zoom

Employs 20x Optical Zoom + 15x Digital Zoom, with a 60° HFOV. Captures large scenes and minute details clearly for an enriched video-viewing experience.

### ▶ Low Noise and High SNR

Achieves super - high SNR images via low - noise CMOS sensor. Advanced 2D/3D noise - reduction technology further reduces noise while ensuring high image clarity.

### ▶ Multiple Video Output Interfaces

Output interfaces including HDMI, LAN, USB3.0. For LAN, POE are optional. Consult the dealer for specific model details.

### ▶ AI humanoid tracking

Features a built - in high - speed processor and exclusive advanced image - processing/analysis algorithms. Users can select real - time/regional tracking based on the environment. Switch tracking targets by clicking the person - object box via the web page.

### ▶ Leading Auto-Focus(AF) Technology

Fast, accurate, and stable Auto - Focus (AF) technology. Supports Focus Modes: Auto, Manual, One - Push Focus. Auto - focus speed is significantly faster than competitors. Maintains clear HD images during movement and zoom in/out.

### ▶ Multiple Audio/Video Compression Standards

Supports H.264/H.265 video compression (up to 3840x2160@30 fps) and AAC audio compression (48000 sampling frequency).

### ▶ Multiple Network Protocol

Supports protocols including ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMP(S), SRT. Features RTMP push mode (easy to connect to streaming servers like Wowza/FMS), RTP multicast mode, and full - command VISCA network control.

### ▶ Multiple Control Protocol

Supports VISCA, ONVIF, PELCO - D, PELCO - P protocols, plus automatic identification protocols.

### ▶ IR Remote Control

Control via IR remote. Menu settings available through HDMI/USB connections to display devices. LAN connections do not support IR remote menu settings.

### ▶ Multiple Application

Suitable for: Online Education, Lecture Capture, Webcasting, Video Conferencing, Telemedicine, Unified Communication, Emergency Command & Control Systems, etc.

## Product Specification

### ▶ Camera Parameter

Optical Zoom	f=5.05-91.49mm
Sensor	1/2.8 inch high quality SonyUHD CMOS sensor
Effective Pixels	8.42MP,16: 9
Video Format	HDMI: 4KP30, 4KP25, 1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50, 1080P59.94, 1080P29.97, 720P59.94
	USB3.0: YUY2/NV12: 1920×1080/1280×720/1024×576/800×600/800×448/640×360/640×480/480×270/320×180@30fps; MJPG/H264: 3840×2160/2560×1440/1920×1080/1600×896/1280×720/1024×576/960×540/800×600/800×448/ 720×576/720×480/640×480/640×360/480×270/352×288/320×240@30fps;
View Angle	LAN: Main stream: H264/H265: 3840×2160/1920×1080/1280×720/640×360/640×480@30/25/20/15/10/5fps; Sub-streams: H264/H265: 1920×1080/1280×720/640×360/640×480/320×240/320×180@30/25/20/15/10/5fps;
	NDI: Max output: 1080p@30fps (Models with NDI function)
View Angle	3.5° ( N ) 60° ( W )
AV	F1.8 - F2.9
Digital Zoom	15X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One push/2400K/3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K/7100K
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority, Aperture Priority, Brightness Priority
Iris	OFF, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 ( Valid only in manual, aperture priority mode)
Electronic Shutter	1/25, 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/1000, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 ( Only valid in manual, shutter priority mode)
BLC	ON/OFF
WDR	OFF, 1-8
Video Adjustment	Brightness, Color, Saturation, Contrast, Sharpness, B/W mode, Gamma curve
SNR	≥50dB

### ▶ Input/Output Interface

Video Interfaces	HDMI, LAN(POE&NDI optional), USB3.0, LINE-IN, 5 Pin Phoenix terminal(RS232/RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, LAN, USB3.0
Video Stream	Dual stream output
Video Bitrate	64Kbps~4096Kbps
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPG, H264, YUY2, NV12
Audio Input Interface	Double track 3.5mm linear input
Audio Output Interface	HDMI, USB 3.0, LAN
Audio Compression Format	AAC
Audio Bitrate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Network Interface	100M Ethernet port ( 10/100BASE-TX )
Control Interface	RS232/RS485
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V±10%
Input Current	Maximum: 1A
Power Consumption	Maximum: 12W
Network Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, NDI, ONVIF, GB/T28181; Support Network VISCA control protocol: Support remote upgrade, reboot and reset

### ▶ PTZ Parameter

Pan/Tilt Rotation	±170°, -30°~+90°
Pan Control Speed	0.1°/s~100°/s
Tilt Control Speed	0.1°/s~45°/s
Preset Speed	Pan: 100°/sec, Tilt: 45°/sec
Preset Accuracy	±0.1°
Preset Number	255 presets (10 presets via remote control)

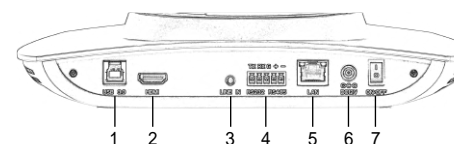
### ▶ Other Parameter

Stored Temperature	-10°C~+70°C
Stored Humidity	20%-95%
Working Temperature	-10°C~+50°C
Working Humidity	20%-80%
Dimension	253.5mm×144mm×169mm
Weight	1.46KG

### ▶ Accessory

Package	Power Supply, RS232 Control Cable, IR Remote Control, User Manual, USB Cable
Optional Accessories	Ceiling / wall Mount (Extra Cost)

## Interface Diagram

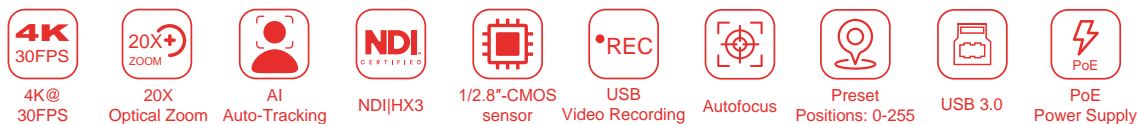


- 1 — USB 3.0 interface
- 2 — HDMI output interface
- 3 — AUDIO IN
- 4 — RS485/RS232
- 5 — Network LAN interface
- 6 — Power interface
- 7 — Power switch button

# FoMaKo Broadcasting-Level 4K PTZ Camera

The FoMaKo K20NS is a user-friendly professional 4K PTZ camera designed for education, conferences, live broadcasts, corporate events, and small-to-medium church worship. Equipped with a 20x optical zoom lens, it delivers broadcast-grade ultra-clear visuals and true-to-life colors, paired with straightforward operation suitable for both novices and professionals. Featuring 4K resolution, HDMI, 3G-SDI, USB, and LAN interfaces, plus NDI 6/NDI HX3 certification, it enables stable low-latency transmission even in low-bandwidth environments. Compatible with mainstream streaming software (vMix, OBS, Zoom) and multiple devices, it integrates seamlessly into various workflows, offering a cost-effective, high-quality video capture solution for diverse professional needs.

## K20NS



## Features

### ▶ 4K UHD Imaging + Sony High-Quality Sensor

8.42-megapixel Sony UHD CMOS sensor captures 3840x2160 ultra-clear video with vivid colors and strong depth, compatible with 1080p/720p for flexible use in various scenarios.

### ▶ 20x Optical Zoom + 15x Digital Zoom

20x optical clarity captures distant subjects sharply without distortion, plus 15x digital zoom for crisp close-ups in medium-sized venues like meeting rooms, classrooms, and small churches.

### ▶ Multi-Interface Connectivity

Equipped with HDMI 2.0, 3G-SDI, USB 3.0, and LAN ports, this camera enables simultaneous connection to displays, recorders, and network systems. This multi-interface design supports diverse professional workflows, from on-site monitoring to remote streaming and multi-device recording.

### ▶ Versatile Control Ecosystem

Supports IR remote, RS232/RS485 serial control, network control, and web-based management. This versatile system adapts to different operational scenarios—whether users prefer on-site remote control, wired serial operation, or remote web-based configuration.

### ▶ Plug-and-Play + Multi-Protocol Support

DHCP-enabled for easy IP assignment, with IP retrieval via tool/HDMI/USB; supports ONVIF, GB28181, RTSP, RTMP, VISCA, and Pelco protocols.

### ▶ Intelligent AI Human Tracking

Powered by an advanced algorithm, it supports real-time single-person tracking and customizable area tracking. Users can easily switch tracking targets via remote control, making it perfect for lectures, live events, or presentations where the main subject needs continuous focus.

### ▶ NDI 6/HX3

Official NDI certification enables seamless transmission of audio, video, and control signals over IP, ideal for multi-camera setups and remote production teams.

### ▶ Advanced Image Enhancement

2D/3D noise reduction and WDR (1-8 levels) enhance image clarity, achieve SNR  $\geq 50$ dB, and maintain clean visuals in complex lighting conditions.

### ▶ PoE Power + Gravity Sensor Auto-Flip

PoE support transmits power and data via a single Ethernet cable, reducing clutter; gravity sensor auto-flips images for ceiling/wall mounting without manual adjustments.

### ▶ Streaming Compatibility

Directly streams to Facebook, YouTube, vMix, and OBS with simple configuration, supporting RTMP/SRT/RTSP protocols for wide compatibility.

## Product Specification

### ▶ Camera Parameter

Lens	20X, f=5.05-91.49mm
Sensor	1/2.8 inch high quality Sony UHD CMOS sensor
Effective Pixels	8.42MP, 16: 9
Video Format	<b>HDMI:</b> 4KP30, 4KP25, 1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50, 1080P59.94, 1080P29.97, 720P59.94
	<b>3G-SDI:</b> 1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50, 1080P59.94, 1080P29.97, 720P59.94
	<b>USB 3.0:</b> YUY2/NV12: 1920x1080/1280x720/1024x576/800x600/800x448/640x360/640x480/480x270/320x180@60/30/25/20/15/10/5fps; MJPG/H264: 3840x2160/2560x1440/1920x1080/1600x896/1280x720/1024x576/960x540/800x600/800x448/720x576/720x480/640x480/640x360/480x270/352x288/320x240@30/25/20/15/10/5fps;
	<b>LAN:</b> Main stream: H264/H265: 3840x2160/1920x1080/1280x720/640x360/640x480@30/25/20/15/10/5fps; Sub-streams: H264/H265: 1920x1080/1280x720/640x360/640x480/320x240/320x180@30/25/20/15/10/5fps;
View Angle	<b>NDI:</b> Max output: 1080p@30fps (Models with NDI function)
	D: 3.93°(N) 67.35°(W) H: 3.45°(N) 60.05°(W) V: 1.96°(N) 35.07°(W)
AV	F1.8 - F2.9
Digital Zoom	15X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One Touch White Balance/Specified Color Temperature (2400K-7100K, adjustable in 100K steps)
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority, Aperture Priority, Brightness Priority
Iris	OFF, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 (Valid only in manual, aperture priority mode)
Electronic Shutter	1/25, 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/1000, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (Only valid in manual, shutter priority mode)
BLC	ON/OFF
WDR	OFF, 1-8
Video Adjustment	Brightness, Color, Saturation, Contrast, Sharpness, B/W mode, Gamma curve
SNR	$\geq 50$ dB

### ▶ PTZ Parameter

Pan/Tilt Rotation	$\pm 170^\circ$ , $-30^\circ$ ~ $+90^\circ$
Pan Control Speed	0.1°/s~100°/s
Tilt Control Speed	0.1°/s~45°/s
Preset Speed	Pan: 100°/sec, Tilt: 45°/sec
Preset Accuracy	$\pm 0.1$
Preset Number	255 presets (10 presets via remote control)

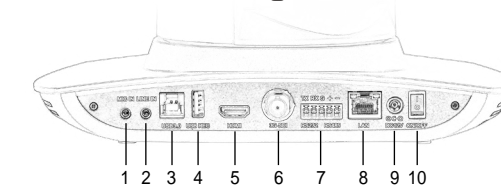
### ▶ Input/Output Interface

Video Interfaces	HDMI, LAN (PoE & NDI optional), 3G-SDI, USB 3.0, USB 2.0, MIC-IN, LINE-IN, 5 Pin Phoenix terminal (RS232/RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, LAN, USB 3.0, 3G-SDI
Video Stream	Dual stream output
Video Bitrate	64Kbps~40960Kbps
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPG, H.264, YUY2, NV12
Audio Input Interface	3.5mm Line Input, 3.5mm Mic Input
Audio Output Interface	HDMI, USB 3.0, LAN, 3G-SDI
Audio Compression Format	AAC
Audio Bitrate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Network Interface	100M Ethernet port (10/100BASE-TX)
Control Interface	RS232/RS485
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V $\pm 10\%$
Input Current	Maximum: 1.11A
Power Consumption	Maximum: 13.3W
Network Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, NDI HX2/HX3 (Optional), ONVIF, GB/T28181; Support Network VISCA control protocol; Support remote upgrade, reboot and reset

### ▶ Other Parameter

Stored Temperature	-10°C~+70°C
Stored Humidity	20%-95%
Working Temperature	-10°C~+50°C
Working Humidity	20%-80%
Dimension	253.5mmx144mmx169mm
Weight	1.46KG

## Interface Diagram

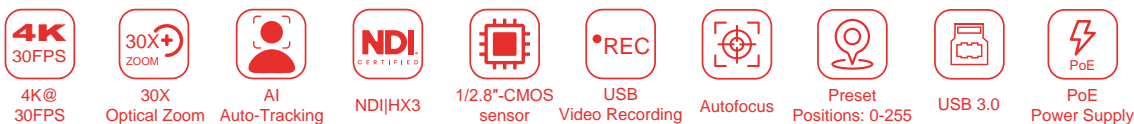


- 1 — MIC IN Interface
- 2 — LINE IN Interface
- 3 — USB 3.0 Interface
- 4 — USB Recording
- 5 — HDMI output interface
- 6 — 3G-SDI output Interface
- 7 — RS232 / RS485
- 8 — LAN/PoE(NDI)
- 9 — DC 12V Power Interface
- 10 — Power Switch

# FoMaKo Broadcasting-Level 4K PTZ Camera

The FoMaKo K30NS is a user-friendly professional 4K PTZ camera designed for education, conferences, live broadcasts, corporate events, and church worship. Equipped with a 30x optical zoom lens, it delivers broadcast-grade ultra-clear visuals and true-to-life colors, paired with straightforward operation suitable for both novices and professionals. Featuring 4K resolution, HDMI, 3G-SDI, USB, and LAN interfaces, plus NDI 6/NDI HX3 certification, it enables stable low-latency transmission even in low-bandwidth environments. Compatible with mainstream streaming software (vMix, OBS, Zoom) and multiple devices, it integrates seamlessly into various workflows, offering a cost-effective, high-quality video capture solution for diverse professional needs.

**K30NS**



## Features

### ▶ 4K UHD Imaging + Sony High-Quality Sensor

8.42-megapixel Sony UHD CMOS sensor captures 3840x2160 ultra-clear video with vivid colors and strong depth, compatible with 1080p/720p for flexible use in various scenarios.

### ▶ 30x Optical Zoom + 15x Digital Zoom

30x optical clarity captures distant subjects sharply without distortion, plus 15x digital zoom for extreme close-ups in large venues like auditoriums and stadiums.

### ▶ Multi-Interface Connectivity

Equipped with HDMI 2.0, 3G-SDI, USB 3.0, and LAN ports, this camera enables simultaneous connection to displays, recorders, and network systems. This multi-interface design supports diverse professional workflows, from on-site monitoring to remote streaming and multi-device recording.

### ▶ Versatile Control Ecosystem

Supports IR remote, RS232/RS485 serial control, network control, and web-based management. This versatile system adapts to different operational scenarios—whether users prefer on-site remote control, wired serial operation, or remote web-based configuration.

### ▶ Plug-and-Play + Multi-Protocol Support

DHCP-enabled for easy IP assignment, with IP retrieval via tool/HDMI/USB; supports ONVIF, GB28181, RTSP, RTMP, VISCA, and Pelco protocols.

### ▶ Intelligent AI Human Tracking

Powered by an advanced algorithm, it supports real-time single-person tracking and customizable area tracking. Users can easily switch tracking targets via remote control, making it perfect for lectures, live events, or presentations where the main subject needs continuous focus.

### ▶ NDI 6/HX3

Official NDI certification enables seamless transmission of audio, video, and control signals over IP, ideal for multi-camera setups and remote production teams.

### ▶ Advanced Image Enhancement

2D/3D noise reduction and WDR (1-8 levels) enhance image clarity, achieve SNR  $\geq 50$ dB, and maintain clean visuals in complex lighting conditions.

### ▶ PoE Power + Gravity Sensor Auto-Flip

PoE support transmits power and data via a single Ethernet cable, reducing clutter; gravity sensor auto-flips images for ceiling/wall mounting without manual adjustments.

### ▶ Streaming Compatibility

Directly streams to Facebook, YouTube, vMix, and OBS with simple configuration, supporting RTMP/SRT/RTSP protocols for wide compatibility.

## Product Specification

### ▶ Camera Parameter

Lens	30X, f=5.2-148.4mm
Sensor	1/2.8 inch high quality Sony UHD CMOS sensor
Effective Pixels	8.42MP, 16:9
Video Format	<b>HDMI:</b> 4KP30, 4KP25, 1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50, 1080P59.94, 1080P29.97, 720P59.94
	<b>3G-SDI:</b> 1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50, 1080P59.94, 1080P29.97, 720P59.94
	<b>USB 3.0:</b> YUY2/NV12 1920x1080/1280x720/1024x576/800x600/800x448/640x360/640x480/480x270/320x180@60/30/25/20/15/10/5fps; MJPG/H264: 3840x2160/2560x1440/1920x1080/1600x896/1280x720/1024x576/960x540/800x600/800x448/720x576/720x480/640x480/640x360/480x270/352x288/320x240@30/25/20/15/10/5fps;
	<b>LAN:</b> Main stream: H264/H265:3840x2160/1920x1080/1280x720/640x360/640x480@30/25/20/15/10/5fps; Sub-streams: H264/H265:1920x1080/1280x720/640x360/640x480/320x240/320x180@30/25/20/15/10/5fps;
View Angle	NDI: Max output: 1080p@30fps (Models with NDI function)
	D:2.48°(N) 65.4°(W) H:2.14°(N) 58.1°(W) V:1.2°(N) 33.8°(W)
AV	F1.3 - F4.8
Digital Zoom	15X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One Touch White Balance/Specified Color Temperature (2400K-7100K, adjustable in 100K steps)
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority, Aperture Priority, Brightness Priority
Iris	OFF, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 (Valid only in manual, aperture priority mode)
Electronic Shutter	1/25, 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/1000, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (Only valid in manual, shutter priority mode)
BLC	ON/OFF
WDR	OFF, 1-8
Video Adjustment	Brightness, Color, Saturation, Contrast, Sharpness, B/W mode, Gamma curve
SNR	$\geq 50$ dB

### ▶ PTZ Parameter

Pan/Tilt Rotation	$\pm 170^\circ$ , $-30^\circ$ $\rightarrow$ $+90^\circ$
Pan Control Speed	0.1°/s ~ 100°/s
Tilt Control Speed	0.1°/s ~ 45°/s
Preset Speed	Pan: 100°/sec, Tilt: 45°/sec
Preset Accuracy	$\pm 0.1$
Preset Number	255 presets (10 presets via remote control)

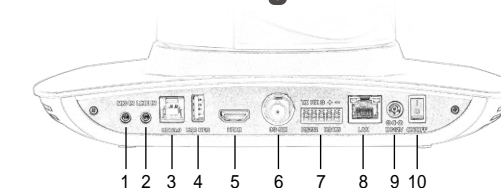
### ▶ Input/Output Interface

Video Interfaces	HDMI, LAN (PoE & NDI optional), 3G-SDI, USB 3.0, USB 2.0, MIC-IN, LINE-IN, 5 Pin Phoenix terminal (RS232/RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, LAN, USB 3.0, 3G-SDI
Video Stream	Dual stream output
Video Bitrate	64Kbps ~ 40960Kbps
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPG, H.264, YUY2, NV12
Audio Input Interface	3.5mm Line Input, 3.5mm Mic Input
Audio Output Interface	HDMI, USB 3.0, LAN, 3G-SDI
Audio Compression Format	AAC
Audio Bitrate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Network Interface	100M Ethernet port (10/100BASE-TX)
Control Interface	RS232/RS485
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V $\pm 10\%$
Input Current	Maximum: 1.11A
Power Consumption	Maximum: 13.3W
Network Protocols	TCP/IP, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMP, SRT, NDI HX2/HX3 (Optional), ONVIF, GB/T28181; Support Network VISCA control protocol; Support remote upgrade, reboot and reset

### ▶ Other Parameter

Stored Temperature	$-10^\circ\text{C}$ $\rightarrow$ $+70^\circ\text{C}$
Stored Humidity	20% - 95%
Working Temperature	$-10^\circ\text{C}$ $\rightarrow$ $+50^\circ\text{C}$
Working Humidity	20% - 80%
Dimension	253.5mm x 144mm x 169mm
Weight	1.46KG

## Interface Diagram



- 1 — MIC IN Interface
- 2 — LINE IN Interface
- 3 — USB 3.0 Interface
- 4 — USB Recording
- 5 — HDMI output interface
- 6 — 3G-SDI output Interface
- 7 — RS232 / RS485
- 8 — LAN/PoE(NDI)
- 9 — DC 12V Power Interface
- 10 — Power Switch

# FOMaKO Broadcasting-Level PTZ Camera

The FMK20SDI Pro camera exemplifies technological innovation in the A&V industry, offering flexible solutions for television studios, sports facilities, grand theaters, multi-functional halls, and large conference rooms. Equipped with a professional SDI interface, it delivers uncompressed, high-bandwidth broadcast-grade video content with cinematic visual fidelity. The SDI interface features low latency and supports long-distance signal transmission, making it suitable for live events and multi-camera setups. Whether capturing wide panoramas or intricate details, each frame maintains high clarity and real-time responsiveness, ensuring a high-quality viewing experience.

## ★ FMK20SDI Pro



## Features

### ▶ 1/2.8 inch high quality CMOS sensor

Equipped with a 1/2.8-inch high-quality CMOS sensor, this camera effectively suppresses both high-light and low-light noise. It supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps, delivering clear and smooth video images.

### ▶ 20x Optical Zoom Lens

Featuring a 20x optical zoom lens, it can clearly capture both wide panoramic scenes and fine details, providing users with an immersive and rich video experience.

### ▶ Multiple Video Output Interfaces

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264 and H.265 video compression standards, with a maximum resolution of 1920×1080 and a frame rate of 60fps. For audio compression, it supports AAC format with a sampling frequency of 48000Hz.

### ▶ Multiple Network Protocol

It supports multiple network protocols such as ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMP, SRT. It supports RTMP push mode, making it easy to connect to streaming servers (Wowza, FMS). It also supports RTP multicast mode and the network full-command VISCA control protocol.

### ▶ Powerful AI Tracking

With a built-in high-speed processor and advanced image processing and analysis algorithms, users can choose real-time tracking or regional tracking according to the usage environment. They can click on the person target box on the webpage to switch tracking targets.

### ▶ Multiple Control Protocol

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ▶ Built-in Gravity Sensor

It supports PTZ auto-flip function, which facilitates the installation of the camera.

### ▶ IR Remote Control & LCD display

Users can control the camera using an IR remote control and also perform menu settings by connecting HDMI and SDI to display devices. (Note: LAN connection does not support menu settings via IR remote control.) The OLED display can show the status and parameters of the camera, allowing users to view and adjust them conveniently. It can also display real-time information such as the camera's IP address, resolution, and frame rate, making it easy to monitor and control.

### ▶ Multiple Application

It is suitable for various application scenarios such as online education, lecture capture, webcasting, video conferencing, and telemedicine.

## Product Specification

### ▶ Camera

Video Resolution	<b>HDMI/3GSDI:</b> 1080P60、1080P50、1080P30、1080P25、720P60、720P50;
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	20X, f=5.1-90.5mm, F1.8-F2.9
Digital Zoom	16X(1920x1080)
Minimum Illuminance	0.5Lux(F1.8,AGC ON)
Shutter	Auto/Manual(1/60s - 1/10000s)
White Balance	Auto/Manual/One-push/VAR(2400K-7100K)
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	>50dB
View Angle	3.5°(N) 60°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.4° - 40° /s
Tilt Speed Range	2.9° - 30° /s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264、H.265 USB3.0: MJPG、H264、H.265、YUY2、NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920×1080, 1280×720, 640×480
Sub Stream Resolution	1280×720, 640×480, 640×360, 320×240, 320×180
Video Bit Rate	64Kbps~40960Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	HTTP, RTSP, RTMP, ONVIF, SRT, GB/T28181; Support network VISCA control protocols, remote upgrade, remote restart, and remote reset.

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPEG/H264/H265 YUY2/NV12: 640x480/320x180/480x270/640x360/800x448/800x600/1024x576/1280x720/1920x1080P30/15/10
Video Format	MJPEG/H264/H265: 640x480/320x240/352x288/640x360/800x448/800x600/1024x576/1280x720/1600x896/1920x1080P30/15/10
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

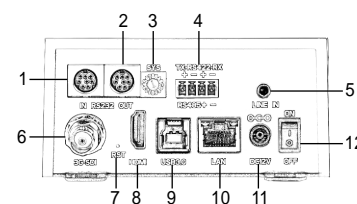
### ▶ Input / Output Interface

HD Output	Video Interfaces: HDMI、SDI、LAN(POE)、USB3.0、A-IN、RS232-IN、RS232-OUT RS422(compatible with RS485)、DC12V Power Supply、Rotary Dip Switch、Power Switch
Network Interface	Video Output: HDMI, SDI, LAN, USB3.0 LAN(POE)
Audio Interface	Double track 3.5mm linear input
USB Interface	1 x USB3.0
Communication Interface	RS232-IN、RS232-OUT、RS422(compatible with RS485)
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	143mm×176mm×169mm
Weight	1.2KG

## Interface Diagram

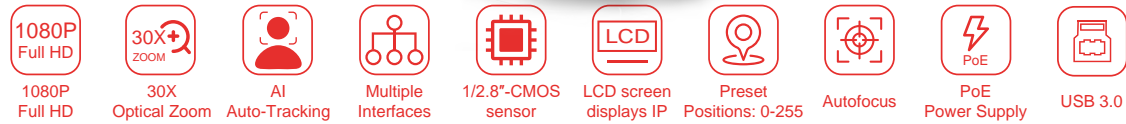


- 1 — RS232 input interface
- 2 — RS232 output interface
- 3 — Rotary DIP Switch
- 4 — RS485/RS422
- 5 — Audio input interface
- 6 — SDI output interface
- 7 — Video Rotary Switch
- 8 — HDMI output interface
- 9 — USB 3.0 interface
- 10 — LAN (PoE) Port
- 11 — Power input interface
- 12 — Power switch button

# FOMaKO Broadcasting-Level PTZ Camera

The FMK30SDI Pro camera exemplifies technological innovation in the A&V industry, offering flexible solutions for television studios, sports facilities, grand theaters, multi-functional halls, and large conference rooms. Equipped with a professional SDI interface, it delivers uncompressed, high-bandwidth broadcast-grade video content with cinematic visual fidelity. The SDI interface features low latency and supports long-distance signal transmission, making it suitable for live events and multi-camera setups. Whether capturing wide panoramas or intricate details, each frame maintains high clarity and real-time responsiveness, ensuring a high-quality viewing experience.

## ★ FMK30SDI Pro



## Features

### ▶ 1/2.8 inch high quality CMOS sensor

Equipped with a 1/2.8-inch high-quality CMOS sensor, this camera effectively suppresses both high-light and low-light noise. It supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps, delivering clear and smooth video images.

### ▶ 30x Optical Zoom Lens

Featuring a 30x optical zoom lens, it can clearly capture both wide panoramic scenes and fine details, providing users with an immersive and rich video experience.

### ▶ Multiple Video Output Interfaces

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264 and H.265 video compression standards, with a maximum resolution of 1920×1080 and a frame rate of 60fps. For audio compression, it supports AAC format with a sampling frequency of 48000Hz.

### ▶ Multiple Network Protocol

It supports multiple network protocols such as ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMP, SRT. It supports RTMP push mode, making it easy to connect to streaming servers (Wowza, FMS). It also supports RTP multicast mode and the network full-command VISCA control protocol.

### ▶ Powerful AI Tracking

With a built-in high-speed processor and advanced image processing and analysis algorithms, users can choose real-time tracking or regional tracking according to the usage environment. They can click on the person target box on the webpage to switch tracking targets.

### ▶ Multiple Control Protocol

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ▶ Built-in Gravity Sensor

It supports PTZ auto-flip function, which facilitates the installation of the camera.

### ▶ IR Remote Control & LCD display

Users can control the camera using an IR remote control and also perform menu settings by connecting HDMI and SDI to display devices. (Note: LAN connection does not support menu settings via IR remote control.) The OLED display can show the status and parameters of the camera, allowing users to view and adjust them conveniently. It can also display real-time information such as the camera's IP address, resolution, and frame rate, making it easy to monitor and control.

### ▶ Multiple Application

It is suitable for various application scenarios such as online education, lecture capture, webcasting, video conferencing, and telemedicine.

## Product Specification

### ▶ Camera

Video Resolution	HDMI/3GSDI:1080P60、1080P50、1080P30、1080P25、720P60、720P50;
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	30X, f=5.2-148.4mm, F1.3-F4.8
Digital Zoom	16X(1920x1080)
Minimum Illuminance	0.5Lux(F1.8,AGC ON)
Shutter	Auto/Manual(1/60s - 1/10000s)
White Balance	Auto/Manual/One-push/VAR(2400K-7100K)
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	>50dB
View Angle	214°(N) 58.1°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.4° - 40° /s
Tilt Speed Range	2.9° - 30° /s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264、H.265 USB3.0: MJPG、H264、H.265、YUY2、NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920×1080, 1280×720, 640×480
Sub Stream Resolution	1280×720, 640×480, 640×360, 320×240, 320×180
Video Bit Rate	64Kbps~4096Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	HTTP, RTSP, RTMP, ONVIF、STR、GB/T28181; Support network VISCA control protocols, remote upgrade, remote restart, and remote reset.

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPEG/H264/H265 YUY2/NV12: 640x480/320x180/480x270/640x360/800x448/800x600/1024x576/1280x720/1920x1080P30/15/10
Video Format	MJPEG/H264/H265: 640x480/320x240/352x288/640x360/800x448/800x600/1024x576/1280x720/1600x896/1920x1080P30/15/10
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

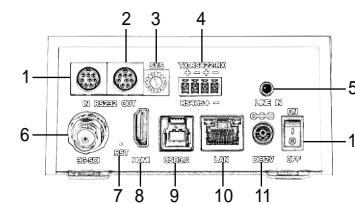
### ▶ Input / Output Interface

HD Output	Video Interfaces: HDMI、SDI、LAN(POE)、USB3.0、A-IN、RS232-IN、RS232-OUT、RS422(compatible with RS485)、DC12V Power Supply、Rotary Dip Switch、Power Switch Video Output: HDMI, SDI, LAN, USB3.0
Network Interface	LAN(POE)
Audio Interface	Double track 3.5mm linear input
USB Interface	1 x USB3.0
Communication Interface	RS232-IN、RS232-OUT、RS422(compatible with RS485)
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	143mm×176mm×169mm
Weight	1.2KG

## Interface Diagram

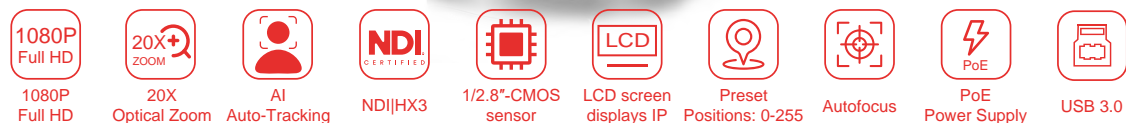


- 1 — RS232 input interface
- 2 — RS232 output interface
- 3 — Rotary DIP Switch
- 4 — RS485/RS422
- 5 — Audio input interface
- 6 — SDI output interface
- 7 — Video Rotary Switch
- 8 — HDMI output interface
- 9 — USB 3.0 interface
- 10 — LAN (PoE) Port
- 11 — Power input interface
- 12 — Power switch button

# FOMaKO Broadcasting-Level PTZ Camera

The KN20A Pro camera exemplifies technological innovation in the A&V industry, offering flexible solutions for television studios, sports facilities, grand theaters, multi-functional halls, and large conference rooms. Equipped with a professional SDI interface, it delivers uncompressed, high-bandwidth broadcast-grade video content with cinematic visual fidelity. The SDI interface features low latency and supports long-distance signal transmission, making it suitable for live events and multi-camera setups. Whether capturing wide panoramas or intricate details, each frame maintains high clarity and real-time responsiveness, ensuring a high-quality viewing experience.

## ★ KN20A Pro



## Features

### ▶ 1/2.8 inch high quality CMOS sensor

Equipped with a 1/2.8-inch high-quality CMOS sensor, this camera effectively suppresses both high-light and low-light noise. It supports a maximum resolution of 1920x1080 and a frame rate of up to 60fps, delivering clear and smooth video images.

### ▶ 20x Optical Zoom Lens

Featuring a 20x optical zoom lens, it can clearly capture both wide panoramic scenes and fine details, providing users with an immersive and rich video experience.

### ▶ Multiple Video Output Interfaces

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264 and H.265 video compression standards, with a maximum resolution of 1920x1080 and a frame rate of 60fps. For audio compression, it supports AAC format with a sampling frequency of 48000Hz.

### ▶ Multiple Network Protocol

It supports multiple network protocols such as ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, and NDI. It supports RTMP push mode, making it easy to connect to streaming servers (Wowza, FMS). It also supports RTP multicast mode and the network full-command VISCA control protocol.

### ▶ Powerful AI Tracking

With a built-in high-speed processor and advanced image processing and analysis algorithms, users can choose real-time tracking or regional tracking according to the usage environment. They can click on the person target box on the webpage to switch tracking targets.

### ▶ Multiple Control Protocol

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ▶ Built-in Gravity Sensor

It supports PTZ auto-flip function, which facilitates the installation of the camera.

### ▶ IR Remote Control & LCD display

Users can control the camera using an IR remote control and also perform menu settings by connecting HDMI and SDI to display devices. (Note: LAN connection does not support menu settings via IR remote control.) The OLED display can show the status and parameters of the camera, allowing users to view and adjust them conveniently. It can also display real-time information such as the camera's IP address, resolution, and frame rate, making it easy to monitor and control.

### ▶ Multiple Application

It is suitable for various application scenarios such as online education, lecture capture, webcasting, video conferencing, and telemedicine.

## Product Specification

### ▶ Camera

Video Resolution	HDMI/3GSDI:1080P60、1080P50、1080P30、1080P25、720P60、720P50;
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	20X, f=5.1-90.5mm, F1.8-F2.9
Digital Zoom	16X(1920x1080)
Minimum Illuminance	0.5Lux(F1.8,AGC ON)
Shutter	Auto/Manual(1/60s - 1/10000s)
White Balance	Auto/Manual/One-push/VAR(2400K-7100K)
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	>50dB
View Angle	3.5°(N) 60°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.4° - 40° /s
Tilt Speed Range	2.9° - 30° /s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264、H.265 USB3.0: MJPG、H.264、H.265、YUY2、NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920x1080, 1280x720, 640x480
Sub Stream Resolution	1280x720, 640x480, 640x360, 320x240, 320x180
Video Bit Rate	64Kbps~4096Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	HTTP, RTSP, RTMP, ONVIF, SRT, GB/T28181; Support network VISCA control protocols, NDI HX optional (supported by some models, consult the dealer for specific support models), remote upgrade, remote restart, and remote reset.

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPEG/H264/H265
Video Format	YUY2/NV12: 640x480/320x180/480x270/640x360/800x448/800x600/1024x576/1280x720/1920x1080P30/15/10 MJPEG/H264/H265: 640x480/320x240/352x288/640x360/800x448/800x600/1024x576/1280x720/1600x896/1920x1080P30/15/10
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

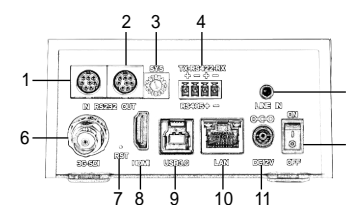
### ▶ Input / Output Interface

HD Output	Video Interfaces: HDMI、SDI、LAN(POE)、USB3.0、A-IN、RS232-IN、RS232-OUT、RS422(compatible with RS485)、DC12V Power Supply、Rotary Dip Switch、Power Switch
Network Interface	Video Output: HDMI, SDI, LAN, USB3.0 LAN(POE)
Audio Interface	Double track 3.5mm linear input
USB Interface	1 x USB3.0
Communication Interface	RS232-IN、RS232-OUT、RS422(compatible with RS485)
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	143mm×176mm×169mm
Weight	1.2KG

## Interface Diagram

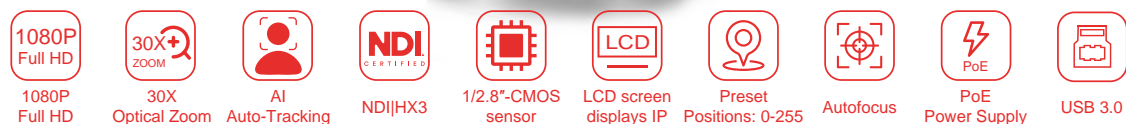


- 1 — RS232 input interface
- 2 — RS232 output interface
- 3 — Rotary DIP Switch
- 4 — RS485/RS422
- 5 — Audio input interface
- 6 — SDI output interface
- 7 — Video Rotary Switch
- 8 — HDMI output interface
- 9 — USB 3.0 interface
- 10 — LAN (NDI) Port
- 11 — Power input interface
- 12 — Power switch button

# FOMaKO Broadcasting-Level PTZ Camera

The KN30A Pro camera exemplifies technological innovation in the A&V industry, offering flexible solutions for television studios, sports facilities, grand theaters, multi-functional halls, and large conference rooms. Equipped with a professional SDI interface, it delivers uncompressed, high-bandwidth broadcast-grade video content with cinematic visual fidelity. The SDI interface features low latency and supports long-distance signal transmission, making it suitable for live events and multi-camera setups. Whether capturing wide panoramas or intricate details, each frame maintains high clarity and real-time responsiveness, ensuring a high-quality viewing experience.

## ★ KN30A Pro



## Features

### ▶ 1/2.8 inch high quality CMOS sensor

Equipped with a 1/2.8-inch high-quality CMOS sensor, this camera effectively suppresses both high-light and low-light noise. It supports a maximum resolution of 1920×1080 and a frame rate of up to 60fps, delivering clear and smooth video images.

### ▶ 30x Optical Zoom Lens

Featuring a 30x optical zoom lens, it can clearly capture both wide panoramic scenes and fine details, providing users with an immersive and rich video experience.

### ▶ Multiple Video Output Interfaces

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ▶ Multiple Audio/Video Compression Standards

It supports H.264 and H.265 video compression standards, with a maximum resolution of 1920×1080 and a frame rate of 60fps. For audio compression, it supports AAC format with a sampling frequency of 48000Hz.

### ▶ Multiple Network Protocol

It supports multiple network protocols such as ONVIF, GB28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT, and NDI. It supports RTMP push mode, making it easy to connect to streaming servers (Wowza, FMS). It also supports RTP multicast mode and the network full-command VISCA control protocol.

### ▶ Powerful AI Tracking

With a built-in high-speed processor and advanced image processing and analysis algorithms, users can choose real-time tracking or regional tracking according to the usage environment. They can click on the person target box on the webpage to switch tracking targets.

### ▶ Multiple Control Protocol

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ▶ Built-in Gravity Sensor

It supports PTZ auto-flip function, which facilitates the installation of the camera.

### ▶ IR Remote Control & LCD display

Users can control the camera using an IR remote control and also perform menu settings by connecting HDMI and SDI to display devices. (Note: LAN connection does not support menu settings via IR remote control.) The OLED display can show the status and parameters of the camera, allowing users to view and adjust them conveniently. It can also display real-time information such as the camera's IP address, resolution, and frame rate, making it easy to monitor and control.

### ▶ Multiple Application

It is suitable for various application scenarios such as online education, lecture capture, webcasting, video conferencing, and telemedicine.

## Product Specification

### ▶ Camera

Video Resolution	HDMI/3GSDI:1080P60, 1080P50, 1080P30, 1080P25, 720P60, 720P50;
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	30X, f=5.2-148.4mm, F1.3-F4.8
Digital Zoom	16X(1920x1080)
Minimum Illuminance	0.5Lux(F1.8,AGC ON)
Shutter	Auto/Manual(1/60s - 1/10000s)
White Balance	Auto/Manual/One-push/VAR(2400K-7100K)
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	>50dB
View Angle	214°(N) 58.1°(W)
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.4° - 40° /s
Tilt Speed Range	2.9° - 30° /s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	±0.1°

### ▶ Network Spec

Video Compression	LAN: H.264, H.265 USB3.0: MJPG, H.264, H.265, YUY2, NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	1920×1080, 1280×720, 640×480
Sub Stream Resolution	1280×720, 640×480, 640×360, 320×240, 320×180
Video Bit Rate	64Kbps~40960Kbps
Bit Rate Type	CBR, VBR
Frame Rate	25Hz: 1fps - 25fps, 30Hz: 1fps - 30fps, 50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	HTTP, RTSP, RTMP, ONVIF, SRT, GB/T28181; Support network VISCA control protocols, NDI HX optional (supported by some models, consult the dealer for specific support models), remote upgrade, remote restart, and remote reset.

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPEG/H264/H265
Video Format	YUY2/NV12: 640x480/320x180/480x270/640x360/800x448/800x600/1024x576/1280x720/1920x1080P30/15/10 MJPEG/H264/H265: 640x480/320x240/352x288/640x360/800x448/800x600/1024x576/1280x720/1600x896/1920x1080P30/15/10
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

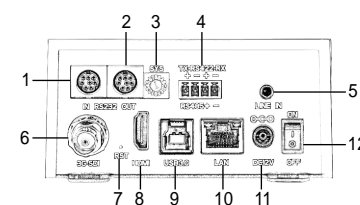
### ▶ Input / Output Interface

HD Output	Video Interfaces: HDMI, SDI, LAN(POE), USB3.0, A-IN, RS232-IN, RS232-OUT, RS422(compatible with RS485), DC12V Power Supply, Rotary Dip Switch, Power Switch Video Output: HDMI, SDI, LAN, USB3.0
Network Interface	LAN(POE)
Audio Interface	Double track 3.5mm linear input
USB Interface	1 x USB3.0
Communication Interface	RS232-IN, RS232-OUT, RS422(compatible with RS485)
Restore Button	Support
Power Interface	HEC 3800 outlet (DC12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC12V±10%
Input Current	Maximum:1A
Operating Temperature	-10°C - +50°C
Storage Temperature	-10°C - +70°C
Dimension (W x D x H)	143mm×176mm×169mm
Weight	1.2KG

## Interface Diagram

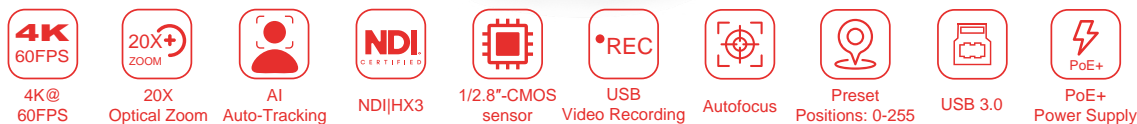


- 1 — RS232 input interface
- 2 — RS232 output interface
- 3 — Rotary DIP Switch
- 4 — RS485/RS422
- 5 — Audio input interface
- 6 — SDI output interface
- 7 — Video Rotary Switch
- 8 — HDMI output interface
- 9 — USB 3.0 interface
- 10 — LAN (NDI) Port
- 11 — Power input interface
- 12 — Power switch button

# FoMaKo Broadcasting-Level 4K PTZ Camera

The FoMaKo K600N is a pro-grade 4K60 PTZ camera engineered for high-demand scenarios: online education, professional lecture capture, high-definition webcasts, enterprise video conferences, and telemedicine consultations. It features a 1/2.8-inch 8.42MP UHD CMOS sensor, delivering 4K UHD 3840x2160@60fps smooth video, paired with 20x optical zoom (16x digital zoom), HDMI 2.0/3G-SDI/USB3.0/LAN interfaces, and NDI HX2/HX3 certification. Equipped with H.264/H.265 encoding, OLED status display, and PoE+ power supply, it merges studio-level performance with intuitive operation—ideal for broadcast teams, educators, and medical professionals seeking reliable, high-fidelity video capture.

**K600N**



## Features

### ▶ 4K60fps UHD + 20x Optical Zoom

1/2.8-inch 8.42MP UHD CMOS sensor captures 3840x2160@60fps video with smooth motion and vivid colors; 5.1-94.5mm lens offers distortion-free 20x optical + 16x digital zoom, ideal for capturing fast action in large venues like auditoriums and lecture halls.

### ▶ Multi-Interface Pro Connectivity

HDMI 2.0/3G-SDI/USB3.0/LAN ports enable simultaneous monitoring, recording, and streaming—HDMI 2.0 supports 4K60 output, fully compatible with professional broadcast gear and post-production editing systems.

### ▶ NDI HX2/HX3 Low-Latency Transmission

Official NDI certification ensures stable IP audio-video-control transmission with ultra-low latency, perfect for synchronized multi-camera live productions and remote workflows.

### ▶ Dual-Mode AI Human Tracking

Real-time/area tracking with web-click target switching; advanced algorithm accurately locks onto subjects. Users can easily switch tracking targets via remote control.

### ▶ Multi-Protocol Control Ecosystem

Supports VISCA/Pelco-D/Pelco-P protocols, RS232/RS485/network control with 115200bps max baud rate, adapting to broadcast studios and enterprise centralized management setups.

### ▶ PoE+ Power + Auto-Flip

PoE+ (802.3at) enables single-cable power/data transmission; gravity sensor auto-adjusts orientation for ceiling/wall mounting, reducing installation complexity.

### ▶ OLED Status Display

On-camera OLED screen clearly shows IP, resolution, frame rate, and protocol—facilitating quick setup and real-time monitoring.

### ▶ Dual-Stream Output

H.264/H.265 dual streams (main/sub) intelligently adapt to bandwidth constraints, with main stream for 4K high-quality recording and sub stream for smooth low-bandwidth transmission.

### ▶ Cross-Platform Streaming

Natively supports RTMP/SRT/RTSP protocols, seamlessly integrating with Facebook, YouTube, vMix, and OBS—no extra plugins needed for professional-grade streaming.

### ▶ 2D/3D DNR + High SNR + WDR

Advanced 2D/3D noise reduction, ≥50dB SNR, and 8-level WDR suppress grain while balancing bright/dark areas, delivering sharp, detailed images in complex lighting conditions.

## Product Specification

### ▶ Camera Parameter

Lens	20X, F=5.1-94.5mm
Sensor	1/2.8 inch high quality UHD CMOS sensor
Effective Pixels	16: 9, 8.42 megapixel
Video Format	<p><b>HDMI:</b> 4K@60/59.94/50/30/29.97/25; 1080P@60/59.94/50/30/29.97/25; 720P@60/59.94/50</p> <p><b>3G-SDI:</b> 1080P@60/59.94/50/30/29.97/25; 1080I@60/50/59.94; 720P@60/59.94/50</p> <p><b>USB3.0:</b> YUY2/NV12; 1920x1080/1280x720/1024x576/800x600/800x448/640x480/640x360/480x270/320x180@60/30/25/20/15/10/5fps; MJPEG/H.264/H.265; 3840x2160/1920x1080/1600x896/1280x720/1024x576/960x540/800x600/800x448/720x576/720x480/640x480/640x360/480x270/352x288/320x240@60/30/25/20/15/10/5fps</p> <p><b>LAN:</b> Main Stream: H.264/H.265; 3840x2160/2592x1944/2304x1296/1920x1080/1280x720@60/30/25/20/15/10/5fps Sub-Stream: H.264/H.265; 1920x1080/1280x720/320x180/640x480/320x240/640x360@30/25/20/15/10/5fps</p>
View Angle	3.5° (N) 60° (W)
AV	F1.8 - F2.9
Digital Zoom	16X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One-push/VAR(2400K-7100K, 100K adjustable)
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority/Aperture Priority/Brightness Priority
Iris	Close, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 (Available only in Manual and Aperture Priority modes)
Electronic Shutter	1/60, 1/90, 1/100, 1/125, 1/250, 1/350, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (Available only in Manual and Shutter Priority modes)
BLC	ON/OFF
Dynamic Range	Close, 1-8
Video Adjustment	Brightness, Contrast, Sharpness, Gamma, B&W Mode, Low-Light Mode
SNR	≥50dB

### ▶ PTZ Parameter

Pan/Tilt Rotation	Pan: -170°~+170°; Tilt: -30°~+90°
Pan Control Speed	0.1°/s - 100°/s
Tilt Control Speed	0.1°/s - 45°/s
Preset Speed	Pan: 100°/s, Tilt: 45°/sec
Preset Quantity	255 presets (10 presets via remote control)

### ▶ Input/Output Interface

Video Interfaces	HDMI, 3G-SDI, LAN(POE+), USB3.0, USB REC, LINE IN, MIC IN, RS232-IN, RS232-OUT, RS422(compatible with RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, 3G-SDI, LAN, USB3.0
Video Stream	Dual stream output
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPEG, H.264, H.265, YUY2, NV12
Audio Input Interface	LINE-IN: 3.5mm stereo input; MIC IN: 3.5mm stereo microphone input
Audio Output Interface	HDMI, 3G-SDI, LAN
Audio Compression Format	AAC
Control Interface	RS232 (IN/OUT), RS485, RS422
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V±10%
Input Current	Maximum: 1A
Power Consumption	Maximum: 12W
Network Protocols	HTTP, RTSP, RTMP, ONVIF, STR, GB28181; Support Multicast; VISCA over IP; NDI HX2/HX3 (optional) (100Mbps Ethernet, supports PoE+, supports remote upgrade/remote reboot/remote reset)

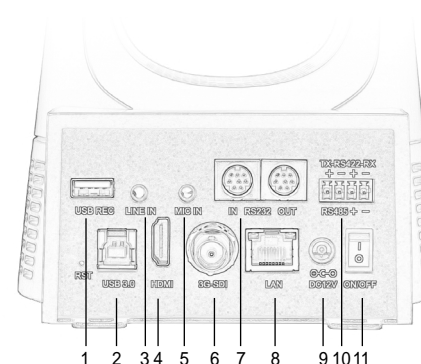
### ▶ Other Parameter

Stored Temperature	-10°C~+70°C
Stored Humidity	20%-95%
Working Temperature	-10°C~+50°C
Working Humidity	20%-80%
Dimension	143mmx176mmx169mm
Weight	1.2KG
Environment	Indoors

### ▶ Accessory

Package	Power Supply, RS232 Control Cable, IR Remote Control, User Manual
Optional Accessories	Ceiling/wall Mount (Extra Cost)

## Interface Diagram

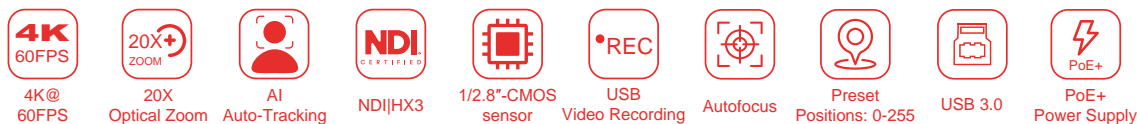


- 1 — USB Recording
- 2 — USB3.0 Interface
- 3 — LINE IN Interface
- 4 — HDMI output interface
- 5 — MIC IN Interface
- 6 — 3G-SDI output Interface
- 7 — RS232 IN / OUT
- 8 — LAN/PoE+(NDI)
- 9 — DC 12V Power Interface
- 10 — RS422 / RS485
- 11 — Power Switch

# FoMaKo Broadcasting-Level 4K PTZ Camera

The FoMaKo K600NW is a pro-grade 4K60 PTZ camera engineered for high-demand scenarios: online education, professional lecture capture, high-definition webcasts, enterprise video conferences, and telemedicine consultations. It features a 1/2.8-inch 8.42MP UHD CMOS sensor, delivering 4K UHD 3840x2160@60fps smooth video, paired with 20x optical zoom (16x digital zoom), HDMI 2.0/3G-SDI/USB3.0/LAN interfaces, and NDI HX2/HX3 certification. Equipped with H.264/H.265 encoding, OLED status display, and PoE+ power supply, it merges studio-level performance with intuitive operation—ideal for broadcast teams, educators, and medical professionals seeking reliable, high-fidelity video capture.

## K600NW



## Features

### ▶ 4K60fps UHD + 20x Optical Zoom

1/2.8-inch 8.42MP UHD CMOS sensor captures 3840x2160@60fps video with smooth motion and vivid colors; 5.1-94.5mm lens offers distortion-free 20x optical + 16x digital zoom, ideal for capturing fast action in large venues like auditoriums and lecture halls.

### ▶ Multi-Interface Pro Connectivity

HDMI 2.0/3G-SDI/USB3.0/LAN ports enable simultaneous monitoring, recording, and streaming—HDMI 2.0 supports 4K60 output, fully compatible with professional broadcast gear and post-production editing systems.

### ▶ NDI HX2/HX3 Low-Latency Transmission

Official NDI certification ensures stable IP audio-video-control transmission with ultra-low latency, perfect for synchronized multi-camera live productions and remote workflows.

### ▶ Dual-Mode AI Human Tracking

Real-time/area tracking with web-click target switching; advanced algorithm accurately locks onto subjects. Users can easily switch tracking targets via remote control.

### ▶ Multi-Protocol Control Ecosystem

Supports VISCA/Pelco-D/Pelco-P protocols, RS232/RS485/network control with 115200bps max baud rate, adapting to broadcast studios and enterprise centralized management setups.

### ▶ PoE+ Power + Auto-Flip

PoE+ (802.3at) enables single-cable power/data transmission; gravity sensor auto-adjusts orientation for ceiling/wall mounting, reducing installation complexity.

### ▶ OLED Status Display

On-camera OLED screen clearly shows IP, resolution, frame rate, and protocol—facilitating quick setup and real-time monitoring.

### ▶ Dual-Stream Output

H.264/H.265 dual streams (main/sub) intelligently adapt to bandwidth constraints, with main stream for 4K high-quality recording and sub stream for smooth low-bandwidth transmission.

### ▶ Cross-Platform Streaming

Natively supports RTMP/SRT/RTSP protocols, seamlessly integrating with Facebook, YouTube, vMix, and OBS—no extra plugins needed for professional-grade streaming.

### ▶ 2D/3D DNR + High SNR + WDR

Advanced 2D/3D noise reduction, ≥50dB SNR, and 8-level WDR suppress grain while balancing bright/dark areas, delivering sharp, detailed images in complex lighting conditions.

## Product Specification

### ▶ Camera Parameter

Lens	20X, F=5.1-94.5mm
Sensor	1/2.8 inch high quality UHD CMOS sensor
Effective Pixels	16: 9, 8.42 megapixel
Video Format	<b>HDMI:</b> 4K60/59.94/50/30/29.97/25; 1080P60/59.94/50/30/29.97/25; 720P60/59.94/50 <b>3G-SDI:</b> 1080P60/59.94/50/30/29.97/25; 1080I60/50/59.94; 720P60/59.94/50 <b>USB3.0:</b> YUY2/NV12; 1920x1080/1280x720/1024x576/800x600/800x448/640x480/640x360/480x270/320x180@60/30/25/20/15/10/5fps; MJPEG/H264/H265; 3840x2160/1920x1080/1600x896/1280x720/1024x576/960x540/800x600/800x448/720x576/720x480/640x480/640x360/480x270/352x288/320x240@60/30/25/20/15/10/5fps <b>LAN:</b> Main Stream: H264/H265; 3840x2160/2592x1944/2304x1296/1920x1080/1280x720@60/30/25/20/15/10/5fps Sub-Stream: H264/H265; 1920x1080/1280x720/320x180/640x480/320x240/640x360@30/25/20/15/10/5fps
View Angle	3.5° (N) 60° (W)
AV	F1.8 - F2.9
Digital Zoom	16X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One-push/VAR(2400K-7100K, 100K adjustable)
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority/Aperture Priority/Brightness Priority
Iris	Close, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 (Available only in Manual and Aperture Priority modes)
Electronic Shutter	1/60, 1/90, 1/100, 1/125, 1/250, 1/350, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (Available only in Manual and Shutter Priority modes)
BLC	ON/OFF
Dynamic Range	Close, 1-8
Video Adjustment	Brightness, Contrast, Sharpness, Gamma, B&W Mode, Low-Light Mode
SNR	≥50dB

### ▶ PTZ Parameter

Pan/Tilt Rotation	Pan: -170°~+170°; Tilt: -30°~+90°
Pan Control Speed	0.1°/s - 100°/s
Tilt Control Speed	0.1°/s - 45°/s
Preset Speed	Pan: 100°/s, Tilt: 45°/sec
Preset Quantity	255 presets (10 presets via remote control)

### ▶ Input/Output Interface

Video Interfaces	HDMI, 3G-SDI, LAN(PoE+), USB3.0, USB REC, LINE IN, MIC IN, RS232-IN, RS232-OUT, RS422(compatible with RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, 3G-SDI, LAN, USB3.0
Video Stream	Dual stream output
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPEG, H.264, H.265, YUY2, NV12
Audio Input Interface	LINE-IN: 3.5mm stereo input; MIC IN: 3.5mm stereo microphone input
Audio Output Interface	HDMI, 3G-SDI, LAN
Audio Compression Format	AAC
Control Interface	RS232 (IN/OUT), RS485, RS422
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V±10%
Input Current	Maximum: 1A
Power Consumption	Maximum: 12W
Network Protocols	HTTP, RTSP, RTMP, ONVIF, STR, GB28181; Support Multicast; VISCA over IP; NDI HX2/HX3 (optional) (100Mbps Ethernet, supports PoE+, supports remote upgrade/remote reboot/remote reset)

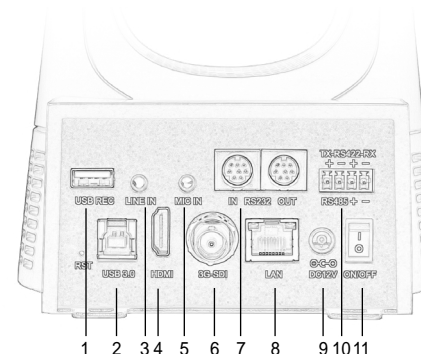
### ▶ Other Parameter

Stored Temperature	-10°C~+70°C
Stored Humidity	20%-95%
Working Temperature	-10°C~+50°C
Working Humidity	20%-80%
Dimension	143mmx176mmx169mm
Weight	1.2KG
Environment	Indoors

### ▶ Accessory

Package	Power Supply, RS232 Control Cable, IR Remote Control, User Manual
Optional Accessories	Ceiling/wall Mount (Extra Cost)

## Interface Diagram



- 1 — USB Recording
- 2 — USB3.0 Interface
- 3 — LINE IN Interface
- 4 — HDMI output interface
- 5 — MIC IN Interface
- 6 — 3G-SDI output Interface
- 7 — RS232 IN / OUT
- 8 — LAN/PoE+(NDI)
- 9 — DC 12V Power Interface
- 10 — RS422 / RS485
- 11 — Power Switch

# FoMaKo

## Broadcasting-Level 4K PTZ Camera

The FoMaKo K630N is a pro-grade 4K60 PTZ camera engineered for high-demand scenarios: online education, professional lecture capture, high-definition webcasts, enterprise video conferences, and telemedicine consultations. It features a 1/2.8-inch 8.42MP UHD CMOS sensor, delivering 4K UHD 3840x2160@60fps smooth video, paired with 30x optical zoom (16x digital zoom), HDMI 2.0/3G-SDI/USB3.0/LAN interfaces, and NDI HX2/HX3 certification. Equipped with H.264/H.265 encoding, OLED status display, and PoE+ power supply, it merges studio-level performance with intuitive operation—ideal for broadcast teams, educators, and medical professionals seeking reliable, high-fidelity video capture.

**K630N**



### Features

#### ▶ 4K60fps UHD + 30x Optical Zoom

1/2.8-inch 8.42MP UHD CMOS sensor captures 3840x2160@60fps video with smooth motion and vivid colors; 5.2-148.4mm lens offers distortion-free 30x optical + 16x digital zoom, ideal for capturing fast action in large venues like auditoriums and lecture halls.

#### ▶ Multi-Interface Pro Connectivity

HDMI 2.0/3G-SDI/USB3.0/LAN ports enable simultaneous monitoring, recording, and streaming—HDMI 2.0 supports 4K60 output, fully compatible with professional broadcast gear and post-production editing systems.

#### ▶ NDI HX2/HX3 Low-Latency Transmission

Official NDI certification ensures stable IP audio-video-control transmission with ultra-low latency, perfect for synchronized multi-camera live productions and remote workflows.

#### ▶ Dual-Mode AI Human Tracking

Real-time/area tracking with web-click target switching; advanced algorithm accurately locks onto subjects. Users can easily switch tracking targets via remote control.

#### ▶ Multi-Protocol Control Ecosystem

Supports VISCA/Pelco-D/Pelco-P protocols, RS232/RS485/network control with 115200bps max baud rate, adapting to broadcast studios and enterprise centralized management setups.

#### ▶ PoE+ Power + Auto-Flip

PoE+ (802.3at) enables single-cable power/data transmission; gravity sensor auto-adjusts orientation for ceiling/wall mounting, reducing installation complexity.

#### ▶ OLED Status Display

On-camera OLED screen clearly shows IP, resolution, frame rate, and protocol—facilitating quick setup and real-time monitoring.

#### ▶ Dual-Stream Output

H.264/H.265 dual streams (main/sub) intelligently adapt to bandwidth constraints, with main stream for 4K high-quality recording and sub stream for smooth low-bandwidth transmission.

#### ▶ Cross-Platform Streaming

Natively supports RTMP/SRT/RTSP protocols, seamlessly integrating with Facebook, YouTube, vMix, and OBS—no extra plugins needed for professional-grade streaming.

#### ▶ 2D/3D DNR + High SNR + WDR

Advanced 2D/3D noise reduction, ≥50dB SNR, and 8-level WDR suppress grain while balancing bright/dark areas, delivering sharp, detailed images in complex lighting conditions.

## Product Specification

### ▶ Camera Parameter

Lens	30X, f=5.2-148.4mm
Sensor	1/2.8 inch high quality UHD CMOS sensor
Effective Pixels	16: 9, 8.42 megapixel
Video Format	<b>HDMI:</b> 4K P60/59.94/50/30/29.97/25; 1080P60/59.94/50/30/29.97/25; 720P60/59.94/50/30/29.97/25; 1080P60/59.94/50/30/29.97/25; 1080I60/50/59.94/720P60/59.94/50 <b>USB3.0:</b> YUY2/NV12: 1920x1080/1280x720/1024x576/800x600/800x448/640x480/640x360/480x270/320x180@60/30/25/20/15/10/5fps; MJPEG/H264/H265: 3840x2160/1920x1080/1600x896/1280x720/1024x576/960x540/800x600/800x448/720x576/720x480/640x480/640x360/480x270/352x288/320x240@60/30/25/20/15/10/5fps <b>LAN:</b> Main Stream: H264/H265: 3840x2160/2592x1944/2304x1296/1920x1080/1280x720@60/30/25/20/15/10/5fps Sub-Stream: H264/H265: 1920x1080/1280x720/320x180/640x480/320x240/640x360@30/25/20/15/10/5fps
View Angle	2.14° (N) 58.1° (W)
AV	FL3 - F4.8
Digital Zoom	16X
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto/Manual/One-push/VAR(2400K-7100K, 100K adjustable)
Focus Mode	Auto/Manual/One Push Focus
Exposure Mode	Auto/Manual/Shutter Priority/Aperture Priority/Brightness Priority
Iris	Close, F11.0, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.8 (Available only in Manual and Aperture Priority modes)
Electronic Shutter	1/60, 1/90, 1/100, 1/125, 1/250, 1/350, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (Available only in Manual and Shutter Priority modes)
BLC	ON/OFF
Dynamic Range	Close, 1-8
Video Adjustment	Brightness, Contrast, Sharpness, Gamma, B&W Mode, Low-Light Mode
SNR	≥50dB

### ▶ PTZ Parameter

Pan/Tilt Rotation	Pan: -170°~+170°; Tilt: -30°~+90°
Pan Control Speed	0.1°/s - 100°/s
Tilt Control Speed	0.1°/s - 45°/s
Preset Speed	Pan: 100°/s, Tilt: 45°/sec
Preset Quantity	255 presets (10 presets via remote control)

### ▶ Input/Output Interface

Video Interfaces	HDMI, 3G-SDI, LAN(PoE+), USB3.0, USB REC, LINE IN, MIC IN, RS232-IN, RS232-OUT, RS422(compatible with RS485), DC12V Power Supply, Power Switch
Video Output	HDMI, 3G-SDI, LAN, USB3.0
Video Stream	Dual stream output
Video Compression Format	LAN: H.264, H.265 USB 3.0: MJPG, H.264, H.265, YUY2, NV12
Audio Input Interface	LINE-IN: 3.5mm stereo input; MIC IN: 3.5mm stereo microphone input
Audio Output Interface	HDMI, 3G-SDI, LAN
Audio Compression Format	AAC
Control Interface	RS232 (IN/OUT), RS485, RS422
Control Protocol	VISCA/Pelco-D/Pelco-P, Baud Rate: 115200/38400/9600/4800/2400bps
Power Interface	HEC3800 outlet (DC12V)
Power Supply	Input AC110V-AC220V; Output DC12V/2.0A
Input Voltage	DC12V±10%
Input Current	Maximum: 1A
Power Consumption	Maximum: 12W
Network Protocols	HTTP, RTSP, RTMP, ONVIF, STR, GB28181; Support Multicast; VISCA over IP; NDI HX2/HX3 (optional) (100Mbps Ethernet, supports PoE+, supports remote upgrade/remote reboot/remote reset)

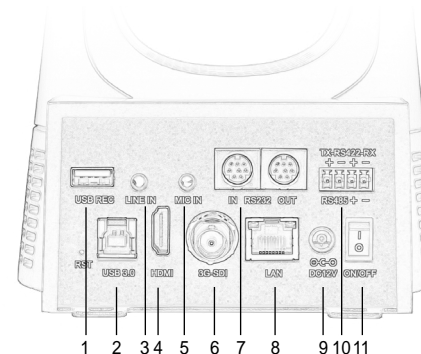
### ▶ Other Parameter

Stored Temperature	-10°C~+70°C
Stored Humidity	20%-95%
Working Temperature	-10°C~+50°C
Working Humidity	20%-80%
Dimension	143mmx176mmx169mm
Weight	1.2KG
Environment	Indoors

### ▶ Accessory

Package	Power Supply, RS232 Control Cable, IR Remote Control, User Manual
Optional Accessories	Ceiling/wall Mount (Extra Cost)

## Interface Diagram

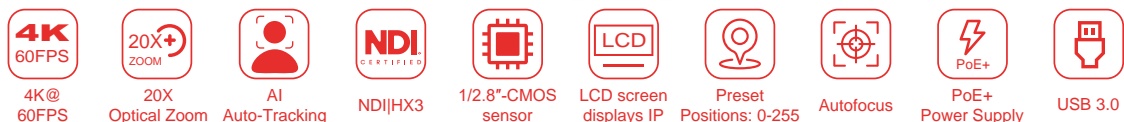


- 1 — USB Recording
- 2 — USB3.0 Interface
- 3 — LINE IN Interface
- 4 — HDMI output interface
- 5 — MIC IN Interface
- 6 — 3G-SDI output Interface
- 7 — RS232 IN / OUT
- 8 — LAN/PoE+(NDI)
- 9 — DC 12V Power Interface
- 10 — RS422 / RS485
- 11 — Power Switch

# FOMaKO Broadcasting-Level 4K PTZ Camera

The K800N camera is suitable for meeting the diverse needs of TV studios, sports training venues, medium-sized theaters and multi-functional halls. Based on 4K image quality, it optimizes dynamic range to deliver clearer image details and more natural color transitions. Equipped with three professional interfaces—USB3.0, HDMI and SDI—it can transmit high-bandwidth, broadcast-quality video content. Meanwhile, with low interface latency, it is highly suitable for live events and basic multi-camera setups, and can meet the core needs of most professional scenarios.

**K800N**



## Features

### ▶ 1/2.8 inch high quality HD CMOS sensor

Equipped with a 1/2.8 - inch, 8.42 - megapixel high - quality image sensor. It can reach a maximum resolution of 3840\*2160 and output at a frame rate of up to 60 frames per second, delivering sharp and smooth visuals.

### ▶ 20x Optical Zoom Lens

Offers 20X optical zoom lens options. Allows capturing both wide - angle panoramas and detailed close - ups as needed.

### ▶ Low - Noise & High SNR Performance

Utilizes a low - noise CMOS sensor and advanced 2D/3D noise reduction technology. Secures a high SNR for videos, reducing noise while maintaining image resolution effectively.

### ▶ Multi - Format Video Outputs

Supports HDMI, SDI, LAN (with optional POE + functionality), and USB3.0 outputs. The SDI interface can transmit 1080P60 signals over distances of up to 100 meters, adapting different device connections.

### ▶ Diverse Audio Compression

For video compression: H.265 and H.264 are supported. For audio compression: AAC, MP3, and G.711A are available. AAC supports sample rates of 16000, 32000, 44100, and 48000Hz; G.711A only supports 8000Hz, meeting various audio needs.

### ▶ AI - Powered Dynamic Tracking

Integrates advanced automatic tracking and framing tech. Combines facial and human shape recognition algorithms. Ideal for tracking in conference rooms, classrooms, churches, etc.

### ▶ Advanced Auto - Focus Technology

Boasts a leading auto - focus algorithm. Enables fast, accurate, and stable auto - focusing, ensuring clear imaging in various shooting scenarios.

### ▶ Network Protocol Support

Compatible with ONVIF, GB/T28181, RTSP, RTMP, SRT, and NDI protocols. Also supports RTMP push mode for easy integration with streaming media servers like Wowza and FMS. Enables RTP multicast and full - network VISCA command protocol for flexible networking.

### ▶ Comprehensive Control Capabilities

Interfaces: RS485, RS232 (IN/OUT) for cascading, simplifying system expansion. Protocols: Supports VISCA, PELCO - D, and PELCO - P. Can automatically recognize protocols for seamless control integration.

### ▶ Silent PTZ Operation

Adopts high - precision stepping motors and a precise motor driver controller. Ensures smooth, near - silent PTZ movements, suitable for quiet environments such as meetings and classes.

## Product Specification

### ▶ Camera

Video Resolution	HDMI/3GSDI:1080P60、1080P50、1080P30、1080P25、720P60、720P50;
Sensor	1/2.8 inch high quality HD CMOS sensor
Lens	20X, f=5.05-91.49mm, F1.8 - F2.9
Digital Zoom	16X
Minimum Illuminance	0.5Lux(F1.8,AGC ON)
Shutter	Electronic Shutter , Auto/Manual
White Balance	Auto/Manual/One-push/Specified Color Temperature (2400K - 7100K, adjustable in 100K steps)
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D DNR
Video S/N	>50dB
View Angle	3.81°(T) 60.04°(W)
Horizontal Rotation Range	-170° - +170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	0.1° - 60°/s
Tilt Speed Range	0.1° - 30°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	± 0.1°

### ▶ Network Spec

Video Compression	LAN:H.265, H.264; USB 3.0:MJPEG,H.264,H.265,YUY2,NV12
Video Stream	Main Stream, Sub Stream
Main Stream Resolution	H264/H265: 3840*2160、2592*1944、2304*1296、1920*1080、1280*720@60/30/25/20/15/10/5fps
Sub Stream Resolution	H264/H265: 1920*1080、1280*720、640*360、640*480、320*240、320*180@60/30/25/20/15/10/5fps
Video Bit Rate	64Kbps - 4096Kbps
Bit Rate Type	Fixed Bitrate, Variable Bitrate
Frame Rate	50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC, G.711A
Audio Bit Rate	32Kbps, 48Kbps, 64Kbps, 96Kbps, 128Kbps
Support Protocols	RTSP, RTMP, ONVIF, GB/T28181, SRT; NDI supports network VISCA control protocol ; supports remote upgrade, remote reboot, and remote reset

### ▶ USB Features

Operating System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Color System/Compression	YUY2/NV12/MJPEG/H264/H265
Video Format	YUY2/NV12: 1920*1080/1280*720/1024*576/800*600/800*448/640*480/640*360/480*270/320*180 P30/25/20/15/10/5fps H264/H265/MJPEG: 3840*2160/1920*1080/1600*896/1280*720/1024*576/960*540/800*600/800*448/720*576/720*480/640*480/640*360/480*270/352*288/320*240@60/30/25/20/15/10/5fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1

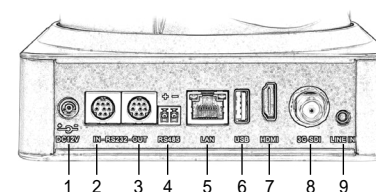
### ▶ Input / Output Interface

HD Output	HDMI: 3840*2160/1920*1080P60/59.94/50/30/29.97/25; 1280*720P60/59.94/50 SDI: 1920*1080P60/59.94/50/30/29.97/25; 1920*1080I60/50/59.94; 1280*720P60/59.94/50
Network Interface	1000M Ethernet port, optional POE+ power supply, supports audio and video output ; The Default is DHCP
Audio Interface	Dual audio channel 3.5mm linear input ; Audio output via HDMI, LAN, USB 3.0, SDI
USB Interface	1 x USB3.0
Communication Interface	RS232 - IN, RS232 - OUT, RS485
Restore Button	Support
Power Interface	HEC3800 power socket (DC12V) ; Input: AC110V - AC220V, Output: DC12V/2A

### ▶ General Specification

Installation	Ceiling / Wall Mount
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC12V±10%
Input Current	≤1.5A
Operating Temperature	-10℃ - +50℃
Storage Temperature	-10℃ - +70℃
Dimension (W x D x H)	150mm*150mm*167.5mm
Weight	1.4kg

## Interface Diagram

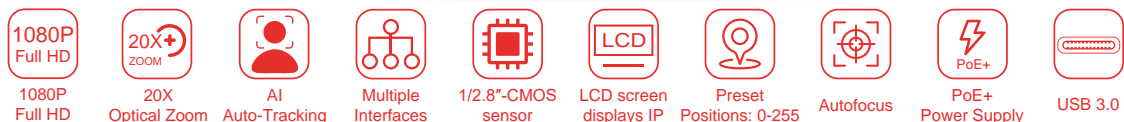


- 1 — DC 12V Power Input Socket
- 2 — RS232 IN Interface
- 3 — RS232 OUT Interface
- 4 — RS485 Interface
- 5 — LAN/PoE+(NDI)
- 6 — HDMI Out put Interface
- 7 — USB 3.0 Out put Interface
- 8 — 3G-SDI
- 9 — LINE IN Interface

# FOMaKO Broadcasting-Level PTZ Camera

The K20 camera targets professional A&V scenarios. Suited for equipment performance demanding setups like TV standard definition studios, small medium sports venues, regional theaters, and medium conference rooms, it offers customized, reliable solutions. With broadcast grade core performance, it supports 1080P/60fps uncompressed video output, delivering high color depth, delicate imagery. Its 20x optical zoom captures medium venue panoramas and stage performers' subtle expressions; each frame maintains full HD resolution and real time responsiveness, enabling stable, high quality imaging for professional production.

**K20**



## Features

### ▶ 1/2.8 inch High - Quality CMOS Sensor

Equipped with a 1/2.8 inch high performance CMOS sensor, this camera suppresses noise in high light and low light environments. Supporting 1920x1080 resolution and 60fps frame rate, it ensures sharp, smooth video with accurate color reproduction.

### ▶ Powerful AI Tracking

Powered by a high speed processor and advanced AI algorithms, it offers real time and regional tracking. Locking onto speakers automatically, it uses person boxes for stable focus in dynamic live scenarios like education and meetings.

### ▶ 20x Optical Zoom Lens

Boasting a 20x optical zoom lens, the camera captures wide panoramas and fine details. It provides an immersive, rich video experience, versatile for different shooting needs, from broad scenes to close ups.

### ▶ Multiple Control Protocols

Supporting VISCA, ONVIF, PELCO D, PELCO P, it auto detects and adapts to systems. Engineers connect via RS232/485 or IP, with auto recognized protocols for easy integration.

### ▶ Multiple Video Output Interfaces

Supporting HDMI 2.0, 3G - SDI, LAN, and USB3.0, it enables long distance transmission, quick local recording, and networked control. Capable of outputting three HD signals simultaneously for complex setups.

### ▶ Built - in Gravity Sensor

Integrating a gravity sensor, it enables PTZ auto flip. Simplifying installation, it auto adjusts image orientation regardless of the camera's physical placement, ensuring correct output.

### ▶ Multiple Audio/Video Compression Standards

Supporting H.264 and H.265 for video (H.265 balances quality and bandwidth) and AAC audio (48000Hz sampling). Delivers high quality 1920x1080@60fps audio video for diverse apps.

### ▶ IR Remote Control & LCD Display

Control pan/tilt/zoom and presets via IR remote for quick on site adjustments. Connecting HDMI/SDI shows status (IP, resolution, etc.) on LCD, aiding easy monitoring and adjustment.

### ▶ Multiple Network Protocols

Compatible with TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes to platforms; RTP multicast serves large audiences; VISCA over IP enables remote control.

### ▶ Multiple Application Scenarios

Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine. Meets diverse professional A&V needs across industries, proving highly versatile.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P59.94, 1080P50, 1080I60, 1080I59.94, 1080I50, 1080P30, 1080P29.97, 1080P25, 720P60, 720P59.94, 720P50
Sensor	1/2.8 inch, CMOS, Effective pixels: 2.07M
Scanning Mode	Progressive
Lens	20x, f = 4.42mm - 88.5mm, F1.8 - F2.8
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, VAR, Manual, One Push, Indoor, Outdoor
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D Digital Noise Reduction
Video S/N	> 55dB
HFOV	60.7° - 3.36°
VFOV	34.1° - 1.89°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.7° - 100°/s
Tilt Speed Range	1.7° - 69.9°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	YUY2/MJPEG/H.264
Video Format	1080P60
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0; 3G - SDI Interface: 1 x 3G - SDI: BNC type, 800mVp - p, 75ff, Along to SMPTE 424M standard
Network Interface	1 x LAN: 10M/100M/1000M Adaptive Ethernet Port, Support PoE+
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/ Pelco - D/ Pelco - P; 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/ Pelco - D/ Pelco - P; 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

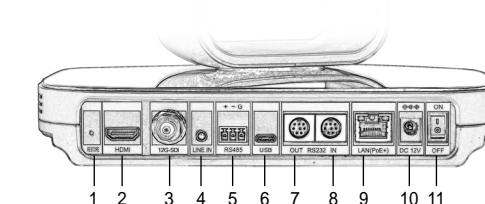
### ▶ Network Spec

Video Compression	H.264/H.265
Video Stream	First Stream, Second Stream
First Stream Resolution	1920x1080, 1280x720, 1024x576, 960x540, 640x480, 640x360
Second Stream Resolution	1280x720, 1024x576, 720x480, 640x360, 480x272, 320x240, 320x180
Video Bit Rate	32Kbps - 20480Kbps
Bit Rate Type	CBR, VBR
Frame Rate	1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps, 256Kbps
Support Protocols	TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram



- 1 — RESTORE pinhole
- 2 — HDMI Out put interface
- 3 — 12G-SDI Interface
- 4 — 3.5mm Audio Interface
- 5 — RS485 Interface
- 6 — USB 3.0 Out put Interface
- 7 — RS232 OUT Interface
- 8 — RS232 IN Interface
- 9 — LAN/PoE+
- 10 — DC 12V Power Interface
- 11 — Power Switch

# FOMaKO Broadcasting-Level PTZ Camera

The K30 camera targets professional A&V scenarios. Suited for long distance shooting demanding setups like event live broadcast venues, large indoor stadiums, municipal theaters, and medium large conference rooms, it offers customized, reliable solutions. With broadcast grade core performance, it supports 1080P/60fps uncompressed video output, delivering high color depth, delicate imagery. Its 30x optical zoom excels at long distance shooting—capturing large indoor venue views or distant stage performer details; each frame maintains full HD resolution and real time responsiveness, enabling stable, high quality imaging for professional production.



- 1080P Full HD
- 30X Optical Zoom
- AI Auto-Tracking
- Multiple Interfaces
- 1/2.8"-CMOS sensor
- LCD screen displays IP
- Preset Positions: 0-255
- Autofocus
- PoE+ Power Supply
- USB 3.0

## Features

- ▶ 1/2.8 inch High - Quality CMOS Sensor**  
 Equipped with a 1/2.8 inch high performance CMOS sensor, this camera suppresses noise in high light and low light environments. Supporting 1920x1080 resolution and 60fps frame rate, it ensures sharp, smooth video with accurate color reproduction.
- ▶ 30x Optical Zoom Lens**  
 Boasting a 30x optical zoom lens, the camera captures wide panoramas and fine details. It provides an immersive, rich video experience, versatile for different shooting needs, from broad scenes to close ups.
- ▶ Multiple Video Output Interfaces**  
 Supporting HDMI 2.0, 3G - SDI, LAN, and USB3.0, it enables long distance transmission, quick local recording, and networked control. Capable of outputting three HD signals simultaneously for complex setups.
- ▶ Multiple Audio/Video Compression Standards**  
 Supporting H.264 and H.265 for video (H.265 balances quality and bandwidth) and AAC audio (48000Hz sampling). Delivers high quality 1920x1080@60fps audio video for diverse apps.
- ▶ Multiple Network Protocols**  
 Compatible with TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes to platforms; RTP multicast serves large audiences; VISCA over IP enables remote control.
- ▶ Powerful AI Tracking**  
 Powered by a high speed processor and advanced AI algorithms, it offers real time and regional tracking. Locking onto speakers automatically, it uses person boxes for stable focus in dynamic live scenarios like education and meetings.
- ▶ Multiple Control Protocols**  
 Supporting VISCA, ONVIF, PELCO D, PELCO P, it auto detects and adapts to systems. Engineers connect via RS232/485 or IP, with auto recognized protocols for easy integration.
- ▶ Built - in Gravity Sensor**  
 Integrating a gravity sensor, it enables PTZ auto flip. Simplifying installation, it auto adjusts image orientation regardless of the camera's physical placement, ensuring correct output.
- ▶ IR Remote Control & LCD Display**  
 Control pan/tilt/zoom and presets via IR remote for quick on site adjustments. Connecting HDMI/SDI shows status (IP, resolution, etc.) on LCD, aiding easy monitoring and adjustment.
- ▶ Multiple Application Scenarios**  
 Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine. Meets diverse professional A&V needs across industries, proving highly versatile.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P59.94, 1080P50, 1080I60, 1080I59.94, 1080I50, 1080P30, 1080P29.97, 1080P25, 720P60, 720P59.94, 720P50
Sensor	1/2.8 inch, CMOS, Effective pixels: 2.07M
Scanning Mode	Progressive
Lens	30x, f=4.42mm - 132.6mm, F1.8 - F2.8
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, VAR, Manual, One Push, Indoor, Outdoor
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D Digital Noise Reduction
Video S/N	> 55dB
HFOV	60.7° - 2.28°
VFOV	34.1° - 1.28°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.7° - 100°/s
Tilt Speed Range	1.7° - 69.9°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ Network Spec

Video Compression	H.264/H.265
Video Stream	First Stream, Second Stream
First Stream Resolution	1920x1080, 1280x720, 1024x576, 960x540, 640x480, 640x360
Second Stream Resolution	1280x720, 1024x576, 720x480, 640x360, 480x272, 320x240, 320x180
Video Bit Rate	32Kbps - 20480Kbps
Bit Rate Type	CBR, VBR
Frame Rate	1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps, 256Kbps
Support Protocols	TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	YUY2/MJPEG/H.264
Video Format	1080P60
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

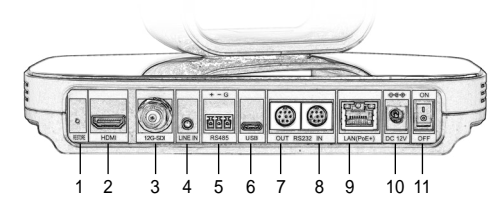
### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0; 3G - SDI Interface: 1 x 3G - SDI: BNC type, 800mVp - p, 75ff, Along to SMPTE 424M standard
Network Interface	1 x LAN: 10M/100M/1000M Adaptive Ethernet Port, Support PoE+
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/ Pelco - D/ Pelco - P; 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco - D/ Pelco - P; 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram

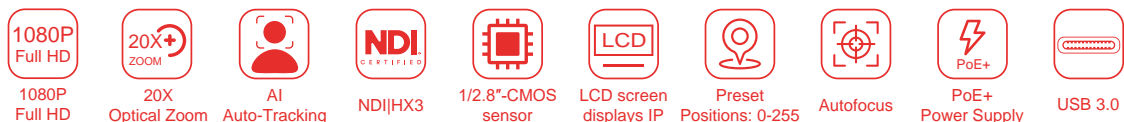


- 1 — RESTORE pinhole
- 2 — HDMI Out put interface
- 3 — 12G-SDI Interface
- 4 — 3.5mm Audio Interface
- 5 — RS485 Interface
- 6 — USB 3.0 Out put Interface
- 7 — RS232 OUT Interface
- 8 — RS232 IN Interface
- 9 — LAN/PoE+
- 10 — DC 12V Power Interface
- 11 — Power Switch

# FoMaKo Broadcasting-Level PTZ Camera

The KN20 camera targets professional A&V scenarios. Suited for equipment performance demanding setups like TV standard definition studios, small medium sports venues, regional theaters, and medium conference rooms, it offers customized, reliable solutions. With broadcast grade core performance, it supports 1080P/60fps uncompressed video output, delivering high color depth, delicate imagery. Its 20x optical zoom captures medium venue panoramas and stage performers' subtle expressions; each frame maintains full HD resolution and real time responsiveness, enabling stable, high quality imaging for professional production.

## ★ KN20



## Features

### ▶ 1/2.8 inch High - Quality CMOS Sensor

Equipped with a 1/2.8 inch high performance CMOS sensor, this camera suppresses noise in high light and low light environments. Supporting 1920x1080 resolution and 60fps frame rate, it ensures sharp, smooth video with accurate color reproduction.

### ▶ 20x Optical Zoom Lens

Boasting a 20x optical zoom lens, the camera captures wide panoramas and fine details. It provides an immersive, rich video experience, versatile for different shooting needs, from broad scenes to close ups.

### ▶ Multiple Video Output Interfaces

Supporting HDMI 2.0, 3G - SDI, LAN, and USB3.0, it enables long distance transmission, quick local recording, and networked control. Capable of outputting three HD signals simultaneously for complex setups.

### ▶ Multiple Audio/Video Compression Standards

Supporting H.264 and H.265 for video (H.265 balances quality and bandwidth) and AAC audio (48000Hz sampling). Delivers high quality 1920x1080@60fps audio video for diverse apps.

### ▶ Multiple Network Protocols

Compatible with NDI|HX3, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes to platforms; RTP multicast serves large audiences; VISCA over IP enables remote control.

### ▶ Powerful AI Tracking

Powered by a high speed processor and advanced AI algorithms, it offers real time and regional tracking. Locking onto speakers auto matically, it uses person boxes for stable focus in dynamic live scenarios like education and meetings.

### ▶ Multiple Control Protocols

Supporting VISCA, ONVIF, PELCO D, PELCO P, it auto detects and adapts to systems. Engineers connect via RS232/485 or IP, with auto recognized protocols for easy integration.

### ▶ Built - in Gravity Sensor

Integrating a gravity sensor, it enables PTZ auto flip. Simplifying installation, it auto adjusts image orientation regardless of the camera's physical placement, ensuring correct output.

### ▶ IR Remote Control & LCD Display

Control pan/tilt/zoom and presets via IR remote for quick on site adjustments. Connecting HDMI/SDI shows status (IP, resolution, etc.) on LCD, aiding easy monitoring and adjustment.

### ▶ Multiple Application Scenarios

Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine. Meets diverse professional A&V needs across industries, proving highly versatile.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P59.94, 1080P50, 1080I60, 1080I59.94, 1080I50, 1080P30, 1080P29.97, 1080P25, 720P60, 720P59.94, 720P50
Sensor	1/2.8 inch, CMOS, Effective pixels: 2.07M
Scanning Mode	Progressive
Lens	20x, f = 4.42mm - 88.5mm, F1.8 - F2.8
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, VAR, Manual, One Push, Indoor, Outdoor
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D Digital Noise Reduction
Video S/N	> 55dB
HFOV	60.7° - 3.36°
VFOV	34.1° - 1.89°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.7° - 100°/s
Tilt Speed Range	1.7° - 69.9°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ Network Spec

Video Compression	H.264/H.265
Video Stream	First Stream, Second Stream
First Stream Resolution	1920x1080, 1280x720, 1024x576, 960x540, 640x480, 640x360
Second Stream Resolution	1280x720, 1024x576, 720x480, 640x360, 480x272, 320x240, 320x180
Video Bit Rate	32Kbps - 20480Kbps
Bit Rate Type	CBR, VBR
Frame Rate	1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps, 256Kbps
Support Protocols	NDI, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	YUY2/MJPEG/H.264
Video Format	1080P60
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

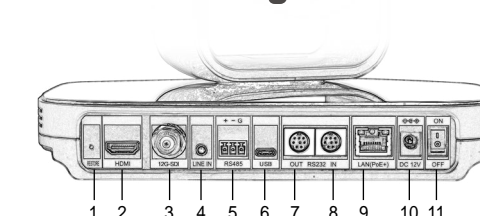
### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0; 3G - SDI Interface: 1 x 3G - SDI: BNC type, 800mVp - p, 75ff, Along to SMPTE 424M standard
Network Interface	1 x LAN: 10M/100M/1000M Adaptive Ethernet Port, Support PoE+
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/ Pelco - D/ Pelco - P; 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco - D/ Pelco - P; 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram



- 1 — RESTORE pinhole
- 2 — HDMI Out put interface
- 3 — 12G-SDI Interface
- 4 — 3.5mm Audio Interface
- 5 — RS485 Interface
- 6 — USB 3.0 Out put Interface
- 7 — RS232 OUT Interface
- 8 — RS232 IN Interface
- 9 — LAN/PoE+(NDI)
- 10 — DC 12V Power Interface
- 11 — Power Switch

# FoMaKo Broadcasting-Level PTZ Camera

The KN30 camera targets professional A&V scenarios. Suited for long distance shooting demanding setups like event live broadcast venues, large indoor stadiums, municipal theaters, and medium large conference rooms, it offers customized, reliable solutions. With broadcast grade core performance, it supports 1080P/60fps uncompressed video output, delivering high color depth, delicate imagery. Its 30x optical zoom excels at long distance shooting—capturing large indoor venue views or distant stage performer details; each frame maintains full HD resolution and real time responsiveness, enabling stable, high quality imaging for professional production.



- 1080P Full HD
- 30X Optical Zoom
- AI Auto-Tracking
- NDI|HX3
- 1/2.8"-CMOS sensor
- LCD screen displays IP
- Preset Positions: 0-255
- Autofocus
- PoE+ Power Supply
- USB 3.0

## Features

- ▶ 1/2.8 inch High - Quality CMOS Sensor**  
 Equipped with a 1/2.8 inch high performance CMOS sensor, this camera suppresses noise in high light and low light environments. Supporting 1920x1080 resolution and 60fps frame rate, it ensures sharp, smooth video with accurate color reproduction.
- ▶ Powerful AI Tracking**  
 Powered by a high speed processor and advanced AI algorithms, it offers real time and regional tracking. Locking onto speakers auto matically, it uses person boxes for stable focus in dynamic live scenarios like education and meetings.
- ▶ 30x Optical Zoom Lens**  
 Boasting a 30x optical zoom lens, the camera captures wide panoramas and fine details. It provides an immersive, rich video experience, versatile for different shooting needs, from broad scenes to close ups.
- ▶ Multiple Control Protocols**  
 Supporting VISCA, ONVIF, PELCO D, PELCO P, it auto detects and adapts to systems. Engineers connect via RS232/485 or IP, with auto recognized protocols for easy integration.
- ▶ Multiple Video Output Interfaces**  
 Supporting HDMI 2.0, 3G - SDI, LAN, and USB3.0, it enables long distance transmission, quick local recording, and networked control. Capable of outputting three HD signals simultaneously for complex setups.
- ▶ Built - in Gravity Sensor**  
 Integrating a gravity sensor, it enables PTZ auto flip. Simplifying installation, it auto adjusts image orientation regardless of the camera's physical placement, ensuring correct output.
- ▶ Multiple Audio/Video Compression Standards**  
 Supporting H.264 and H.265 for video (H.265 balances quality and bandwidth) and AAC audio (48000Hz sampling). Delivers high quality 1920x1080@60fps audio video for diverse apps.
- ▶ IR Remote Control & LCD Display**  
 Control pan/tilt/zoom and presets via IR remote for quick on site adjustments. Connecting HDMI/SDI shows status (IP, resolution, etc.) on LCD, aiding easy monitoring and adjustment.
- ▶ Multiple Network Protocols**  
 Compatible with NDI|HX3, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes to platforms; RTP multicast serves large audiences; VISCA over IP enables remote control.
- ▶ Multiple Application Scenarios**  
 Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine. Meets diverse professional A&V needs across industries, proving highly versatile.

## Product Specification

### ▶ Camera

Video Resolution	1080P60, 1080P59.94, 1080P50, 1080I60, 1080I59.94, 1080I50, 1080P30, 1080P29.97, 1080P25, 720P60, 720P59.94, 720P50
Sensor	1/2.8 inch, CMOS, Effective pixels: 2.07M
Scanning Mode	Progressive
Lens	30x, f=4.42mm - 132.6mm, F1.8 - F2.8
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, VAR, Manual, One Push, Indoor, Outdoor
Backlight Compensation	Support
Digital Noise Reduction	2D & 3D Digital Noise Reduction
Video S/N	> 55dB
HFOV	60.7° - 2.28°
VFOV	34.1° - 1.28°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.7° - 100°/s
Tilt Speed Range	1.7° - 69.9°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ Network Spec

Video Compression	H.264/H.265
Video Stream	First Stream, Second Stream
First Stream Resolution	1920x1080, 1280x720, 1024x576, 960x540, 640x480, 640x360
Second Stream Resolution	1280x720, 1024x576, 720x480, 640x360, 480x272, 320x240, 320x180
Video Bit Rate	32Kbps - 20480Kbps
Bit Rate Type	CBR, VBR
Frame Rate	1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps, 256Kbps
Support Protocols	NDI, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	YUY2/MJPEG/H.264
Video Format	1080P60
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

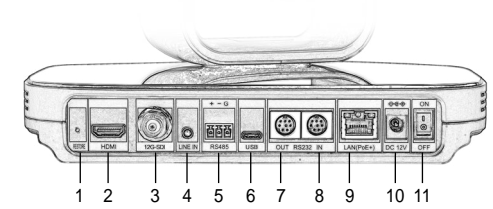
### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0; 3G - SDI Interface: 1 x 3G - SDI: BNC type, 800mVp - p, 75ff, Along to SMPTE 424M standard
Network Interface	1 x LAN: 10M/100M/1000M Adaptive Ethernet Port, Support PoE+
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/ Pelco - D/Pelco - P; 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco - D/ Pelco - P; 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram

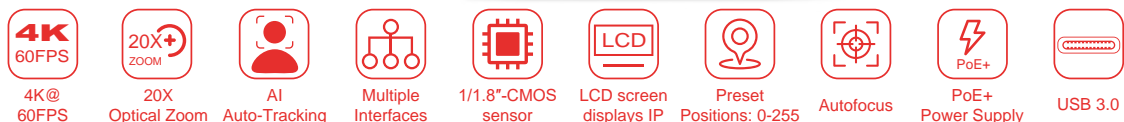


- 1 — RESTORE pinhole
- 7 — RS232 OUT Interface
- 2 — HDMI Out put interface
- 8 — RS232 IN Interface
- 3 — 12G-SDI Interface
- 9 — LAN/PoE+(NDI)
- 4 — 3.5mm Audio Interface
- 10 — DC 12V Power Interface
- 5 — RS485 Interface
- 11 — Power Switch
- 6 — USB 3.0 Out put Interface

# FoMaKo Broadcasting-Level 4K PTZ Camera

The K820 camera targets high-end application scenarios in the Audio & Video (A&V) industry. It is suitable for scenarios with high requirements for equipment performance, such as TV station 4K ultra-high-definition studios, large stadiums, professional theaters, and 1,000-person large conference rooms, providing customized and highly reliable application solutions. This camera features broadcast-grade core performance, supporting standard-compliant 4K/60fps uncompressed video output and delivering delicate image quality with cinematic color depth. Whether capturing panoramas of large venues or the subtle expressions of stage performers, each frame maintains ultra-high-definition resolution and real-time responsiveness, providing stable and high-quality imaging support for professional production scenarios.

**K820**



## Features

### ▶ 1/1.8 inch High - Quality CMOS Sensor

Equipped with a 1/1.8 - inch high - performance CMOS sensor, this camera effectively suppresses noise in both high - light and low - light environments. It supports a maximum resolution of 1920x1080 and a frame rate of up to 60fps, ensuring sharp, smooth video output with accurate color reproduction.

### ▶ 20x Optical Zoom Lens

Features a 20x optical zoom lens, capturing wide panoramas and fine details, providing an immersive, rich video experience for users.

### ▶ Multiple Video Output Interfaces

Supports HDMI 2.0, 3G - SDI, LAN, and USB3.0 interfaces. HDMI/3G - SDI enable long - distance transmission (3G - SDI reaches 100m@1080P30), USB3.0 allows quick local recording, and LAN supports networked control/streaming. Capable of outputting three HD signals simultaneously.

### ▶ Multiple Audio/Video Compression Standards

Supports H.264 and H.265 video compression—H.265 balances high quality and low bandwidth for 4K - like efficiency. For audio, it uses AAC format with a 48000Hz sampling rate, ensuring clear sound. With a max 1920x1080@60fps resolution.

### ▶ Multiple Network Protocols

Compatible with TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes streams to platforms (YouTube, Zoom), RTP multicast distributes to large audiences, and VISCA over IP enables remote camera control.

### ▶ Powerful AI Tracking

Powered by a high - speed processor and advanced AI algorithms, it offers real - time and regional tracking modes. In education/-meetings, it locks onto speakers automatically; users switch targets via webpage - based person boxes. Ensures stable focus on key subjects, even in dynamic live broadcast scenarios.

### ▶ Multiple Control Protocols

Supports VISCA, ONVIF, PELCO D, and PELCO P. Automatically detects and adapts to connected systems (e.g., conference room controllers, broadcast switchers). Simplifies integration—engineers connect via RS232/485 or IP, with protocols auto - recognized for hassle free setup.

### ▶ Built - in Gravity Sensor

Integrates a gravity sensor, enabling PTZ auto - flip. Simplifies camera installation by auto - adjusting image orientation.

### ▶ IR Remote Control & LCD Display

Controls pan/tilt/zoom, preset calls via an IR remote—ideal for quick on - site adjustments. Connect HDMI/SDI to display devices, and the screen shows camera status (IP, resolution, frame rate) and menu settings.

### ▶ Multiple Application Scenarios

Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine meeting diverse professional A&V needs.

## Product Specification

### ▶ Camera

Video Resolution	HDMI: 4KP25, 4KP30, 4KP50, 4KP60, 4KP59.94, 4KP29.97, 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 720P50, 720P59.94, 720P60
Sensor	3G-SDI: 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 720P50, 720P59.94, 720P60 1/1.8 inch, CMOS, Effective pixels: 8.42M
Scanning Mode	Progressive
Lens	20x, f = 6.25mm - 125mm, F1.58 - F3.95
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR
Backlight Compensation	Support
Digital Noise Reduction	3D Digital Noise Reduction
Video S/N	≥ 55dB
HFOV	60° - 3.5°
VFOV	35.7° - 2.0°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.8°/s - 80°/s
Tilt Speed Range	1.5°/s - 49°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ Network Spec

Video Compression	H.264/H.265/MJPEG
Video Stream	First Stream, Second Stream
First Stream Resolution	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360
Second Stream Resolution	720x480, 720x408, 640x480, 640x360, 480x320, 320x240
Video Bit Rate	32kbps - 51200kbps
Bit Rate Type	CBR, VBR
Frame Rate	50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps
Support Protocols	TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	USB 3.0 (Optional): YUY2/H.264/H.265/MJPEG USB 2.0: H.264/H.265/MJPEG
Video Format	YUY2: (USB 3.0 support) max to 1080P@30fps USB 3.0/2.0 support: -H.264 AVC:max to 2160P@30fps -H.265 HEVC:max to 2160P@30fps -MJPEG:max to 2160P@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

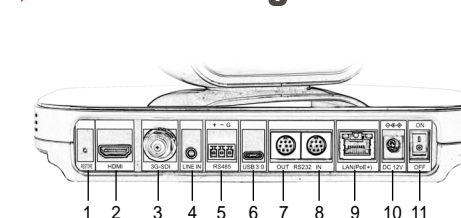
### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0 3G - SDI Interface: 1 x 3G-SDI: BNC type, 800mVp-p, 75ff. Along to SMPTE 424M standard
Network Interface	1 x LAN: 100M/1000M Adaptive Ethernet Port, support PoE +
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram

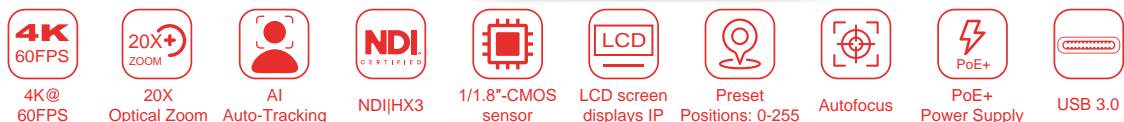


- 1 — RESTORE pinhole
- 2 — HDMI Out put Interface
- 3 — 3G-SDI Interface
- 4 — 3.5mm Audio Interface
- 5 — RS485 Interface
- 6 — USB 3.0 Out put Interface
- 7 — RS232 OUT Interface
- 8 — RS232 IN Interface
- 9 — LAN/PoE+
- 10 — DC 12V Power Interface
- 11 — Power Switch

# FOMaKO Broadcasting-Level 4K PTZ Camera

The K820N camera targets high-end application scenarios in the Audio & Video (A&V) industry. It is suitable for scenarios with high requirements for equipment performance, such as TV station 4K ultra-high-definition studios, large stadiums, professional theaters, and 1,000-person large conference rooms, providing customized and highly reliable application solutions. This camera features broadcast-grade core performance, supporting standard-compliant 4K/60fps uncompressed video output and delivering delicate image quality with cinematic color depth. Whether capturing panoramas of large venues or the subtle expressions of stage performers, each frame maintains ultra-high-definition resolution and real-time responsiveness, providing stable and high-quality imaging support for professional production scenarios.

## K820N



## Features

### ► 1/1.8 inch High - Quality CMOS Sensor

Equipped with a 1/1.8 - inch high - performance CMOS sensor, this camera effectively suppresses noise in both high - light and low - light environments. It supports a maximum resolution of 1920x1080 and a frame rate of up to 60fps, ensuring sharp, smooth video output with accurate color reproduction.

### ► 20x Optical Zoom Lens

Features a 20x optical zoom lens, capturing wide panoramas and fine details, providing an immersive, rich video experience for users.

### ► Multiple Video Output Interfaces

Supports HDMI 2.0, 3G - SDI, LAN, and USB3.0 interfaces. HDMI/3G - SDI enable long - distance transmission (3G - SDI reaches 100m@1080P30), USB3.0 allows quick local recording, and LAN supports networked control/streaming. Capable of outputting three HD signals simultaneously.

### ► Multiple Audio/Video Compression Standards

Supports H.264 and H.265 video compression—H.265 balances high quality and low bandwidth for 4K - like efficiency. For audio, it uses AAC format with a 48000Hz sampling rate, ensuring clear sound. With a max 1920x1080@60fps resolution.

### ► Multiple Network Protocols

Compatible with NDI|HX3, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast. RTMP pushes streams to platforms (YouTube, Zoom), RTP multicast distributes to large audiences, and VISCA over IP enables remote camera control.

### ► Powerful AI Tracking

Powered by a high - speed processor and advanced AI algorithms, it offers real - time and regional tracking modes. In education/ meetings, it locks onto speakers automatically; users switch targets via webpage - based person boxes. Ensures stable focus on key subjects, even in dynamic live broadcast scenarios.

### ► Multiple Control Protocols

Supports VISCA, ONVIF, PELCO D, and PELCO P. Automatically detects and adapts to connected systems (e.g., conference room controllers, broadcast switchers). Simplifies integration—engineers connect via RS232/485 or IP, with protocols auto - recognized for hassle free setup.

### ► Built - in Gravity Sensor

Integrates a gravity sensor, enabling PTZ auto - flip. Simplifies camera installation by auto - adjusting image orientation.

### ► IR Remote Control & LCD Display

Controls pan/tilt/zoom, preset calls via an IR remote—ideal for quick on - site adjustments. Connect HDMI/SDI to display devices, and the screen shows camera status (IP, resolution, frame rate) and menu settings.

### ► Multiple Application Scenarios

Suitable for online education, lecture capture, webcasting, video conferencing, telemedicine meeting diverse professional A&V needs.

## Product Specification

### ► Camera

Video Resolution	HDMI: 4KP25, 4KP30, 4KP50, 4KP60, 4KP59.94, 4KP29.97, 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 720P50, 720P59.94, 720P60
Sensor	3G-SDI: 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 720P50, 720P59.94, 720P60 1/1.8 inch, CMOS, Effective pixels: 8.42M
Scanning Mode	Progressive
Lens	20x, f = 6.25mm - 125mm, F1.58 - F3.95
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR
Backlight Compensation	Support
Digital Noise Reduction	3D Digital Noise Reduction
Video S/N	≥ 55dB
HFOV	60° - 3.5°
VFOV	35.7° - 2.0°
Horizontal Rotation Range	±170°
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.8°/s - 80°/s
Tilt Speed Range	1.5°/s - 49°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ► Network Spec

Video Compression	H.264/H.265/MJPEG
Video Stream	First Stream, Second Stream
First Stream Resolution	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360
Second Stream Resolution	720x480, 720x408, 640x480, 640x360, 480x320, 320x240
Video Bit Rate	32kbps - 51200kbps
Bit Rate Type	CBR, VBR
Frame Rate	50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC
Audio Bit Rate	96Kbps, 128Kbps
Support Protocols	NDI HX3, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ► USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	USB 3.0 (Optional): YUY2/H.264/H.265/MJPEG USB 2.0: H.264/H.265/MJPEG
Video Format	YUY2: (USB 3.0 support) max to 1080P@30fps USB 3.0/2.0 support: -H.264 AVC:max to 2160P@30fps -H.265 HEVC:max to 2160P@30fps -MJPEG:max to 2160P@30fps
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

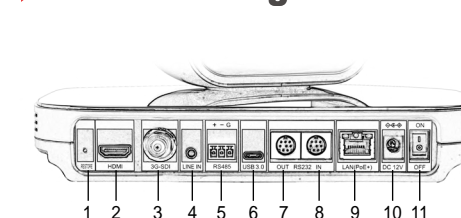
### ► Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0 3G - SDI Interface: 1 x 3G-SDI: BNC type, 800mVp-p, 75ff. Along to SMPTE 424M standard
Network Interface	1 x LAN: 100M/1000M Adaptive Ethernet Port, support PoE +
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ► General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram

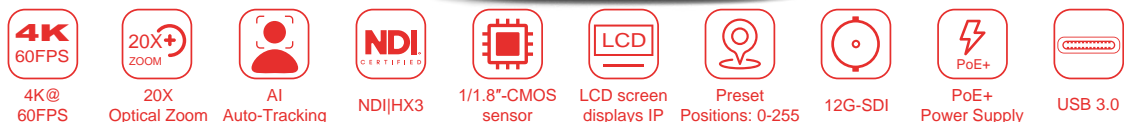


- 1 — RESTORE pinhole
- 2 — HDMI Out put Interface
- 3 — 3G-SDI Interface
- 4 — 3.5mm Audio Interface
- 5 — RS485 Interface
- 6 — USB 3.0 Out put Interface
- 7 — RS232 OUT Interface
- 8 — RS232 IN Interface
- 9 — LAN/PoE+(NDI)
- 10 — DC 12V Power Interface
- 11 — Power Switch

# FOMaKO Broadcasting-Level 4K PTZ Camera

The K820S camera targets high-end application scenarios in the Audio & Video (A&V) industry, providing flexible solutions for television studios, sports facilities, grand theaters, multi-functional halls, and large conference rooms. The camera is equipped with a professional 12G-SDI interface, which enables the transmission of 4K/60fps uncompressed video signals via a single cable. It also features low latency ( $\leq 1\text{ms}$ ) and supports long-distance signal transmission of up to 100 meters. It can stably output uncompressed, high-bandwidth broadcast-grade video content. Even in scenarios such as multi-camera linkage in large venues and real-time switching of live events, it can ensure that the images are free from freezing and blurring, and each frame maintains 4K ultra-high-definition resolution and real-time responsiveness.

## K820S



## Features

### ▶ 1/1.8-inch high-quality UHD CMOS sensor

Use 1/1.8-inch high-quality UHD CMOS sensor with a maximum of 8.42 million pixels can realize 4K (3840x2160) ultra-high-resolution high-quality images. And downward compatible with 1080P, 720P and other resolutions.

### ▶ 20x Optical Zoom Lens

Equipped with a 4K 8MP ultra-long focal lens, it offers 20x optical zoom and a maximum 60° field of view, effectively capturing both panoramic views and detailed close-ups.

### ▶ NDI|HX3 Low latency Transmission

Features low latency and plug-and-play functionality, supporting synchronized transmission of audio, video, and control commands, which simplifies deployment for network video applications.

### ▶ HDMI 2.0 Lossless Output

Comes with an HDMI 2.0 interface that can directly output 4K/60 uncompressed digital video, preserving the original image quality for professional broadcasting and high-end production.

### ▶ Gravity Sensor Auto flip

Integrates a gravity sensor to support automatic image flipping, eliminating the need for manual adjustment of image orientation during engineering installation.

### ▶ Powerful AI Tracking

Uses chip AI power and advanced human recognition algorithms to enable automatic tracking of subjects in scenarios like education, meetings, and live shows, ensuring stable focus on key targets.

### ▶ 12G-SDI Long distance Transmission

Supports 2160P60 YUV422 10BIT video output, enabling stable long-distance transmission of 4K signals through a single cable to solve ultra-high-definition wiring issues.

### ▶ Multiple Interfaces

Supports HDMI 2.0, 12G SDI, USB, and LAN interfaces, allowing simultaneous output of four HD digital signals to meet the needs of multi-device connection and signal distribution.

### ▶ Multiple Control Methods

Compatible with RS232, RS422/RS485, network, and USB control methods, it can automatically recognize protocols for seamless integration in various engineering environments.

### ▶ 3D Noise Reduction for Low Light

Applies 3D noise reduction algorithms to maintain clear images even in ultra-low light conditions (SNR  $\geq 55\text{dB}$ ) by reducing noise in both high and low light environments.

## Product Specification

### ▶ Camera

Video Resolution	4KP60, 4KP59.94, 4KP50, 4KP30, 4KP25, 4KP29.97, 1080P60, 1080P50, 1080160, 1080150, 1080P30, 1080P25, 1080P59.94, 1080159.94, 1080P29.97, 720P60, 720P50, 720P59.94
Sensor	1/1.8 inch, CMOS, Effective pixels: 8.42M
Scanning Mode	Progressive
Lens	20x, f = 6.25mm - 125mm, F1.58 - F3.95
Digital Zoom	16X
Minimum Illuminance	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s - 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR
Backlight Compensation	Support
Digital Noise Reduction	3D Digital Noise Reduction
Video S/N	$\geq 55\text{dB}$
HFOV	60° - 3.5°
VFOV	35.7° - 2.0°
Horizontal Rotation Range	$\pm 162.5^\circ$
Vertical Rotation Range	-30° - +90°
Pan Speed Range	1.8°/s - 80°/s
Tilt Speed Range	1.5°/s - 49°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°

### ▶ Network Spec

Video Compression	H.264/H.265/MJPEG
Video Stream	First Stream, Second Stream
First Stream Resolution	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360
Second Stream Resolution	720x480, 720x408, 640x480, 640x360, 480x320, 320x240
Video Bit Rate	32kbps - 51200kbps
Bit Rate Type	CBR, VBR
Frame Rate	50Hz: 1fps - 50fps, 60Hz: 1fps - 60fps
Audio Compression	AAC, G711A
Audio Bit Rate	96kbps, 128kbps
Support Protocols	NDI HX3, TCP/IP, HTTP, RTSP, RTMP/RTMPS, ONVIF, DHCP, SRT, Multicast

### ▶ USB Features

Operating System	Windows 7/8/10, Mac OS X, Linux, Android
ColorSystem/Compression	H.264/H.265/MJPEG
Video Format	H.264 AVC: max to 2160P@30fps H.265 HEVC: max to 2160P@30fps MJPEG: max to 2160P@30fps YUV: 1920x1080
USB Audio	Support
USB Video Communication Protocol	UVC 1.1 - 1.5
UVC PTZ Control	Support

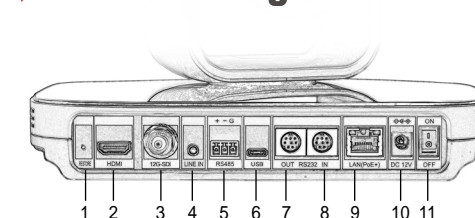
### ▶ Input / Output Interface

HD Output	HDMI Interface: 1 x HDMI: Version 2.0 12G - SDI Interface: 1 x 12G-SDI: BNC type, 800mVp-p, 75ff. Along to SMPTE 424M standard
Network Interface	1 x LAN: 100M/1000M Adaptive Ethernet Port, support PoE +
Audio Interface	1 x LINE IN: 3.5mm Audio Interface
USB Interface	1 x USB: Type - C 1 x RS422/RS485: 4/2 pin phoenix port, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P
Communication Interface	1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use
Restore Button	Support
Power Interface	JETTA type (DC IN 12V)

### ▶ General Specification

Installation	Ceiling / Wall Mount
TALLY Light	1 (Red and Green Dual-color)
Power Indicator	1 (Green, Red)
Status Indicator	1 (Green, Red)
IR Remote Control	Support
Input Voltage	DC 12V/PoE + (802.3at)
Input Current	Max: 2A
Operating Temperature	0°C - 40°C
Storage Temperature	-40°C - 60°C
Dimension (W x D x H)	223mm x 163mm x 166mm
Weight	1.8Kg

## Interface Diagram



- |                               |                             |
|-------------------------------|-----------------------------|
| 1 — RESTORE pinhole           | 7 — RS232 OUT Interface     |
| 2 — HDMI Out put Interface    | 8 — RS232 IN Interface      |
| 3 — 12G-SDI Interface         | 9 — LAN/PoE+(NDI)           |
| 4 — 3.5mm Audio Interface     | 10 — DC 12V Power Interface |
| 5 — RS485 Interface           | 11 — Power Switch           |
| 6 — USB 3.0 Out put Interface |                             |

# FoMaKo Broadcasting-Level PTZ Camera Controller

The PTZ Camera Controller KC606 can efficiently control the camera's pan/tilt movement and zoom, and precisely manage every lens view. It supports camera switching via long press. You can easily turn on or off the camera's AI tracking function with it, and it also lets you call preset positions. It is suitable for multi-camera collaborative scenarios such as live broadcast sites, church services, conference centers, and educational recording & broadcasting. It simplifies the operation process and improves the efficiency of lens control.

**KC606**



4D Joystick



3-inch LCD screen



PoE Power Supply



HDMI



Real-time preview



One click lock

## Features

### ▶ 4D precise Joystick+3D knobs+Ergonomic zoom button

Camera parameters control such as white balance, exposure, focus and zoom etc.

### ▶ White and red backlight silicone buttons

High-quality silicone, excellent touch, support white and red backlight so it can be operated smoothly in a low-light environment; support letters and common characters input and other operations such as editing camera's name and address.

### ▶ Built-in 3-inch color screen

Support real-time PVW of current camera viewing through up streaming (RTSP only).

### ▶ Support buttons lock via one click

Lock buttons via one click to avoid misoperation.

### ▶ Powerful WEB background operation interface

Support remote customized functions and parameter configuration through the WEB background, and support WEB device upgrades.

### ▶ Multiple control protocols, apply to abundant venues

Support VISCA, VISCA Over IP, VISCA TCP, PELCO P/D, Onvif, support automatic protocol recognition.

### ▶ Remote control of PTZ camera menu

Open camera's menu quickly and combine PVW screen or image screen to control.

\* This function is recommended to be used with our camera.

### ▶ Abundant interfaces, multiple connection methods:

External RS422/485 serial port and RJ45 network interface. The network interface supports POE function, thereby reducing wiring trouble.

### ▶ Support customizable buttons

Support customizable buttons F1, F2,F3, F4, can set the best operation function according to requirement.

## Product Specification

### ▶ Keyboard Parameters

Joystick	4D precision Joystick
Knobs	3D knobs, support scale rotation to adjust parameters, support button function to select mode
Buttons	High-quality silicone buttons, support white and red two-color backlight
Screen	3" LCD color display
Button Prompt Tone	Button sound prompt On/Off
Lock Button	support one-key lock function
Max.Control Quantity	1000
Max.Preset Position	255
Customizable Knobs	Support four knobs to customize

### ▶ Control

Control Interface	RJ45(support PoE and NDIHX2(optional)), RS-422/485
IP Control Protocol	Onvif, VISCA Over IP, VISCA TCP
Serial Port Protocol	VISCA, Pelco D, Pelco P

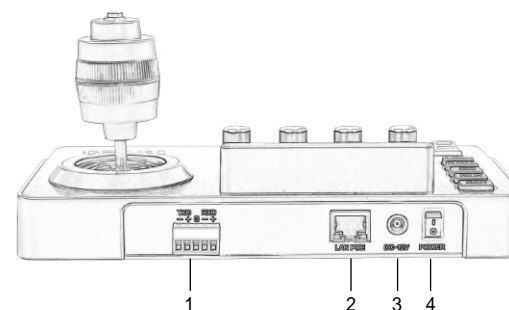
### ▶ Power Supply

Input Voltage	12V
Input Current	0.25A
POE	802.3af
Rated Power	3W

### ▶ Other

Dimensions	210*138*101mm(Joystick height is included)
Operating Environment	Indoor
Operating Temperature	-10°C-40°C
Storage Temperature	-20°C-60°C
Weight	About 0.8 kg

## Interface Diagram



- 1 — RS-422/485 interface
- 2 — LAN port
- 3 — DC 12V Power Interface
- 4 — Power on/off

# FoMaKo Broadcasting-Level PTZ Camera Controller

The PTZ Camera Controller KC606N supports NDI function. It can efficiently control the camera's pan/tilt movement and zoom, and precisely manage every lens view. It supports camera switching via long press. You can easily turn on or off the camera's AI tracking function with it, and it also lets you call preset positions. It is suitable for multi-camera collaborative scenarios such as live broadcast sites, church services, conference centers, and educational recording & broadcasting. It simplifies the operation process and improves the efficiency of lens control.

**KC606N**



4D Joystick



3-inch LCD screen



NDI|HX2



PoE Power Supply



HDMI



Real-time preview



One click lock

## Features

### ▶ 4D precise Joystick+3D knobs+Ergonomic zoom button

Camera parameters control such as white balance, exposure, focus and zoom etc.

### ▶ White and red backlight silicone buttons

High-quality silicone, excellent touch, support white and red backlight so it can be operated smoothly in a low-light environment; support letters and common characters input and other operations such as editing camera's name and address.

### ▶ Built-in 3-inch color screen

Support real-time PVW of current camera viewing through up streaming (RTSP only).

### ▶ Support buttons lock via one click

Lock buttons via one click to avoid misoperation.

### ▶ Powerful WEB background operation interface

Support remote customized functions and parameter configuration through the WEB background, and support WEB device upgrades.

### ▶ Multiple control protocols, apply to abundant venues

Support VISCA, VISCA Over IP, VISCA TCP, PELCO P/D, Onvif, NDI, support automatic protocol recognition.

### ▶ Remote control of PTZ camera menu

Open camera's menu quickly and combine PVW screen or image screen to control.

\* This function is recommended to be used with our camera.

### ▶ Abundant interfaces, multiple connection methods:

External RS422/485 serial port and RJ45 network interface. The network interface supports POE function, thereby reducing wiring trouble.

### ▶ Support customizable buttons

Support customizable buttons F1, F2, F3, F4, can set the best operation function according to requirement.

## Product Specification

### ▶ Keyboard Parameters

Joystick	4D precision Joystick
Knobs	3D knobs, support scale rotation to adjust parameters, support button function to select mode
Buttons	High-quality silicone buttons, support white and red two-color backlight
Screen	3" LCD color display
Button Prompt Tone	Button sound prompt On/Off
Lock Button	support one-key lock function
Max.Control Quantity	1000
Max.Preset Position	255
Customizable Knobs	Support four knobs to customize

### ▶ Control

Control Interface	RJ45(support PoE and NDIHX2(optional)), RS-422/485
IP Control Protocol	Onvif, VISCA Over IP, VISCA TCP, NDI
Serial Port Protocol	VISCA, Pelco D, Pelco P

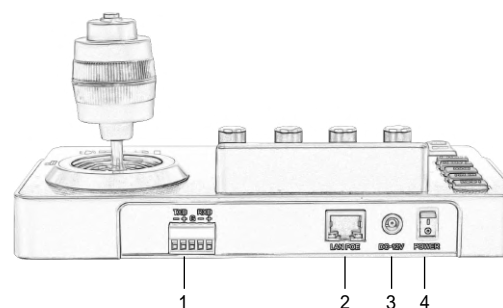
### ▶ Power Supply

Input Voltage	12V
Input Current	0.25A
POE	802.3af
Rated Power	3W

### ▶ Other

Dimensions	210*138*101mm(Joystick height is included)
Operating Environment	Indoor
Operating Temperature	-10°C-40°C
Storage Temperature	-20°C-60°C
Weight	About 0.8 kg

## Interface Diagram



- 1 — RS-422/485 interface
- 2 — LAN port
- 3 — DC 12V Power Interface
- 4 — Power on/off

# FoMaKo Broadcasting-Level PTZ Camera Controller

The PTZ Camera Controller KC608 Pro supports NDI function. It can efficiently control the camera's pan/tilt movement and zoom, and precisely manage every lens view. It has up to 7 camera shortcut selection keys, allowing one key switching. You can easily turn on or off the camera's AI tracking function with it, and it also lets you call preset positions. It is suitable for multi-camera collaborative scenarios like live broadcast sites, church services, conference centers and educational recording and broadcasting. It simplifies the operation process and improves the efficiency of lens control.

## KC608 Pro



4D Joystick



3-inch LCD screen



NDI|HX2



PoE Power Supply



HDMI



Real-time preview



7 Camera shortcuts



One click lock

## Features

### ▶ 4D precise Joystick+3D knobs+Ergonomic zoom button

Camera parameters control such as white balance, exposure, focus and zoom etc.

### ▶ Built-in 3-inch LCD screen

Support real-time PVW of current camera viewing through up streaming (NDI HX2 and RTSP only).

### ▶ Support 7 cameras selection shortcuts

7 camera shortcuts can be set quickly according to requirements; Up to 1000 cameras information can be saved.

### ▶ Newly upgraded UI operation interface

Display main parameters of cameras directly, personalize stylish interface casually.

### ▶ Remote control of PTZ camera menu

Open camera's menu quickly and combine PVW screen or image screen to control.

\* This function is recommended to be used with our camera.

### ▶ RSupport customizable buttons

Support customizable buttons F1, F2, can set the best operation function according to requirement.

### ▶ White and red backlight silicone buttons

High-quality silicone, excellent touch, support white and red backlight so it can be operated smoothly in a low-light environment; support letters and common characters input and other operations such as editing camera's name and address.

### ▶ Support buttons lock via one click

Lock buttons via one click to avoid misoperation.

### ▶ Multiple control protocols, apply to abundant venues

Support VISCA、VISCA Over IP、VISCA TCP、PELCO P/D、Onvif and NDI, support automatic protocol recognition.

### ▶ Abundant interfaces, multiple connection methods:

External RS-232, RS422/485 serial port and RJ45 network interface. The network interface supports POE function, thereby reducing wiring trouble.

### ▶ External tally interface

Support up to 8 tally channels.

## Product Specification

### ▶ Keyboard Parameters

Joystick	4D precision Joystick
Knobs	3D knobs, support scale rotation to adjust parameters, support button
Buttons	High-Quality silicone buttons, support white and red two-color backlight
Screen	3" LCD color display
Shortcut Button	Support 7 camera shortcut button settings
Button Prompt Tone	Button sound prompt On/Off
Lock Button	Support one-key lock function
Max.ControlQuantity	1000
Max.Preset Position	255

### ▶ Control

Control Interface	RJ45 (support POE and NDI HX2) 、 RS - 232、 RS - 422/485
IP Control Protocol	Onvif、 VISCA Over IP、 VISCA TCP、 NDI
Serial Port Protocol	VISCA、 Pelco D、 Pelco P

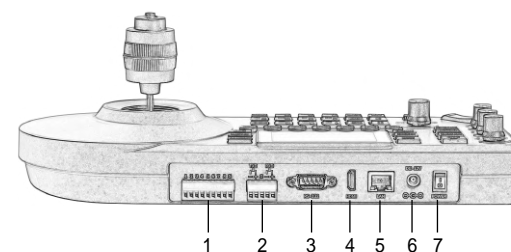
### ▶ Power Supply

Input Voltage	12V
Input Current	0.25A
POE	802.3af
Rated Power	3W

### ▶ Power Supply

Tally	Support up to eight channels
Operating Environment	Indoor
Operating Temperature	-10℃ - 40℃
Storage Temperature	20℃ - 60℃
Dimensions	332*136*58mm (Joystick height is not included) 332*136*116mm (Joystick height is included)
Weight	About 1.0 kg

## Interface Diagram



- 1 — Tally interface
- 2 — RS-422/485 interface
- 3 — RS-232 interface
- 4 — HDMI interface
- 5 — LAN port
- 6 — DC 12V Power Interface
- 7 — Power on/off

# FoMaKo Broadcasting-Level PTZ Camera Controller

FoMaKo KC608N is a professional PTZ camera controller powered by Android 10, featuring a 5.5-inch capacitive touchscreen for real-time 4K30fps preview. It supports ONVIF, VISCA, Pelco-D/P, and NDI HX protocols, managing up to 1024 cameras with precise PTZ control. Ideal for live streaming, video conferences, online education, and broadcast production, it integrates rich interfaces and customizable functions, positioning as a reliable mid-to-high-end central control hub to streamline professional AV workflows.

**KC608N**



4D Joystick



5.5' inch Capacitive Touchscreen with 4K Preview



Real-time preview



PoE Power Supply



AI Auto-Tracking



NDI|HX



Supports up to 1024 PTZ camera devices



4K@60FPS

## Features

### ► 4D Force-Control Joystick with Speed Regulation

Equipped with a 4D force-control joystick, it enables smooth pan, tilt, zoom, and focus control—low force for slow speed, increased force for higher speed—with optional fixed speed settings via system menu for precise operation.

### ► 5.5' inch Capacitive Touchscreen 4K30fps

5.5-inch capacitive touchscreen with 1280x720 resolution supports H.264/H.265 decoding, delivering real-time 4K30fps HD/SD preview via RTSP/NDI HX streams for direct shooting angle monitoring.

### ► Multi-Protocol Compatibility

Compatible with VISCA (TCP/UDP/UART), ONVIF, Pelco-D/P, and NDI HX protocols, with automatic recognition to work seamlessly with most mainstream PTZ cameras, reducing compatibility issues.

### ► Comprehensive Interface Suite

Integrates RJ45 (PoE-powered), RS422/485, RS232, USB 2.0 (HOST/OTG), and 8PIN Tally interfaces, adapting to wired network/serial connections and professional broadcast system integration.

### ► 255 Preset Positions

Supports storage, one-key call, reset, and deletion of 255 preset positions, enabling fast switching between fixed shooting angles to enhance live broadcast and conference control efficiency.

### ► CAM Quick Switch + F1-F10 Customizable FN Buttons

Features "CAM" key for quick camera list expansion and numeric key switching, plus F1-F10 customizable FN buttons (via FN page) to map auto-tracking, exposure adjustment, and other high-frequency functions.

### ► Dual-Color Backlight Silicone Ergonomic Buttons

Adopts high-quality silicone buttons with white/red dual backlight, ensuring clear visibility in low-light environments and a comfortable tactile feedback for long-hour operations.

### ► One-Key Full Panel Lock for Anti-Misoperation

One-key panel lock function disables all physical buttons and the joystick, preventing accidental touches during busy workflows and ensuring stable execution of control commands.

### ► 8PIN Tally Interface

8PIN Tally interface synchronizes with professional broadcast systems, automatically activating Tally lights when switching between 1-7 cameras for enhanced team collaboration.

### ► 1024-Camera Capacity

Supports adding up to 1024 cameras via auto-search (protocol-based) or manual input, with IP address matching guidance (first three segments identical) for seamless multi-camera system management.

## Product Specification

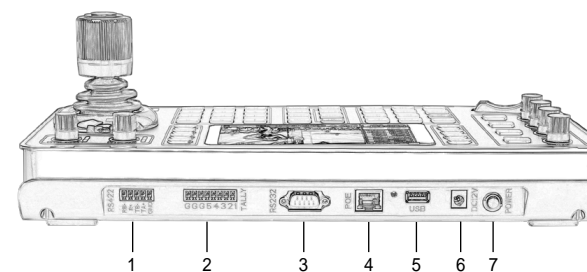
### ► Technical Specifications

Operating System	Android 10
Screen Size	5.5" capacitive touchscreen / resolution 1280x720
Decoding	1. Supports H264/H265 2. Max supported H264/H265: 1x1080p@60fps 3. Max supported H264/H265: 1x4K@30fps
Protocols	ONVIF, VISCA-IP, VISCA, Pelco-P, Pelco-D, NDI HX
Power	Standard 5.5/2.1 power interface, DC 12V2A310%
Interface Ports	1. 1x RJ45 (POE) 2. 1x RS485/RS422 3. 1x RS232 4. 1x USB-HOST/OTG 2.0 5. 1x TALLY(8PIN)

### ► Mechanical Specifications

Power Consumption	<1.5W
Working Humidity	10%-90% RH(no frost)
Working Temperature	-10°C - 50°C
Storage Temperature	-40°C - 60°C
Dimensions	(W*L*H) 351.8 * 163 * 112.5 mm
Weight	1.63 kg

## Interface Diagram



- 1 — RS-422 interface
- 2 — TALLY interface
- 3 — RS-232 interface
- 4 — LAN/PoE(NDI)
- 5 — USB
- 6 — DC 12V Power Interface
- 7 — Power on/off

# FoMaKo Live Streaming Video Mixer Switcher

The FoMaKo live stream video switcher KC601 Pro is equipped with a 5.5-inch 10-display screen. It also features multi-layer video processing, YUY2 Lossless UVC streaming, and VENC hard-encoding recording, along with professional sound card-level audio processing. Capable of supporting 4-camera live broadcasting production, this highly integrated and compact audio-visual live streaming device achieves broadcast-level live production by controlling the PTZ of 4 cameras simultaneously. With just 29 buttons, 3 knobs, and a T-Bar, operators can use the M/E panel to conduct single-person live broadcasts in a user-friendly and easy manner.

## KC601 Pro



-   
USB Video Recording
-   
USB Live Streaming
-   
Versatile Transitions
-   
Simple PTZ Control
-   
PIP
-   
Chroma Key
-   
5.5 Inch HD Display
-   
Audio Embedding
-   
Video Cropping

## Features

### ► 5.5-Inch 10-View Display Monitor

Equipped with a 5.5-inch 10-view display monitor, a world-first for such devices. It supports multi-layer video processing, letting users clearly view multiple video sources and layers. This compact yet functional monitor enhances single-person operation, making it easy to manage 4-camera live broadcasts with real-time visual feedback.

### ► Resolution

The switcher's 4 HDMI inputs automatically detect and display the resolution of connected sources, ensuring compatibility with various devices like cameras and TVs. It supports 1080P 60fps output.

### ► Multi-view Function

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ► LOGO, Image and Video Import

LOGOs, images, and videos can be imported via a Type-C cable. The position and size of the LOGO can be set in the menu.

### ► Simple PTZ Control

The switcher offers basic PTZ control for 4 cameras via Visca over IP (port 52381). Cameras and the switcher must share the same IP segment. Users adjust pan/tilt/zoom, save/recall preset positions (0-9).

### ► Scene Preset

The Scene Preset function lets users save layer styles, camera preset positions, and background settings to 0-9 channels. When needed, just press the "Scene" button to quickly call them.

### ► TBAR

The TBAR enables professional Preview and Program switching. It supports over 30 transition effects, such as Cross Wipe and Venetian Blinds. It works with AUTO transition for one-way effects.

### ► Recording Function

A USB flash drive or portable hard drive can be connected to the USB port. Use the "MENU + REC" shortcut key combination to start or stop recording. Different recording bitrates are selectable, and the menu displays the disk capacity and remaining recording time in real time. Recorded files are automatically saved in MP4 format.

### ► Excellent Audio Mixer

It supports XLR, 6.35-inch, and 3.5-inch inputs. It mixes 4 HDMI embedded audios with 4 external analog audios, plus 5-BAND EQ. With AFV/MIX modes, independent volume control, and channel monitoring, it delivers high-quality sound for professional live broadcast audio needs.

### ► Shortcut Keys

Video shortcuts: "MENU+M/E" for transition effects, "CTRL+1-4" for chroma key. Audio shortcuts: "CTRL+MIC/CH" for monitoring, long-press "AFV/MIX" for mode switch.

## Product Specification

Connections	VIDEO	Input	HDMI Type A x 4 (INPUT 1--4), HDCP Supported
		Output (PGM)	HDMI Type A x 1 (PGM OUT)
		Output (MVR)	HDMI Type A x 1 (MULTI-VIEW OUT)
		Streaming Output	USB3.0 Type A x 1
		Recording Output	USB2.0 Type A x 1
Audio	Input	Combo type (XLR, 1/4-inch TRS phone) x 2, balanced, phantom power (DC 48 V, 10 mA Max) 3.5mm TRS phone type x 2, Mic In / Line In Supported	
	Output	3.5mm TRS phone type x 2, Phones / Line Out	
Communication	RJ45	100/1000 BaseT x 1, PTZ / Remote Control / RTMP Streaming	
	USB Type-C	USB Type-C x 1, Upgrade / Picture Import	
Power	USB Type-C	USB Type-C x 1, Locking Screw, USB Power Delivery (PD 3.0)	
	DC Power Jack	Power Socket, Φ5.5 x 2.1mm	

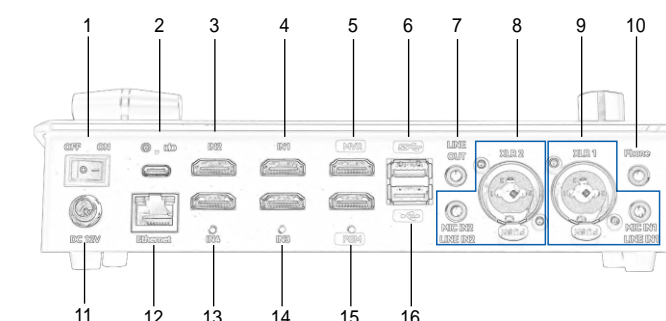
Performance	Input Resolution	HDMI	Up to 1920 x 1080p60
	Output Resolution	HDMI	Up to 1920 x 1080p60
Supported Standards	HDMI	1.3	
	USB	3	
	H.264	ITU-T H.264   ISO/IEC 14496-10 AVC	
Supported Protocol	PTZ	VISCA Over IP	
	UVC & UAC	Support UVC 1.0 & UAC 1.0	
Video	Video Formats	HDMI 1.3   HDCP 1.4	
	Video Sampling	RGB 24bit (HDMI)	
	Color Space	YUY2 (USB3.0)	
	Video Latency	4 frames	
Audio	Line In Delay	up to 8 frames	
	Audio Formats	HDMI: Linear PCM, 16 bits/48 KHz, 2 ch USB: Linear PCM, 16 bits/48 KHz, 2 ch	
Record/Storage	Disk Formats	FAT32(≤32 GB)   exFAT(64GB-2T)	
	Recording Formats	MP4	

Power Requirements	Input Voltage	DC 12V/2A (via Power Socket or USB-C PD3.0 supplied)	
	Max Power	24W	
	Compatibility	USB Type-C x 1, Locking Plug, USB Power Delivery (PD 3.0)	
	Supported Cables	Certified USB PD Aware	

Operational Environment	Temperature	0°C -60°C	
	Humidity	10%-85%	

Physical Specifications	Weight	Device	1.14kg	
		Packaged	1.835kg	
	Dimensions	Device	Panel: 230mm x 144mm; Side: topline 45.6mm, baseline 22.4mm	
		Packaged	280mmx180mmx130mm	

## Interface Diagram

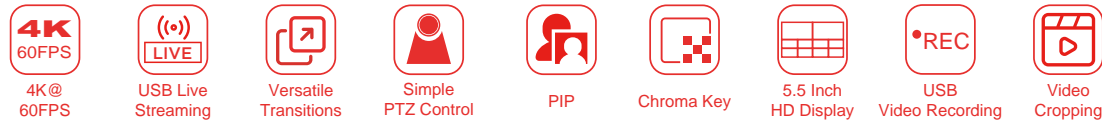


- 1 — POWER ON/OFF
- 2 — PD Supply & COMM
- 3 — HDMI IN2
- 4 — HDMI IN1
- 5 — Multi-View Output
- 6 — UVC YUY2 Streaming
- 7 — Sound Equipment
- 8 — AUX2 Audio In
- 9 — AUX1 Audio In
- 10 — Phones Monitor
- 11 — DC 12V POWER Supply
- 12 — LAN(PTZ & Remote Control)
- 13 — HDMI IN4
- 14 — HDMI IN3
- 15 — PGM Output
- 16 — USB Recording

# FoMaKo Live Streaming 4K Video Mixer Switcher

FoMaKo 4K video switcher KC602 supports 4K 60fps inputs, 4K loop-through, EDID management, magic Area of Interest close-up, image quality optimization, MON monitoring and audition system. It is compatible with all types of microphones, features a sound card-grade equalizer and unique six-direction layer adjustment, and offers powerful network management including console IP, port, streaming IP, PTZ IP list and vMix Tally. Additionally, it comes with the higher-brightness screen and is supported by a nearly 36W power supply for full-load operation. This switcher not only provides image quality equivalent to 4 benchmark capture cards on the market, but also features a user-friendly control panel that makes all operational logic intuitive at first glance, empowering seamless live production.

## KC602



## Features

### ► 5.5-Inch 10-View Display Monitor

It is equipped with a 5.5-inch 10-view display monitor, a world-first for devices of this type. It supports multi-layer video processing, allowing clear viewing of multiple video sources and video layers. Single-person operation is simple, making it easy for individuals to independently manage 4-camera live broadcasts and obtain real-time visual feedback.

### ► Resolution

Input: HDMI 4K 60fps at maximum  
Output: 1080P 60fps  
Recording: 1080P 60fps  
USB/IP Streaming: 1080P 60fps

### ► Multi-view Function

It supports multiple video output interfaces including HDMI, SDI, LAN, and USB3.0. It can simultaneously output audio and video signals through HDMI, SDI, and LAN. The SDI interface supports video transmission over a distance of up to 100 meters with a resolution of 1080P and a frame rate of 60fps.

### ► Excellent Audio Mixer

It supports professional XLR balanced input, 6.35-inch balanced input, and 3.5-inch MIC or LINE input, and can mix with embedded audio from four HDMI inputs. The output enables 5-BAND EQ sound processing, allowing real-time audio mixing and EQ adjustment to deliver professional-grade sound.

### ► Shortcut Keys

The switcher has various Shortcut Keys for different operations. Video-related ones include "MENU+LOCK" to enable the LOCK function, and "MENU+LOGO" to enable the LOGO.

### ► Scene Preset

Scene Preset allows saving layer styles, camera preset positions in PST. Press "Scene + Save" to store 0-9 scenes; press "Scene" to call them, ensuring quick, seamless switching during live broadcasts.

### ► TBAR

The TBAR enables professional Preview and Program switching. It supports over 30 transition effects, such as Cross Wipe and Venetian Blinds. It works with AUTO transition for one-way effects. The CUT button is for hard cuts.

### ► Recording Function

A USB flash drive or portable hard drive can be connected to the USB port. Use the "MENU + REC" shortcut key combination to start or stop recording. Different recording bitrates are selectable, and the menu displays the disk capacity and remaining recording time in real time. Recorded files are automatically saved in MP4 format.

### ► LOGO, Image and Video Import

LOGOs, images, and videos can be imported via a Type-C cable. The position and size of the LOGO can be set in the menu.

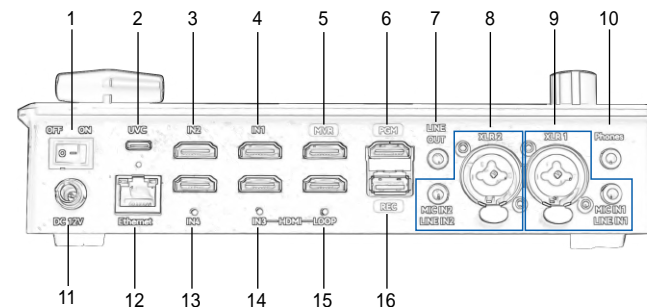
### ► Simple PTZ Control

The switcher offers Simple PTZ Control, supporting the VISCA Over IP protocol (default port 52381) and controlling up to 4 PTZ cameras (requiring the switcher and cameras to be in the same IP segment). Press the "PTZ" button to adjust pan, tilt, and zoom; save preset positions via "PTZ+Save" and call them via "PTZ+Scene" (0-9 presets available).

## Product Specification

Connections	VIDEO	Input	HDMI Type A x 4 (INPUT 1--4), HDCP Supported
		Output (PGM)	HDMI Type A x 1 (PGM OUT)
		Output (MVR)	HDMI Type A x 1 (MULTI-VIEW OUT)
		Output (LOOP)	HDMI Type A x 1 (IN3 LOOP)
		UVC Streaming	USB3.0 Type-C x 1, YUY2 with image optimize, Locking Screw
		IP Streaming	RJ45 x 1, RTMP Streaming, RTMPS Streaming
	Audio	Recording Output	USB2.0 Type A x 1
		Input	XLR, 1/4-inch TRS phone x 2, balanced, phantom power (DC 48V, 10mA Max); 3.5mm TRS phone type x 2, Mic In / Line In Supported
	Communication	Output	3.5mm TRS phone type x 2, Phones / Line Out
RJ45		100/1000 BaseT x 1, PTZ / Tally / API Remote Control	
	USB Type-C	USB Type-C x 1, Upgrade / Picture Import	
Performance	Input & Loop Resolution	HDMI	2160p 60/59.94/50/30/29.97/25/24/23.98Hz; 1080p 60/59.94/50/30/29.97/25/24/23.98Hz; 1080p 60/59.94/50Hz; 720p 60/59.94/50Hz
		HDMI	Up to 1920 x 1080p60
	Supported Standards	HDMI	2.0
		USB	3.0
	Supported Protocol	H.264	ITU-T H.264   ISO/IEC 14496-10 AVC
		H.265	ITU-T H.265   ISO/IEC 23008-2 HEVC
	Video	PTZ	VISCA & VISCA Over IP
		UVC & UAC	Support UVC 1.0 & UAC 1.0
		Video Formats	HDMI 1.3   HDCP 1.4
		Video Sampling	RGB 24bit (HDMI IN & OUT)
	Audio	UVC Color Space	YUY2 (USB3.0) with image optimize
		Video Latency	4 frames
Line In Delay		up to 8 frames	
Record/Storage	Audio Formats	HDMI: Linear PCM, 16 bits/48 KHz, 2 ch; USB: Linear PCM, 16 bits/48 KHz, 2 ch	
	Disk Formats	FAT32(≤32 GB)   exFAT(64GB-2T)	
	Recording Formats	MP4	
Power Requirements	Input Voltage	DC 12V/3A	
	Max Power	36W	
	Compatibility	Power Socket, Φ5.5 x 2.1mm	
Operation Environment	Temperature	0°C-60°C	
	Humidity	10%-85%	
Physical Specifications	Weight	Device	1.19kg
		Packaged	2.16kg
	Dimensions	Device	Panel: 230mm x 144mm; Side: topline 45.6mm
Packaged		280mm x 180mm x 130mm	

## Interface Diagram



- 1 — POWER ON/OFF
- 2 — UVC YUY2 Streaming
- 3 — HDMI 4K
- 4 — HDMI 4K
- 5 — Multi-View Output
- 6 — PGM Output
- 7 — Sound Equipment
- 8 — AUX2 Audio In
- 9 — AUX1 Audio In
- 10 — Phones Monitor
- 11 — DC 12V POWER Supply
- 12 — PTZ & Tally & API RTMP Streaming
- 13 — HDMI 4K
- 14 — HDMI 4K
- 15 — IN3 HDMI 4K Output
- 16 — USB Video Recording

# FoMaKo Live Streaming Multi-Camera 4K Video Switcher

The FoMaKo Multi-Camera 4K Video Switcher KC800 is an integrated device for professional multi-camera live streaming. Its core design covers key live links with one device, handling signal input to content output without extra gear. It supports multiple HD video sources, enabling camera scheduling, screen switching and parameter adjustment via an exclusive control system. A built-in audio module adapts to different audio needs for synced audio and video. It allows streaming to mainstream platforms and local dual-media recording, meeting real-time live and backup needs. With intuitive buttons and display, it starts quickly without a computer. Suitable for e-commerce, education, meetings and outdoor use, it offers an efficient, simple multi-camera live solution.



- 4K @ 60FPS
- USB Live Streaming
- Versatile Transitions
- PTZ Control
- PIP
- Chroma Key
- 5.5 Inch HD Display
- USB Video Recording
- AI Auto-Tracking

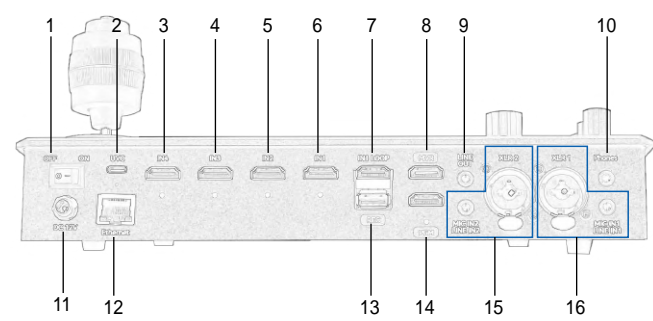
## Features

- ▶ 4D Joystick Intelligent Control**  
With a 4D control joystick & VISCA/VISCA over IP dual-protocol, one person can control up to 4 PTZ cameras simultaneously. 1-click access to 10 presets, 1-8 level PTZ speed & Ctrl focus shortcuts enable efficient camera switching (no multi-person work).
- ▶ 8-Channel Professional Audio**  
Integrates 2 XLR inputs (with 48V phantom power), 2 3.5mm MIC/LINE inputs & 4 HDMI digital audio for an 8-channel mix system. AFV (Audio Follow Video) mode links sound to visuals; independent volume knobs deliver clear, professional audio even in noisy environments.
- ▶ Full-Scenario Port Expansion**  
Features 4 HDMI inputs & 3 HDMI outputs (PGM/MVR/LOOP); MVR multi-view supports horizontal/vertical mode switching for real-time camera monitoring. USB3.0 Type-C (UVC 1.5 compliant) works as a PC camera directly, compatible with OBS, vMix and other mainstream live streaming software.
- ▶ Wide-Temperature Stable Operation**  
Metal body boosts anti-interference capability; supports 0°C-60°C operating temperature for stable output in hot studios or outdoor events. 12V/3A safe power supply (max 36W consumption) balances performance and energy efficiency, meeting 24/7 live streaming needs.
- ▶ 4K Input + 1080P60 Output**  
4 HDMI 2.0 ports support 4K 60FPS input, compatible with HDCP 2.2 & RGB24bit for delicate true color reproduction. Delivers stable 1080P 60FPS output with 1-frame ultra-low latency—no blur or lag for professional-grade image quality.
- ▶ PC-Free, Plug-and-Play**  
All-hardware integrated design cuts PC reliance; 5.5-inch LCD screen + physical/custom shortcuts lower the learning curve. Live streaming setup takes as fast as 5 minutes. Easy for beginners, ideal for PC-free scenarios.
- ▶ Remote Control + Firmware Upgrade**  
RJ45 port supports PTZ remote control, Tally signal transmission & API integration; online firmware upgrade adds new features without factory return.
- ▶ Full-Scenario Adaptability**  
Integrates PTZ control, video switching, audio mixing, streaming & recording—covering corporate meetings, educational live streams, live commerce, church events.
- ▶ Dual-Media Local Recording**  
Supports USB 2.0 & SD card storage (max 2TB exFAT), with MP4/TS formats and 16Mbps high bitrate for HD files. MENU+REC shortcut enables one-click recording; real-time storage/remaining time display keeps you informed.

## Product Specification

Connections	VIDEO	Input	HDMI Type A x 4 (INPUT 1 - 4), HDCP Supported	
		Output (PGM)	HDMI Type A x 1 (PGM OUT), Optional PST for AUX output	
		Output (MVR)	HDMI Type A x 1 (MULTI-VIEW OUT), Support horizontal / vertical Mode	
		Output (LOOP)	HDMI Type A x 1 (INI LOOP)	
		UVC Streaming	USB3.0 Type-C x 1, RGB24 / YUY2 Capture, Locking Screw	
		IP Streaming	RJ45 x 1, RTMP Streaming, RTMPS Streaming	
		Recording Output	USB2.0 Type A x 1, SD Card x 1	
Audio	Input	XLR, 1/4-inch TRS phone x 2, balanced, phantom power (DC 48V, 10mA Max); 3.5mm TRS phone type x 2, Mic In / Line In Supported		
	Output	3.5mm TRS phone type x 2, Phones / Line Out		
Communication	RJ45	100 BaseT x 1, PTZ / Tally / API Remote Control / Upgrade		
	USB Type-C	USB2.0 Type A x 1, Upgrade		
Performance	Input & Loop Resolution	HDMI	2160p 60/59.94/50/30/29.97/25/24/23.98Hz 1080p 60/59.94/50/30/29.97/25/24/23.98Hz 1080i 60/59.94/50Hz 720p 60/59.94/50Hz	
		Output Resolution	HDMI Up to 1920 x 1080p60	
		Supported Standards	HDMI	2.0
			USB	3.0
	Supported Protocol	H.264	ITU-T H.264   ISO/IEC 14496-10 AVC	
		H.265	ITU-T H.265   ISO/IEC 23008-2 HEVC	
	Video	PTZ	VISCA & VISCA Over IP	
		UVC & UAC	UVC 1.5 & UAC 1.5	
		Video Formats	HDMI 1.3/1.4/2.0   HDCP 1.4/2.2	
		Video Sampling	RGB 24bit (HDMI IN & OUT)	
	Audio	UVC Color Space	RGB24   YUY2	
		Video Latency	4 frames	
Line In Delay		up to 8 frames		
Record/Storage	Audio Formats	HDMI: Linear PCM, 16 bits/48 KHz, 2 ch; Type-C: Linear PCM, 16 bits/48 KHz, 2 ch		
	Disk Formats	FAT32(≤32 GB)   exFAT(64GB-2T)		
	Recording Formats	MP4, TS		
Power Requirements	Input Voltage	DC 12V/3A		
	Max Power	36W		
	Compatibility	Power Socket, Φ5.5 x 2.1mm		
Operation/Environment	Temperature	0°C-60°C		
	Humidity	10%-85%		
Physical Specifications	Weight	Device	1.19kg	
		Packaged	2.16kg	
	Dimensions	Device	Panel: 230mm x 144mm; Side: topline 45.6mm	
		Packaged	280mm x 180mm x 130mm	

## Interface Diagram



- 1 — POWER ON/OFF
- 2 — UVC Streaming
- 3 — HDMI IN4 4K input
- 4 — HDMI IN3 4K input
- 5 — HDMI IN2 4K input
- 6 — HDMI IN1 4K input
- 7 — HDMI IN1 4K Output
- 8 — Multi-View Output
- 9 — Sound Equipment
- 10 — Phones Monitor
- 11 — DC 12V Power Supply
- 12 — PTZ & Tally & API & RTMP Streaming
- 13 — USB Recording
- 14 — PGM Output
- 15 — AUX 2 Audio IN
- 16 — AUX 1 Audio IN

# FoMaKo Live Streaming Video Mixer Switcher

The FoMaKo M1 video mixer switcher built on FPGA platform, is a professional device designed for high-definition video production and switching. With a rich interface configuration centered on HDMI, practical control functions, and smooth operation experience, it meets the needs of video processing in various scenarios. The device requires an external display for use and supports multi-channel HDMI signal input, video streaming, camera control, and quick preview/program switching, providing efficient support for video workflows. In addition, live streaming can be carried out through the web interface of the switcher.

**M1**



4K@60FPS



USB Live Streaming



Versatile Transitions



Simple PTZ Control



PIP



Chroma Key



Audio Embedding



USB Video Recording



NDI|HX2

## Features

### ► 5-Channel Input Configuration

Supports 4 HDMI ports and 1 USB port for input, perfectly compatible with 4K 60 frames per second (fps) and 1080P 60fps high-definition video signals, providing ample connectivity for multi-camera shooting scenarios.

### ► PTZ Camera Control

Allows real-time adjustment of camera angle, zoom ratio, and preset positions.

### ► High-Speed Data Transmission Interface

Equipped with a USB 3.1 high-speed interface, it enables lossless real-time streaming media transmission and supports local recording via SD card expansion, offering a convenient and reliable solution for content storage and circulation.

### ► Rich Special Effects Creation System

Built-in practical functions like luma key, chroma key, picture-in-picture (PIP), and logo overlay, supporting up to 8 layers of picture overlay simultaneously to help creators craft visually layered effects.

### ► Dynamic Transition Effects

Provides up to 30 transition effects (such as fade-in and wipe), paired with a precise T-bar fader to finely control the speed and rhythm of transitions for more artistic picture switching.

### ► Professional Audio Processing

Features 4 HDMI audio inputs and 2 microphone inputs, with independent volume control, audio delay adjustment, and noise reduction (Automatic Level Control - ALC) for clear and pure audio output.

### ► Convenient Remote Control

Built-in web server functionality enables remote monitoring and operation via computer or mobile phone QR code scanning, greatly enhancing flexibility in various scenarios.

### ► Multi-Scenario Adaptability

Supports free switching between horizontal and vertical screen display modes, perfectly suiting personalized needs in scenarios like live streaming, online education, and church events for multi-purpose use.

### ► High-Speed Data Transmission Interface

Equipped with a USB 3.1 high-speed interface, it enables lossless real-time streaming media transmission and supports local recording via SD card expansion, offering a convenient and reliable solution for content storage and circulation.

## Product Specification

### ► Parameter

Video Input	HDMI IN x4 (1080Px2 4K60x2) USB x1
Video Output	HDMI PGM x1+HDMI AUX x1+USB 3.1 x1 (Type-A) and RJ45 x1 (Streaming)
Audio Input	Line(3.5mm stereo)x2
Audio Output	Line(3.5mm stereo)x1
USB	Used for encoding,cameras, logo images, firmware upgrades, etc.
Control Interface	LAN x1 Used for streaming, PTZ camera control, and software control
SD	Video recording, image updates.
Power	DC 7- 12V ≤12W

### ► Function

Transition	T-Bar/AUTO/CUT
Effects	WIPE (Various patterns) /MIX/DIP/PreView/BKGD/Still/FTB
Key	Upstream key: Luma x1/keying x1/PIP x2 downstream key: DSK x1/LOGO x2
Layer	PGM Supports up to 8 layers
Audio	HDMI x 4 , Multimedia and dual microphones/line input; Audio delay: 0-1s
PTZ	VISCA IP
Media	Supports presetting multiple background images, logos, and streaming.
Encoding	H.264 , Support for separate recording and streaming bitrate.
LOGO	Any size(up to 960x540)and position, supports alpha transparency channel (png images).

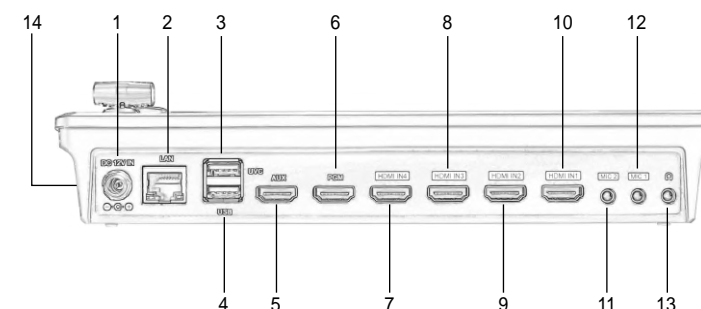
### ► Format

HDMI Input	2160p 60/59.94/50/30/29.97/25/24/23.98 (HDMI2.0 input) 1080p 60/59.94/50/30/29.97/25/24/23.98 1080i50/1080i60
HDMI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
USB Output	USB 3.1 Lossless output, maximum support YUV2 1080P60
Data	1080p 60/59.94/50/30/29.97/25/24/23.98

### ► Others

Voltage	7-24V
Power	≤12W
Size (LDW)	244*120*50mm
Weight	608g
Temperature	Working temperature: 0°C-50°C, Storage temperature: -30°C-70°C
Attachment	Adapter( 12V 2A) x1; USB3.0 cable (A TO A) x1

## Interface Diagram



- 1 — DC 12V POWER Supply
- 2 — LAN / NDI(selective buying)
- 3 — UVC YUY2 Streaming
- 4 — USB Video Recording
- 5 — Multi-View Output
- 6 — PGM Output
- 7 — HDMI IN4 (1080P)
- 8 — HDMI IN3 (1080P)
- 9 — HDMI IN2 (4KP60)
- 10 — HDMI IN1 (4KP60)
- 11 — Audio input 1
- 12 — Audio input 2
- 13 — Phones Monitor
- 14 — SD Card

# FoMaKo Live Streaming Video Mixer Switcher

The FoMaKo M2 video mixer switcher built on FPGA platform, is a professional device designed for high-definition video production and switching. Equipped with a rich interface configuration including HDMI and SDI, along with practical control functions and a smooth operating experience, it meets the needs of video processing in various scenarios. The device requires an external display for use and supports multi-channel HDMI/SDI signal input, video streaming, camera control, and quick preview/program switching, providing efficient support for video workflows. In addition, live streaming can be carried out through the web interface of the switcher.



- 4K@60FPS
- USB Live Streaming
- Versatile Transitions
- Simple PTZ Control
- PIP
- Chroma Key
- 3G-SDI
- USB Video Recording
- NDI|HX2

## Features

- ▶ 5-Channel Input Configuration**  
Supports 2 HDMI ports, 2 SDI ports and 1 USB port for input, perfectly compatible with 4K 60 frames per second (fps) and 1080P 60fps high-definition video signals, providing ample connectivity for multi-camera shooting scenarios.
- ▶ Professional Audio Processing**  
Features 2 HDMI and 2 SDI ports audio inputs and 2 microphone inputs, with independent volume control, audio delay adjustment, and noise reduction (Automatic Level Control - ALC) for clear and pure audio output.
- ▶ PTZ Camera Control**  
Allows real-time adjustment of camera angle, zoom ratio, and preset positions.
- ▶ Convenient Remote Control**  
Built-in web server functionality enables remote monitoring and operation via computer or mobile phone QR code scanning, greatly enhancing flexibility in various scenarios.
- ▶ High-Speed Data Transmission Interface**  
Equipped with a USB 3.1 high-speed interface, it enables lossless real-time streaming media transmission and supports local recording via SD card expansion, offering a convenient and reliable solution for content storage and circulation.
- ▶ Multi-Scenario Adaptability**  
Supports free switching between horizontal and vertical screen display modes, perfectly suiting personalized needs in scenarios like live streaming, online education, and church events for multi-purpose use.
- ▶ Rich Special Effects Creation System**  
Built-in practical functions like luma key, chroma key, picture-in-picture (PIP), and logo overlay, supporting up to 8 layers of picture overlay simultaneously to help creators craft visually layered effects.
- ▶ High-Quality HD Output Capability**  
Stably supports 1080P 60fps main output, precisely meeting the strict requirements for picture clarity and smoothness in professional live broadcasting to ensure consistently delicate and stable live images.
- ▶ Dynamic Transition Effects**  
Provides up to 30 transition effects (such as fade-in and wipe), paired with a precise T-bar fader to finely control the speed and rhythm of transitions for more artistic picture switching.

## Product Specification

▶ Parameter

Video Input	HDMI IN x2(4K), SDI INx2(1080P), USB x1
Video Output	HDMI PGM x1+HDMI AUX x1+USB 3.1 x1 (Type-A) and RJ45 x1 (Streaming)
Audio Input	Line(3.5mm stereo)x2
Audio Output	Line(3.5mm stereo)x1
USB	Used for encoding,cameras, logo images, firmware upgrades, etc.
Control Interface	LAN x1 Used for streaming, PTZ camera control, and software control
SD	Video recording, image updates.
Power	DC 7- 12V ≤12W

▶ Function

Transition	T-Bar/AUTO/CUT
Effects	WIPE (Various patterns) /MIX/DIP/PreView/BKGD/Still/FTB
Key	Upstream key: Luma x1/keying x1/PIP x2 downstream key: DSK x1/LOGO x2
Layer	PGM Supports up to 8 layers
Audio	HDMI x 4 , Multimedia and dual microphones/line input; Audio delay: 0-1s
PTZ	VISCA IP
Media	Supports presetting multiple background images, logos, and streaming.
Encoding	H.264 . Support for separate recording and streaming bitrate.
LOGO	Any size(up to 960x540)and position, supports alpha transparency channel (png images).

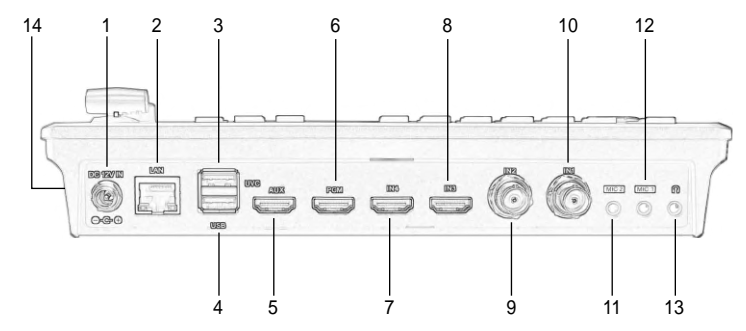
▶ Format

HDMI Input	2160p 60/59.94/50/30/29.97/25/24/23.98 (HDMI2.0 input) 1080p 60/59.94/50/30/29.97/25/24/23.98 1080i50/1080i60
SDI Input	3G Level A YCbCr422 10bit
HDMI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
USB Output	USB 3.1 Lossless output, maximum support YUV2 1080P60
Data	1080p 60/59.94/50/30/29.97/25/24/23.98

▶ Others

Voltage	7-24V
Power	≤12W
Size (LDW)	244*120*50mm
Weight	608g
Temperature	Working temperature: 0°C-50°C, Storage temperature: -30°C-70°C
Attachment	Adapter( 12V 2A) x1; USB3.0 cable (A TO A) x1

## Interface Diagram



- 1 — DC 12V POWER Supply
- 2 — LAN / NDI(selective buying)
- 3 — UVC YUY2 Streaming
- 4 — USB Video Recording
- 5 — Multi-View Output
- 6 — PGM Output
- 7 — HDMI IN4 (4KP60)
- 8 — HDMI IN3 (4KP60)
- 9 — 3G-SDI IN2 (1080P)
- 10 — 3G-SDI IN1 (1080P)
- 11 — Audio input 1
- 12 — Audio input 2
- 13 — Phones Monitor
- 14 — SD Card

# FoMaKo Live Streaming Video Mixer Switcher

The FoMaKo M3 video mixer switcher built on FPGA platform, is a professional device specially designed for high-definition video production and switching. With abundant HDMI interfaces, practical control functions, and a smooth operating experience, it can meet the video processing needs of various scenarios. The device comes with a built-in display and can also be connected to an external display for magnification. It is equipped with Type - C and Type - B interfaces, where the Type - C is used for UVC streaming and the Type - B is used for file transfer. It supports multi-channel HDMI signal input, video streaming, camera control, and quick preview/program switching, providing efficient support for video workflows in different scenarios. In addition, live streaming can be performed through the web interface of the switcher.

**M3**



4K@60FPS



USB Live Streaming



Versatile Transitions



Simple PTZ Control



PIP



Chroma Key



5.5 Inch HD Display



USB Video Recording



NDI|HX2

## Features

### ► 5.5-Inch HD Visual Monitoring

Built-in full HD (FHD) LCD screen enables real-time preview of multi-camera video signals and device operation status, making shooting and switching processes clear at a glance for timely picture adjustments.

### ► Multi-Platform Compatibility

Seamlessly integrates with mainstream live streaming software like OBS and vMix, and supports direct streaming to platforms like YouTube and Facebook to simplify multi-platform live broadcasting.

### ► 5-Channel Input Support

Offers 4 HDMI ports and 1 USB port for input, fully compatible with 4K 60fps and 1080P 60fps high-definition video signals to easily handle complex multi-device shooting scenarios.

### ► Rich Creative Toolset

Supports professional functions like luma key, chroma key, downstream key (DSK), and picture-in-picture, along with 30 real-time dynamic transition effects to fuel creative picture production.

### ► Professional Output Configuration

Equipped with HDMI main and auxiliary output ports, paired with a USB 3.1 Type-C port for lossless streaming (supporting 1080P 60fps with YUV2 encoding) to ensure high-quality content output.

### ► Intelligent Network Control

Enables remote live streaming, precise PTZ camera control, and software linkage via a LAN port to boost collaborative efficiency in large-scale scenarios.

### ► Expanded Audio Interfaces

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ► Dual Storage Backup Mechanism

Supports simultaneous recording via USB devices and SD cards to avoid content loss from single storage medium failures, providing dual protection for video content safety.

### ► Precision Control Panel

Features an ergonomic combination of buttons and faders (including a T-bar fader and adjustment joystick) for smooth and precise control over transition effects and parameters.

## Product Specification

### ► Parameters

Video Input	HDMI INx4 USBx1
Video Output	HDMI PGMx1 + HDMI AUXx1 + USB 3.1x1 (Type-C) and RJ45x1 (Network Streaming)
Audio Input	Line(3.5mm Stereo)x2
Audio Output	Line(3.5mm Stereo)x1
USB	Used for video encoding storage, camera, LOGO image, firmware upgrade, etc.
Control Port	LAN x1 For network streaming, PTZ camera control, software control
SD Card	Video recording storage
Power	DC 12V x 1

### ► Functions

Transition	T-Bar/AUTO/ CUT
Transition Effects	WIPE (Various patterns) /MIX/DIP/Transition Preview/BKGD/Still (Freeze)/FTB
Key	Upstream Key: Chroma keyx1/PIPx2 Downstream key: DSKx1/LOGOx2
Layers	PGM Support up to 8 layers
Audio	HDMI x 4, Multimedia and 2-way microphone/analog audio input; Audio delay: 0-1s
PTZ	VISCA IP protocol
Media Library	Supports presetting of multiple background images, logos and video streams
Streaming	H.264 Encoding, supports recording and multi-network streaming, supports recording and streaming bit rate separation
LOGO	Any size (up to 960x540) and position, support alpha transparent channel (png images)

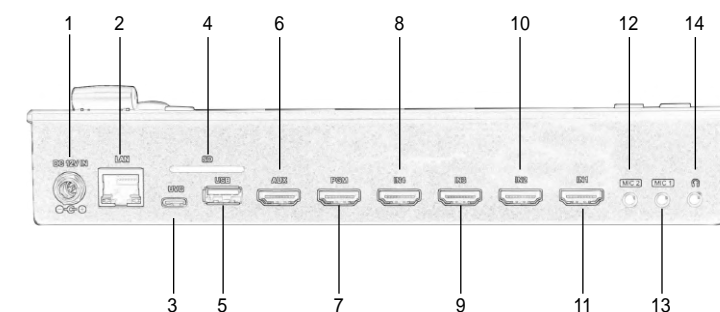
### ► Format Support

HDMI Input Support	2160p 60/59.94/50/30/29.97/25/24/23.98 (HDMI2.0 input) 1080p 60/59.94/50/30/29.97/25/24/23.98 1080i50/1080i60
HDMI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
UVC Output	USB 3.1 Lossless output, Maximum support YUV2 1080p60
Data Stream Support	1080p 60/59.94/50/30/29.97/25/24/23.98

### ► Others

Power	7-24V
Power Consumption	≤15W
Size (LDW)	244x133x50mm/244x141x50mm
Weight	805g/890g
Temperature	Working Temp: 0°C-50°C, Storage Temp: -30°C-70°C
Accessories	DC Adapter(12V 2A)*1; USB Cable(A to C)*1;

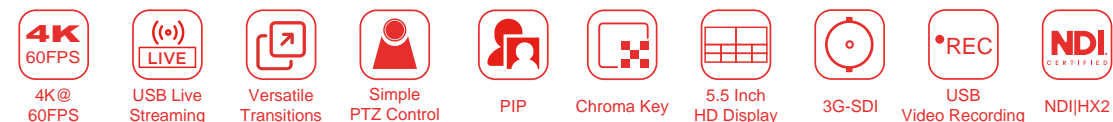
## Interface Diagram



- 1 — DC 12V POWER Supply
- 2 — LAN / NDI(selective buying)
- 3 — UVC YUY2 Streaming
- 4 — SD Card
- 5 — USB Video Recording
- 6 — Multi-View Output
- 7 — PGM Output
- 8 — HDMI IN4 (1080P)
- 9 — HDMI IN3 (1080P)
- 10 — HDMI IN2 (4K60)
- 11 — HDMI IN1 (4K60)
- 12 — Audio input 2
- 13 — Audio input 1
- 14 — Phones Monitor

# FoMaKo Live Streaming Video Mixer Switcher

The FoMaKo M4 video mixer switcher built on FPGA platform, is a professional device specially designed for high-definition video production and switching. With abundant HDMI and SDI interfaces, practical control functions, and a smooth operating experience, it can meet the video processing needs of various scenarios. The device comes with a built-in display and can also be connected to an external display for magnification. It is equipped with Type - C and Type - B interfaces, where the Type - C is used for UVC streaming and the Type - B is used for file transfer. It supports multi-channel HDMI/SDI signal input, video streaming, camera control, and quick preview/program switching, providing efficient support for video workflows in different scenarios. In addition, live streaming can be performed through the web interface of the switcher.



## Features

### ► 5.5-Inch HD Visual Monitoring

Built-in full HD (FHD) LCD screen enables real-time preview of multi-camera video signals and device operation status, making shooting and switching processes clear at a glance for timely picture adjustments.

### ► Multi-Platform Compatibility

Seamlessly integrates with mainstream live streaming software like OBS and vMix, and supports direct streaming to platforms like YouTube and Facebook to simplify multi-platform live broadcasting.

### ► 5-Channel Input Support

Offers 4 HDMI ports, 4 SDI ports and 1 USB port for input, fully compatible with 4K 60fps and 1080P 60fps high-definition video signals to easily handle complex multi-device shooting scenarios.

### ► Expanded Audio Interfaces

It supports VISCA, ONVIF, PELCO-D, and PELCO-P control protocols, and can automatically identify the protocols.

### ► Professional Output Configuration

Equipped with HDMI main and auxiliary output ports, paired with a USB 3.1 Type-C port for lossless streaming (supporting 1080P 60fps with YUV2 encoding) to ensure high-quality content output.

### ► Intelligent Network Control

Enables remote live streaming, precise PTZ camera control, and software linkage via a LAN port to boost collaborative efficiency in large-scale scenarios.

### ► Rich Creative Toolset

Supports professional functions like luma key, chroma key, downstream key (DSK), and picture-in-picture, along with 30 real-time dynamic transition effects to fuel creative picture production.

### ► Dual Storage Backup Mechanism

Supports simultaneous recording via USB devices and SD cards to avoid content loss from single storage medium failures, providing dual protection for video content safety.

### ► Precision Control Panel

Features an ergonomic combination of buttons and faders (including a T-bar fader and adjustment joystick) for smooth and precise control over transition effects and parameters.

## Product Specification

### ► Parameters

Video Input	HDMI INx4 SDI INx4 USBx1
Video Output	HDMI PGMx1 + HDMI AUXx1 + USB 3.1x1 (Type-C) and RJ45x1 (Network Streaming)
Audio Input	Line(3.5mm Stereo)x2
Audio Output	Line(3.5mm Stereo)x1
USB	Used for video encoding storage, camera, LOGO image, firmware upgrade, etc.
Control Port	LAN x1 For network streaming, PTZ camera control, software control
SD Card	Video recording storage
Power	DC 12V x 1

### ► Functions

Transition	T-Bar/AUTO/ CUT
Transition Effects	WIPE (Various patterns) /MIX/DIP/Transition Preview/BKGD/Still (Freeze)/FTB
Key	Upstream Key: Chroma keyx1/PIPx2 Downstream key: DSKx1/LOGOx2
Layers	PGM Support up to 8 layers
Audio	HDMI x 4, SDI x 4, Multimedia and 2-way microphone/analog audio input; Audio delay: 0-1s
PTZ	VISCA IP protocol
Media Library	Supports presetting of multiple background images, logos and video streams
Streaming	H.264 Encoding, supports recording and multi-network streaming, supports recording and streaming bit rate separation
LOGO	Any size (up to 960x540) and position, support alpha transparent channel (png images)

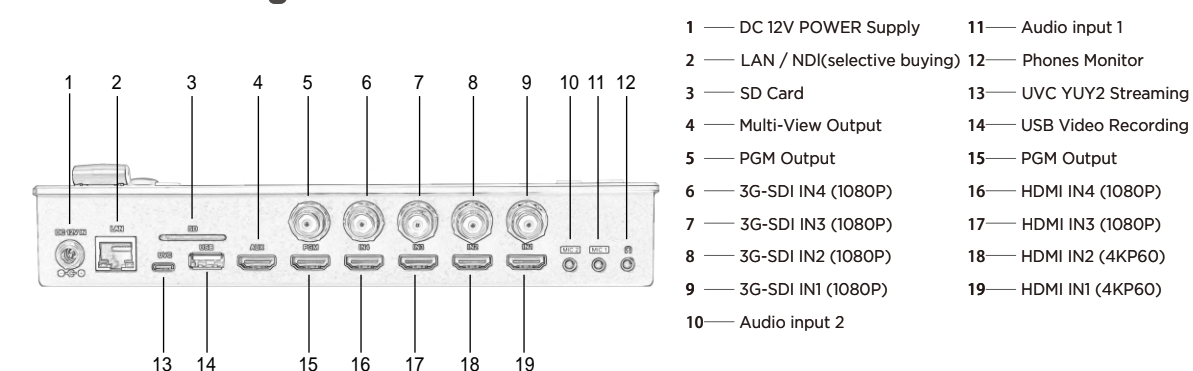
### ► Format Support

HDMI Input Support	2160p 60/59.94/50/30/29.97/25/24/23.98 (HDMI2.0 input) 1080p 60/59.94/50/30/29.97/25/24/23.98 1080i50/1080i60
SDI Input Support	3G Level AYCbCr422 10bit
HDMI PGM Output	1080p 60/50/48/30/25/24
SDI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
UVC Output	USB 3.1 Lossless output, Maximum support YUV2 1080p60
Data Stream Support	1080p 60/59.94/50/30/29.97/25/24/23.98

### ► Others

Power	7-24V
Power Consumption	≤15W
Size (LDW)	244x133x50mm/244x141x50mm
Weight	805g/890g
Temperature	Working Temp: 0°C-50°C, Storage Temp: -30°C-70°C
Accessories	DC Adapter(12V 2A)*1; USB Cable(A to C)*1 ;

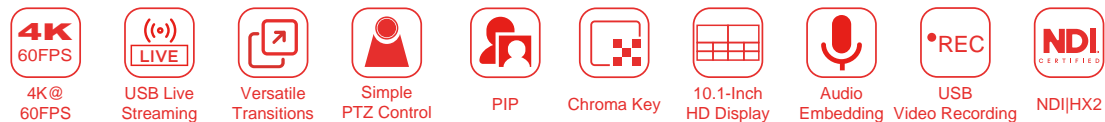
## Interface Diagram



# FoMaKo Live Streaming Video Mixer Switcher

FoMaKo M5 video mixer switcher, built on FPGA platform, designed for HD and 4K video production. Features 10.1-inch HD screen for multi-view and menu operation, with 5-way joystick and knob for centralized control of multiple PTZ cameras. Equipped with 4 HDMI inputs (HDMI IN1/2 support 4K60P, HDMI IN3/4 1080p60) and 1 USB 2.0 input; outputs include SDI PGM, HDMI PGM, USB 3.1 (Type-C) and RJ45 network interface. Integrates broadcast-grade functions: video effects switching, green screen keying, audio adjustment, PIP, multi-layer overlay, etc.; supports USB 3.1 streaming, live recording, multi-channel network streaming and 1-channel pulling, providing efficient and stable support for professional audio-visual workflows.

★ M5



## Features

### ▶ 10.1-Inch Large-Screen Visual Monitoring

Equipped with a full HD LCD large screen for real-time multi-picture monitoring, intuitive menu navigation, and clear operation status feedback to make complex switching operations more intuitive.

### ▶ Compatible with 4K and 1080P Signals

Supports 4 HDMI ports and 1 USB port for input, perfectly compatible with 4K 60fps and 1080P 60fps high-definition video signals to provide ample signal sources for high-spec video production.

### ▶ Multi-Format Professional Output Interfaces

Features HDMI main output, and auxiliary output ports to meet diversified wiring and output needs in complex scenarios like studios and event venues.

### ▶ High-Speed Lossless Data Transmission

Enables lossless video output via a USB 3.1 Type-C interface to ensure live and recorded content retains uncompressed picture quality for true-to-life visuals.

### ▶ Dual-Medium Redundant Recording System

Supports simultaneous video recording via USB devices and SD cards, with a built-in media library for efficient content management and quick retrieval to boost production efficiency.

### ▶ Professional Transition & Composition System

Offers dynamic transitions (fade-in/out, wipe, etc.) and supports picture-in-picture and multi-layer picture synthesis to create more professional-looking visuals.

### ▶ Intelligent PTZ Camera Control

Allows remote PTZ camera control via a LAN port, supporting preset position recall and real-time angle adjustment for flexible shooting perspective switching.

### ▶ Cross-Platform Software Compatibility

Fully compatible with professional live streaming/production software like OBS and vMix, and supports multi-platform simultaneous live streaming to meet multi-channel content distribution needs in the new media era.

### ▶ Free Horizontal/Vertical Screen Switching

Flexibly switches between horizontal and vertical screen display modes to adapt to mobile vertical live streaming trends and traditional horizontal production needs (e.g., meetings, competitions).

### ▶ Portable Yet Professional Design

Features a compact body that balances full professional functionality with mobility, ideal for flexible deployment in scenarios like studios and outdoor events.

## Product Specification

### ▶ Parameters

Video Input	HDMI INx4 USBx1
Video Output	HDMI PGMx1+HDMI AUXx1+ USB3.1x1 (Type-C) and RJ45x1 (Network Streaming)
Audio Input	Line(3.5mm Stereo)x2
Audio Output	Line(3.5mm Stereo)x1
USB	Used for video encoding storage, camera, LOGO image, firmware upgrade, etc.
Control Port	LAN x1 For network streaming, PTZ camera control, software control
SD Card	Video recording storage
Power	DC 7- 12V ≤18.5W

### ▶ Functions

Transition	T-Bar/ AUTO/ CUT
Transition Effects	WIPE (Various patterns) /MIX/DIP/Transition Preview/BKGD/Still (Freeze)/FTB
Key	Upstream Key: Chroma keyx1/Luma keyx1/PIPx2 Downstream key: DSKx1/LOGOx2
Layers	PGM Support up to 8 layers
Audio	HDMI x 4 , Multimedia and 2-way microphone/analog audio input; Audio delay: 0-1s
PTZ	VISCA IP protocol
Media Library	Supports presetting of multiple background images, logos and video streams
Streaming	H.264 Encoding, supports recording and multi-network streaming, supports recording and streaming bit rate separation
LOGO	Any size (up to 960x540) and position, support alpha transparent channel (png images)

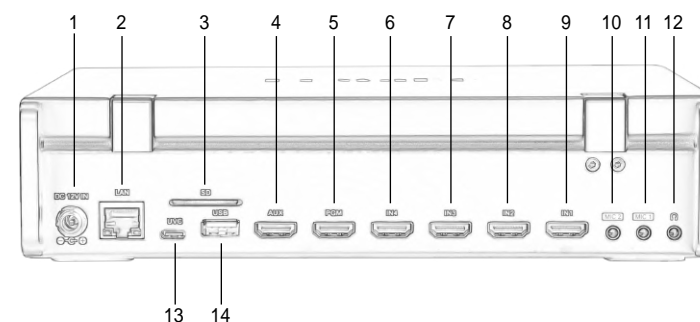
### ▶ Format Support

HDMI Input Support	2160p 60/59.94/50/30/29.97/25/24/23.98 (HDMI2.0 input) 1080p 60/59.94/50/30/29.97/25/24/23.98 1080i50/1080i60
HDMI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
UVC Output	USB 3.1 Lossless output, Maximum support YUV2 1080p60
Data Stream Support	1080p 60/59.94/50/30/29.97/25/24/23.98

### ▶ Others

Power	7-24V
Power Consumption	≤18.5W
Size (LDW)	250*206*63mm
Weight	2.1kg
Temperature	Working Temp: 0°C-50°C, Storage Temp: -30°C-70°C
Accessories	DC Adapter(12V 2A)*1; USB Cable(A to C)*1

## Interface Diagram

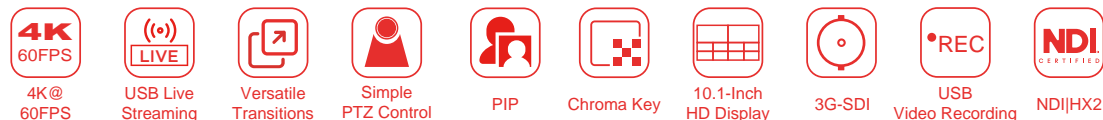


- 1 — DC 12V POWER Supply
- 2 — LAN / NDI(selective buying)
- 3 — SD Card
- 4 — Multi-View Output
- 5 — PGM Output
- 6 — HDMI IN4 (1080P)
- 7 — HDMI IN3 (1080P)
- 8 — HDMI IN2 (4KP60)
- 9 — HDMI IN1 (4KP60)
- 10 — Audio input 2
- 11 — Audio input 1
- 12 — Phones Monitor
- 13 — UVC YUY2 Streaming
- 14 — USB Video Recording

# FoMaKo Live Streaming Video Mixer Switcher

FoMaKo M6 video mixer switcher, built on FPGA platform, designed for HD and 4K video production. Features 10.1-inch HD screen for multi-view and menu operation, with 5-way joystick and knob for centralized control of multiple PTZ cameras. Equipped with 4 HDMI + 4 SDI inputs (HDMI IN1/2 support 4K60P, HDMI IN3/4 1080p60; SDI all support 3G Level A professional signals) and 1 USB 2.0 input; outputs include SDI PGM, HDMI PGM, USB 3.1 (Type-C) and RJ45 network interface. Integrates broadcast-grade functions: video effects switching, green screen keying, audio adjustment, PIP, multi-layer overlay, etc.; supports USB 3.1 streaming, live recording, multi-channel network streaming and 1-channel pulling, providing efficient and stable support for professional audio-visual workflows.

**M6**



## Features

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### ▶ Compatible with 4K and 1080P Signals

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Features SDI main output, HDMI main output, and auxiliary output ports to meet diversified wiring and output needs in complex scenarios like studios and event venues.

### ▶ High-Speed Lossless Data Transmission

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### ▶ Dual-Medium Redundant Recording System

Supports simultaneous video recording via USB devices and SD cards, with a built-in media library for efficient content management and quick retrieval to boost production efficiency.

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Offers dynamic transitions (fade-in/out, wipe, etc.) and supports picture-in-picture and multi-layer picture synthesis to create more professional-looking visuals.

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HDMI PGM Output	1080p 60/50/48/30/25/24
SDI Input Support	3G Level AYCbCr422 10bit
SDI PGM Output	1080p 60/50/48/30/25/24
HDMI Color Space	RGB/YUV
UVC Output	USB 3.1 Lossless output, Maximum support YUV2 1080p60
Data Stream Support	1080p 60/59.94/50/30/29.97/25/24/23.98

### ▶ Others

Power	7-24V
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