• N7-220X

KEY FEATURES

- NDI Certified
- Zoom: Optical 20X
- Video Output: NDI HX3, HDMI, SDI, USB C
- Video Resolution up to Full HD
- IP resolution up to 1080P60
- RTSP, RTMP, SRT IP streaming
- Control: RS232, RS422/485, IP/Onvif/Visca Over IP
- AI Exposure, AI Focus
- Power: 12VDC, PoE+

OVERVIEW

Bolin's N-Series PTZ cameras support NDI® HX3 and are fully compatible with NDI-enabled hardware and software.

They are built on the Blue Line platform, which provides gold-standard features at an affordable price. Our PTZ camera manufacturing principles never compromise image quality, industrial video standards, or PTZ control operation. So, these budget-friendly cameras are made with Bolin care and quality.

The N7 NDI HX3 FHD PTZ camera N7-220X features a 20x zoom range, with a high-quality Full HD image output over NDI® , HDMI, 3G-SDI, USB, and IP video streams. They are perfect for studio, live production, house of worship, broadcast, educational environment, corporate training, and ProAV use.

Interoperability | Low Latency | High Quality

NDI HX3
NDI Bridge (NDI 6 Ready)

FUNCTIONALITY

- N7-220X is equipped with Sony senor to provide brilliant, high-quality images in 1080p60/4K60 resolutions with 20x optical zoom range.

- Compact design and USB 2.0 (C Type) video used for Huddle Space cloud based video conferencing application.

- N7-220X cameras deliver IP streaming (RTSP, RTMP, SRT) video to network with local HDMI video and USB streaming to PC software for conventional video production and cloud based video conferencing applications. Also provides 3G-SDI, lossless baseband video for live production and light broadcast use.

- Image parameter adjustments includes exposure, focus, iris, shutter speed, white balance, gamma, wide dynamic range, flip/mirror and more with configurable video settings.

- Another Gold Standard feature of the Blue Line is the Color Matrix. With it, you can easily make subtle and specific corrections to the colors in your camera's image.

- Built with Bolin's latest AI-powered facial analytics engine, which enables smart focus and smart exposure to provide faster, more precise focusing and improved auto exposure on faces in complex lighting environments.

- HDMI/SDI/USB and IP video has high–quality audio streaming embedded with support for Mic-in and Line-in audio input.

- Extremely quiet and smooth operation for Pan/Tilt movements combined with enhanced adaptive, variable, and super slow adaptive speed control provides accurate and effective operation experiences. Picture Profile Preset: Image parameter settings restored with presets and quick access operation. Control protocal supports: Serial RS232/RS422/RS485, IP/Onvif/Visca-Over-IP, UVC, IR Remote.

- Supprot 1GB Ethernet network, independent PoE+ (IEEE 802.3at) power and 12VDC; Standard mounting and ceiling mounting with E-Flip function.

- Firmware updates, upgrade via IP interface to keep camera features and performance up to date.

N7-220X

BOLiN TECHNOLOGY

Model No. Camera	N7-220X 20X Full HD
Image Sensor	Sony Progressive scan CMOS image sensor 1/2.8 type
Number of effective pixels	1920X1080, 2.13 MP
Zoom	Optical Zoom 20X, Digital Zoom 16X
Focal Length	f= 5.2 mm (Wide) to 104 mm (Tele)
Aperture	F1.6 (Wide) to F3.0 (Tele)
Horizontal Angle of View	55.8° (W)~3.2° (T)
Vertical Angle of View	-
Min. object distance	10mm (Wide)
Min. Illumination	0.5lux(color), 0.1lux(black)
Shutter Speed	1/25~1/100K sec
Focus	Auto, Manual, One Push
White Balance	Auto, Indoor, Outdoor, OPW, ATW, Manual, SVL USER
Exposure	Auto, Manual, Shutter/Iris priority
Image Adjustment	Brightness, Color(Saturation), Contrast, Sharpness, HUE
Back Light Compensation	On/Off
E-Flip	On/Off
WDR	On/Off
Image Stabilizer	-
Defog	Yes
Mirror	Horizontal
Day/Night	On/Off
Contrast	Yes
Color Gain	Yes
Color Hue	Yes
Color Matrix	Yes
Black Level	
Gamma	Yes, 4 levels (0.45, 0.50, 0.55, 0.63)
High Sensitivity	Yes
Scene	Default, Clear, Bright, Soft
Focus Zone	Face Priority, All Area, Upper Area, Central Area, Lower Area
AI Face Detection Focus	Yes
AI Face Auto Exposure	Yes
Noise Reduction	2D/3D, 0-100
S/N Ratio	≥50db
OSD	Editable
HDMI Signal System	
Video Format - HDMI	1920x1080p60/59.94/50/30/29.97/25; 1280x720p60/59.94/50/30/25
Color Format	8bit(RGB), 12bit(YUV422),
Color Space	YUV, RGB
OSD Menu Display	YES
SDI Signal System	
SDI Video Format	1080p60/59.94/50/30/29.97/25; 720p60/59.94/50/30/25
Color Precision	8bit(SDI), YCbCr, 4:2:2
Color Space	YUV
Standard	3G-SDI, SMPTE424M/SMPTE292M,TE 425-A(3Gb/s), with SMPTE352 SDI Metadata Supported
True Dual Output	SDI and HDMI has same video format when HDMI outputs FHD and lower.
OSD Menu Display	YES
USB Signal System	
USB Port	USB2.0,Type C
Encoder	H.264/MJPEG/YUV2
USB Video Format	1920×1080p60/50/30/25fps ,1280X720p60/50/30/25fps
Compatible Integration	UVC，UAC
Video Conference Compatibility	Most video conference platform in the market
Network-IP Streaming	
Video Codec	NDI HX3, MJPEG, AVC/HEVC-H.264/265 by SoC
Network Interface	RJ45 port-Standard 1Gbps Ethernet
IP Video - 1st Stream	1080p60/59.94/50/30/29.97/25; 720p60/59.94/50/30/25
IP Video - 2nd Stream	704x576, 640x480, 640x360, 576x480, 352x228; Frame Rate P30/25
True Dual Output	Video resolution and framerate: IP and HDMI can be output with different format (SDI and HDMI will be the same, SDI is the same or lower than HDMI, USB is the same as IP)
IP Protocols	TCP/IP, ICMP, ARP, RTP, UDP, HTTP, DNS, DHCP, FTP, NTP, NDI
Application Protocols	RTP, RTSP, RTMP,RTMPS, SRT, NDI
Multi-stream	2 Streams (Up to 8 viewers at the same time)
Audio Compression	AAC-LC, Broadband Audio Encoding

All models and specifications are subject to change without notice.

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Product Specification

Model No.	N7-220X
Camera	20X Full HD
Network-IP Streaming	
Compatible Integration	ONVIF2.4 (Profile S), VISCA Over IP, NDI
OSD	Customized OSD
Browser Support	Cross Browser Compatibility - HTML5 support for Microsoft Edge, Google Chrome, Firefox, and Safari
Latency - Codec	NDI Certified, <100ms
Bandwidth	1Mbps - 100Mbps
	Results may vary depending on network configuration and management settings.
NDI Bridge	Yes, with NDI 6 supported
Interface	
HDMI Video Output	HDMI 1.4X1 Type A
IP Video Stream	Up to 1080p60
SDI Video Output	3G-SDI, standard / 75 Ω (BNC x 1)
Camera Control Interface	RJ45X1-RS422, RJ45X1-IP Control, IR Remote Control
Control Protocol	VISCA. VISCA Over IP, Pelco P/D, Onvif, NDI
LAN Port	RJ45X1 (1000BASE-T Ethernet port)
USB Port	USB2.0,Type C
USB Protocol	UVC, UAC
Synchronization	-
Tally Light	Tally lamp in front, Red and Green Color
Dip Switch	Camera bottom panel: 8 PIN x 2
Firmware Upgrade	
	Upgrade via IP for camera system MCU and Encoder
IR ID	ID selector for IR controller, total 3
Power Connector Type	DC12V (IEC60130-10 (JEITA standard RC-5320A) TYPE4)
	INPUT: RJ45, PoE(IEEE802.3af)
Audio Input	USB port to 3.5mm audio jack
	AAC (Bit Rate(bps)48K*/64k / 96K / 128k; Sampling Rate(bps)44.1k / 48k
Audio Output	-
Audio Output	Embedded with HDMI, SDI, IP, USB streaming, 24bit Stereo, sample rate: 44.1KHz, 48KHz, PCM24
Audio S/N Ratio	≥85dB
Audio THD+N	≤0.05%
Audio Noise (RMS)	≤-90dB
Mechanical	
Pan Movement	Horizontal:±170 degrees continuous pan (Zoom Adaptive Speed Range: 0.05°∽100°/S)
Tilt Movement	Vertical:+90 degrees to -30 degrees (Zoom Adaptive Speed Range: 0.05°∽70°/S)
Speed Proportional	Pan/Tilt Speed proportional to zoom range
Preset Position	255 positions, Speed 100°/s, Accuracy: 0.05° 9 presets on remote controller
Preset Speed	0~5 Level Adjustable
Preset Memory	YES, (Picture Profile Preset-Preset Memory for image parameters, like: Backlight Compensation, White Balance, Auto Exposure, Bright, Iris, Shutter, Gain, Aperture, Effect, Noise Reduction, Mirror, Gamma, Ex-COMP, Color Hue, Contrast etc.)
Motionless Preset	On/Off
PTZ Trace Memory	Yes, 4 (Supported via IP interface)
Cruise	Yes, 12
Adaptive PT	Zoom range adaptive Pan/Tilt speed
Pan/Tilt Direction	Normal, Invert
Quietness	NC35 or less
Home Position	Support
Environmental	Indoor
General	
Body	Partial Magnesium Alloy
Mount	Ceiling mount, Wall mount, Tripod
Size of Tripod Screw Hole	1/4"-20UNC with safety joint
Operating Temperature	#REF!
Operating Humidity	≤80% Suitable for Use
Power Input	DC±12V, PoE (IEEE802.3 af Type 1 Calss 3)
Power Consumption	Min:10W(Static state with no movement); Max:13W(Fully loaded operation)
Dimension	143x143x161mm (LxWxH)
Weight	1.5kg (Net weight)
Body Color	Available in Black, (White - Special Order)
Accessory	
Power Supply	12VDC 2A X1, Universal various power core.
Remote Controller	Full Function IR Controller X1
Serial Control Adaptor	RS232/RS422 adapter cable x1 For serial RS232/422 control

ORDER INFORMATION

• Visit Bolin Technology Website

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