

1.0 Manufacturer

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Manufacturer shall warrant the camera to be free from defects in material and workmanship for two years from the purchase date.

2.0 Description

- High speed, programmable dome with high resolution color camera
- 10X optical zoom, 64X digital zoom, and 640X total zoom capabilities
- Dome to conform to RoHS initiative standards

IPS2102E is a professional IP network outdoor speed-dome camera capable of making 360 degree continuous rotation at up to 120 degrees per second, ensuring direct and accurate target positioning. The IPS2102E uses Internet Protocol (IP) to transmit video streams and control signals over networks, and is capable of operating over both LANs and WANs. IPS2102E provides a complete budget-conscious remote surveillance solution that is ultra clear and highly integrated. IPS2102E combines a user-friendly interface and simplified installation with a powerful feature set, including Alarm and Motion Detection to provide users an easy upgrade path to new digital surveillance system in a virtual environment. These highlights make IPS2102E an ideal choice for environments that require remote surveillance or video transmission.

3.0 Performance Specifications

The dome assembly must be comprised of a high-speed pan/tilt assembly, high-resolution color camera with 10X optical zoom, 64X digital zoom permitting up to 640X total zoom. The camera/lens assembly must provide for continuous, full-time, autofocus capabilities.

The pan mechanism must incorporate a sealed precision slip ring to provide 120° of continuous pan rotation. The tilt mechanism must provide for 90° of travel. Precise manual panning and tilting must be achievable through a combination of variable-speed operator control (speed ranges) and automatic adjustment of these speed ranges dependent upon zoom factor. Manual pan and tilt speeds must range from 0.5° to 90° per second. Preset pan speeds must range from 1° to 120° per second, and preset tilt operating speeds must be from 1° to 120° per second. Pan and tilt speeds will be automatically adjusted by the zoom factor to allow the user the same ease of control, regardless of the field of view. High-speed, DC direct-drive motors must be used to maintain high torque through the entire operating range. These motors must use pulse-width modulation and encoder feedback to control the acceleration, speed, and

deceleration of the motors to ensure smooth, precise, accurate, and fluid movement. The design shall use DC direct-drive motors and no belt to ensure long-term, reliable operation.

4.0 Bid Specification

- 4.1 The camera shall have 4.9 mm to 49 mm lens, with maximum aperture of 1 : 1.8 (Wide) ~ 3.0 (Tele).
- 4.2 The camera shall support 360 degree continuous panning at speeds up to 120 degrees per second.
- 4.3 The camera shall support tilt functions from 0 to 90 degrees at speeds up to 120 degrees per second.
- 4.4 The camera shall be H.264, Motion JPEG compliant.
- 4.5 The camera shall have triple standard compression support with simultaneous streaming of H.264 and Motion JPEG formats.
- 4.6 The camera shall have multi-streaming support of up to 2 non-identical concurrent streams (different frame rate, bit rate, resolution, quality, and compression format).
- 4.7 The camera shall have bit rate control for full view, multi view, and archiving.
- 4.8 The camera shall have Real Time Streaming Protocol (RTSP) support allowing for compatibility with media players such as RealPlayer, Apple QuickTime, VLC Player and others.
- 4.9 The camera's H.264 implementation shall maintain full real time video frame rates.
- 4.10 The camera shall output at a maximum resolution of 1080P 1920(H) x 1080(V) pixels at a maximum frame rate of 30 frames per second (FPS).
- 4.11 It shall be possible to program the camera to output a variety of lower resolution images. For example, 1080P(1920 x 1080), 720P(1280 x 720), D1(720 x 480), and CIF(352 x 240).
- 4.12 The camera shall support a minimum HTTP, and RTSP/RTCP network protocols.
- 4.13 The camera shall feature automatic exposure, automatic white balance, shutter speed control, programmable brightness; saturation, contrast, instantaneous digital zoom, and electronic image mirror and flip.
- 4.14 The camera shall incorporate necessary algorithms and circuits to detect motion in low light with clarity.
- 4.15 The camera shall support a minimum illumination of 0.5 lux.
- 4.16 The camera's primary power source shall be DC12V or PoE+ power supply.
- 4.17 The camera's operating ambient temperature shall be -10°C ° ~ +50°C (-14°F ~ 122°F) for warm start conditions.
- 4.18 The camera shall have total unit dimensions of ø 135 mm x 142 mm.
- 4.19 The camera shall have a total unit weight of 1,100g.

5.0 Quick-Spec

10X Day & Night 1080P HD PTZ Dome IR IP Camera (Indoor)			
Model		IPS2102E	
Power supply		DC12V	PoE+
Image pick-up element		1/3" MOS Sensor	
Effective pixels		1944 (H) x 1092 (V) = 2,122,848 Pixels	
Total number of pixel		2010 (H) x 1108 (V) = 2,227,080 Pixels	
Scanning system		Progressive scan	
Video output		CVBS 1.0 Vp-p / 75 Ω BNC	
Minimum illumination		Color: 0.5 Lux at F1.8, Mono: 0 Lux (IR ON)	
Ambient operation temperature		-10°C – + 50°C (14°F – 122°F)	
Operating humidity		0%～90%	
	Peak wavelength	850nm	
	Radiant distance	16M	
	Beam spread	30 °	
Dimensions		142 mm (H) x 135 mm (D)	
Weight		1100g	
Pan & Tilt			
Panning range		360 ° Endless	
Panning mode		Manual , auto , manual position , sequential position	
Panning speed		Manual approx. 0.5 °/s – 90 °/s 8 Steps, Preset approx. 1 °/s – 120 °/s 8 Steps	
Tilting range		0° ～ 90°	
Tilting mode		Manual , auto , manual position , sequential position	
Tilting speed		Manual approx. 0.5 °/s – 90 °/s 8 Steps, Preset approx. 1 °/s – 120 °/s 8 Steps	
Lens			
Zoom ratio		10X optical zoom	
Focal length		4.9mm～49mm	
Minimum aperture ratio		1:1.8 (Wide)～3.0 (Tele)	
Minimum object distance		1.0M (Tele)	
Angle field of view		Wide : 57.23°(H) 34.07°(V), Tele : 6.25°(H) 3.51°(V)	
Control function		Pan and Tilt / Zoom and Focus / Iris and ICR / 128 Preset Position / Home Position	
Digital zoom ratio		64X	
Zoom speed		1 ～ 15 Selectable [15 : approx. 5.0 second (In to Out) in manual mode]	
Focus speed		1～ 15 Selectable [15 : approx. 5.0 second (Far to Near) in manual mode]	
Focus		Auto (Continue / Zoom Trigger / One Push), Manual Focus	
Iris		F1.8～F16, Close	
Day & Night		Day / Night / Auto / Schedule	

Architect & Engineering Specifications

Electric shutter speed	Auto / Manual(1/30(25) to 1/10,000)
Sense Up (slow shutter)	Off / Auto (x30)
Back light compensation	Off / HSBLC / BLC / WDR
Sharpness	Adjustable
White balance	ATW / AWC / Manual (1800K – 10500K)
Auto gain control	0~42 dB
Digital noise reduction	Off / On (2D, 3D)
Auto mode	Off / Auto / SEQ / Tour / Patrol
Privacy zone	Off / On (up to 8 zones settings)
Digital effect	Off / Mirror
Schedule setting	Off / Auto mode / Preset position
Network	
Video compression	H.264, Motion JPEG
Resolution	1080P(1920 x 1080), 720P(1280 x 720), D1(720 x 480), CIF(352 x 240)
Frame rate	H.264 : up to 30 FPS at 1080P(1920 x 1080)
	Motion JPEG : Up to 30/25 FPS at Full D1 resolution
Video streaming	RTP/HTTP, RTP/TCP, RTP/UDP, Multicast
Video bitrate	128 Kbps to 5 Mbps
	Frame rate and bitrate controllable on-the-fly
	VBR / CBR / GOP supported
Security	Base64 HTTP encryption
	Multiple user access levels with password protection
	10 user accounts available
Users	8 simultaneous users
OSD	Text overly for date, time, camera name, and PTZ position
Alarm function	Image upload over FTP and email by alarm / motion detection
CPU, memory	Embedded SoC ARM11, 528MHz, 256MB flash memory
Web PTZ control	Pan, Tilt, Zoom in / out, absolute position, and video-click-n-move
PTZ preset scheduling	Yes, via Web interface
Maintenance	Firmware update via HTTP
	Firmware available at Website
Network interface	10Mbps/100Mbps, RJ-45
Client PC requirement	OS: Windows 2000, Windows XP, Windows Vista, Windows 7
	Browser: Windows Internet Explore 6, 7, 8
	CPU: Intel Pentium 4 1.8GHz or above
	RAM: 1GB or above, Independent Display Card
Network protocols	IP, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, Telnet, RTSP, RTCP, ONVIF Profile S, ICMP, IGMP

Architect & Engineering Specifications

Mobile phone and PDA	iPhone, iPad,, and Android support
System integration	ONVIF & LILIN HTTP API
Central management system	CMX 3.6 NAV 1.0 support
Video display	LILIN Universal ActiveX & LILIN Java Applet
OS	Embedded Linux 2.6.32
2-way audio supported	G.711
SD card recording	Support Micro SD/SDHC card for circular recording (card is not included)