

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 Camera Network Description

The 1080P HD 2-Megapixel Dome IP Camera described shall be a LILIN model number LD2222E2 / LD2222E4 or equivalent. The camera described shall be a high sensitivity megapixel camera using multiple-profile video streaming of H.264 and Motion JPEG technologies, back light compensation, 24-hr video surveillance, effective low light performance, and is PoE (IEEE 802.3af compatible) and/or can be directly powered using DC12V, 4.5W / PoE, 5W.

3.0 General Specifications

- 3.1 The 1080P HD Dome IP camera shall incorporate a 1/2.7" Progressive scan CMOS sensor with 1920 (H) x 1080 (V) effective pixels. The network camera shall be able to produce images in 1080P, 720P, D1 or CIF resolution. The camera shall have a minimum light requirement of 0.2 Lux at F1.6 Low Light Mode or 0.4 Lux at F1.8 Low Light Mode.
- 3.2 The camera shall produce 15 frames per second at 1080P resolution with H.264 video compression or produce 15 frames per second at 1080P resolution with Motion JPEG video compression.
- 3.3 The camera shall provide three streaming at same time for various Internet or Intranet applications.
- 3.4 The camera shall have at least 256MB of RAM.
- 3.5 The camera shall provide a TCP/IP protocol video output via a RJ-45 Ethernet connection.
- 3.6 The camera shall provide Micro SD/SDHC for circular local recording.
- 3.7 User and Administrator password protection levels are provided.
- 3.8 The camera is able to specify its shutter speed for min and max range for various environments. (1/30(25)s ~ 1/8000s)
- 3.9 The camera shall provide 3D noise reduction feature.
- 3.10 The camera shall provide WDR and BLC features.
- 3.11 The camera shall provide privacy mask features.
- 3.12 The camera shall provide motion, audio, and network features.
- 3.13 The camera shall provide PoE (IEEE 802.3af compatible) input.
- 3.14 The camera shall provide video mirror and flip features.
- 3.15 A recessed mechanical reset button shall be provided to return the camera to factory default settings.

4.0 Camera Networking Requirements

- 4.1 The camera shall incorporate a built-in web server.
- 4.2 The camera shall provide integrated support for IPv4, IPv6, TCP, UDP, HTTP, SMTP, NTP, DDNS,

- UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ICMP, IGMP, SNMP, SIP, Bonjour, and ONVIF Profile S protocols..
- 4.3 The camera shall provide FTP services for sending JPEG snapshots based on scheduling and/or continuously sent with various time pattern, prefix, and postfix for JPEG file names that it can achieve better FTP system integration.
 - 4.4 The camera shall provide email service for sending JPEG snapshots for at least 5 different recipients.
 - 4.5 No unique or proprietary client software shall be required for viewing or controlling the camera.
 - 4.6 The camera shall be user configurable and the administrator may functionally or aesthetically modify the camera’s web pages.
 - 4.7 The camera shall provide 3G mobile remote live monitoring capability – Alarm PushVideo on smartphone devices.
 - 4.8 Multiple cameras installed shall be connected and managed by Center Management Software (Navigator software). Cameras can be grouped in the Navigator software. Camera groupings in Navigator software can be assigned for certain user(s) for user management purpose.
 - 4.9 The camera shall provide IP filter to isolate a particular IP address for safety and related possible conditions.
 - 4.10 The camera shall provide NTP (Network Time Protocol) feature so that the camera is able to connect to NTP network.
 - 4.11 The camera shall provide OSD (on-screen display) feature which includes time display and device name display.
 - 4.12 The Web server of the camera shall provide system log information for administrator(s) to view videos and operation details.
 - 4.13 The camera shall provide alarm event notification via external alarm outputs on detections on audio, motion, and network lost.
 - 4.14 The camera shall have Micro SD/SDHC card video playback function so that users can store designated videos into the Micro SD/SDHC card without using an extra media player to support.
 - 4.15 The camera shall provide various alarm event outputs: i.e. GPIO (general purpose input/output), FTP (file transfer protocol) and email notification services to notify the users.

The camera shall not exceed a dimension of body: Ø 105 x 39mm and weigh no more than 250g. Power requirement for the network camera shall be DC12V, 4.5W / PoE, 5W. The operating temperature for video camera shall be -25°C – +50°C (-13°F – 122°F). The camera manufacturer shall be ISO 9001 certified and Camera shall comply with CE.

Minimum Performance Specifications

5.0 1080P HD Dome IP Camera		
Model No.	LD2222E2	LD2222E4
Power Input Voltage	DC12V ± 10%	
	PoE (IEEE 802.3af compliant)	
Focal Length	2.8mm	4mm
Iris	F1.8	F1.6
Angle of view	105° (H), 87°(V), 135°(D)	84.8° (H), 45.2°(V), 100.6°(D)

Architect & Engineering Specifications

Pick Up Element	1/2.7" CMOS image sensor	
Effective Pixels	1920 (H) x 1080 (V) = 2,073,600 (pixel)	
Scanning System	Progressive Scan	
Minimum Illumination	0.4 Lux at F1.8	0.2 Lux at F1.6
Auto Gain Control	36 dB Variable Gain	
White Balance	Auto / Tungsten / Indoor / Fluorescents 1 / Fluorescents 2 / Outdoor 1 / Outdoor 2	
Electronic Shutter	1/30(25)s ~ 1/8000s	
Sense Up	Off / 1 Frame / 2 Frames / 3 Frames / 7 Frames	
Back Light Compensation	Off / On	
3D Noise Reduction	Off / 1 ~ 32 Selectable	
2D WDR	Off / Auto / x2 / x3 / x4	
Privacy Masking	Off / On (4 Zones)	
Image Effects	Brightness, Contrast, Hue, Saturation, Sharpness, Mirror, Flip	
Operation Temperature	-25°C – +50°C (-13°F – 122°F)	
Power Consumption	DC12V, 4.5W / PoE 5W	
Dimension	Ø 105 x 39mm	
Weight	250g	
Video Compression	H.264, Motion JPEG	
Resolution	1080P (1920 x 1080), 720P (1280 x 720), D1 (720 x 480), CIF (352 x 240)	
Maximum frame rate	H.264 : up to 15 fps @ 1920 x 1080 , 30fps @ 1280 x 720 , 30fps @ 720 x 480 Motion JPEG : up to 15 fps @ 1920 x 1080 , 30 fps @ 720 x 480 , 30 fps @ 352 x 240	
Video Streaming	RTP / HTTP, RTP / TCP, RTP / UDP, Multicast	
Video Bitrate	128Kbps ~ 8Mbps Frame rate and bit rate controllable on-the-fly VBR / CBR / GOP supported	
Security	Base64 HTTP encryption Multiple user access levels with password protection 10 user accounts available	
Digital Zoom	Yes	
OSD	Text overlay for date, time, and camera name	
Users	8 simultaneous users	
Alarm Function	Motion, audio, and/or network detection triggering recording into Micro SD/SDHC card Image upload over FTP and E-mail by motion, audio, and/or network detection	
CPU, Memory	Embedded SoC ARM11, 528MHz, 256MB DDR2, 256MB flash memory	
Maintenance	Firmware update via HTTP Firmware available at website	
Network Interface	10Mbps / 100Mbps Base-T, RJ-45	

Architect & Engineering Specifications

PC Requirement	OS : Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 8 Browser : Windows Internet Explorer 6.0 or above CPU: Intel Pentium 4 1.8GHz or above RAM: 1GB or above, Independent Display Card
Network Protocols	IPv4, IPv6, TCP, UDP, HTTP, SMTP, NTP, DDNS, UPnP, FTP, ARP, DHCP, PPPoE, DNS, RTSP, RTCP, Telnet, ICMP, IGMP, SNMP, SIP, Bonjour, ONVIF Profile S protocols.
Mobile Phone	iPhone, iPad & Android support
Central management system	NAV 1.0 support
Video Display	LILIN Universal ActiveX & LILIN Java Applet
System Integration	ONVIF and LILIN HTTP API
OS	Embedded LINUX 2.6.32
One-way Audio	G.711 / PCM
SD Card Recording	Support Micro SD/SDHC card for circular recording or record only there is incidents (triggered by alarm feature).

*Please submit ISO 9001, CE certificates.

*This specification is intended for use by the design/construction professional and any user of LILIN products to assist in developing project specifications for security and video surveillance systems.