Mesh Surveillance System
Feature-Rich Hybrid 11ac Mesh AP Camera

The Neutron Mesh Surveillance System is a dual-functional 11ac Managed Wireless Access Point with mesh capabilities and an integrated 2-MP IP Camera featuring night vision and email alerts. This space-saving hybrid offers one installation for both an AP and IP camera, simplifying wiring with self-healing mesh networking and management via controller or ezMaster™ Network Management Software.

The Neutron Mesh Surveillance System is the first of its kind. Merging the capabilities of both an IP camera and a high-speed wireless access point, the System improves deployment options and the IP Camera’s performance by combining technologies.

Ideal for overcoming installation-wiring hurdles in retrofit applications, the System utilizes wireless mesh to optimize connections automatically between multiple EWS1025CAMS and other supported Neutron devices.

Features & Benefits:
> Dual-Functional Mesh 11ac Wireless Access Point & Integrated IP Surveillance Camera
> Simplifies Deployments, Reduces Install Time & Costs
> 11ac Wireless Speeds to 867 Mbps (5 GHz); to 300 Mbps (2.4 GHz)
> Operate as a Stand-Alone or Manage via Neutron Switches or ezMaster™ Software
> Centrally Manage, Monitor & Troubleshoot Network via ezMaster
> Wide, 120° 2-MP Lens Captures 1920x1080P Images over a Broader Field
> 802.3at/af - PoE Extends Power to Unwired Areas Up to 328 Feet
> Built-In IR Illuminators Ensure Night Visibility to 65 Feet
> Enhanced Wireless Range & Coverage with High Transmit Power
> Remotely View Cameras & Receive Notifications with enViewer™ App
> No AP Licensing or Annual Subscription Fees for ezMaster
> Includes 16-Channel VM Software with Live Monitoring
Dual-Purpose System

The Mesh Surveillance System provides a dual-functional, aesthetically pleasing option for large residences, commercial, retail, and anywhere both Wi-Fi and surveillance are desired. Utilize the EWS1025CAM’s mesh networking to provide these resources in entryways, hallways, stairwells, and lobbies and in retrofit applications such as landmark buildings, museums, and locations where long wire runs are prohibitive.

Increase Network Speed & Capacities

The onboard access point features high-performance 2x2 11ac dual-band Wi-Fi speeds ensuring smooth HD video delivery and ultra-fast file loading. The System supports greater user capacities while efficiently steering 5 GHz-capable network traffic off the heavily congested 2.4 GHz frequency band.

Wireless Mesh Flexibility

Easily create an adaptive mesh network when connecting multiple EWS1025CAMs or other Neutron mesh-compatible APs, and extend wireless access to larger areas without running cable to every unit. Employ mesh’s auto-sensing technology to add devices quickly, optimize routes between mesh units, and self-heal in the event a network node is down.

Reduce Wiring Challenges with Power-over-Ethernet

The System is designed to reduce wiring challenges and installation time and costs with a single cable run. Power each unit via one Ethernet cable with 802.3at/af Power-over-Ethernet (PoE) up to 325 feet from the power source or with a DC power input.

Secure Guest Networks & Workgroups

Establish and secure Guest Networks and block access to central computers and servers. Limit Internet resources for visiting guests and ensure your network is secure from sophisticated Trojans and malware that can use guest’s mobile devices to attack your network.

Highly Defined Images & Clear Day/Night Viewing

The EWS1025CAM features a 2-MP Progressive Scan CMOS sensor and 1920 x1080P HD video, which ensures precise image details and smooth video playback. With its powerful, 24-piece built-in IR LED illuminators, the Mesh Surveillance System transmits clear, distinct images day or night in low light or total darkness up to 65 feet.

Motion & Audio Detection Triggers Provide Instant Proof

To immediately capture suspicious activity, the EWS1025CAM supports motion and audio detecting-triggers, to automatically activate a recording of the covered area ensuring all activity is monitored. Its built-in microphone can hear events giving you a more accurate representation of a situation.
EnViewer™ Mobile App
Remote Viewing & Push Notifications

Remotely view and monitor up to four (4) cameras simultaneously and instantly record video with EnGenius’ free EnViewer™ Mobile App. View, record and receive motion or audio-triggered event alerts directly to your mobile device for instant notification of events-in-progress.

Zone Coverage

Set precise zone coverage within designated areas to record activity or detect motion near entryways or around windows within the camera’s field of view. Customize sensitivity in each zone for greater control and set motion and audio detection mobile alerts.

Video Management Software (VMS)
Monitor Up to 16 Cameras Simultaneously

EnGenius’ 16-Channel Video Management Software is included free with the Neutron Mesh Surveillance System. Streamline camera setup and configuration with the VMS’ Discovery Tool. Import building floor plans to create a camera location map through eMap and easily monitor the entire camera network regardless of its location. Additional features:

- Optional Split-Screen Camera Views
- Monitor Up to 16 Cameras Simultaneously
- View Live Monitoring, Record Video & Playback Options
- Quickly Search Archived Video via Time Bar
- Schedule Recordings

Network Management

Manage Up to 50 APs with Neutron Managed Switches

Neutron Switches also act as wireless controllers capable of managing up to 50 Neutron EWS1025CAMs and other Neutron EWS Access Points. In controller mode, IT administrators have access to all connected Neutron devices and a full array of Layer 2 management tools. Choose between PoE+ and non-PoE switch models with flexible deployment and management options.
Flexible Distributed Network Management

EzMaster Network Management Software expands the flexibility and scalability of Neutron Series Managed Access Points and Switches.

EzMaster allows organizations, such as branch offices and managed service providers to easily and affordably deploy, monitor, and manage a large number of Neutron EWS APs, and Switches across geographically diverse properties. Centrally manage an unlimited number of independent distributed networks in the same subnet or cross-subnet from a single, at-a-glance network dashboard, no matter where they’re located.

Deploy ezMaster locally, remotely or via a Cloud-based service with or without an onsite WLAN controller.

Powerful, Scalable Options

EzMaster scales with your growing business needs. Manage 1,000+ Neutron EWS Access Points and Switches and 10,000+ concurrent users. Together, Neutron EWS APs, Switches and ezMaster provide a flexible, fully integrated solution with redundancy support and future expandability for broader device connectivity.

Recommended environment for managing up to 500 APs

- **CPU**: Intel® Core™ i3 3.6 GHz dual-core or above
- **RAM**: 4 GB minimum
- **HDD**: 500 GB (actual requirement dependent on log size)
- **OS**: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Recommended environment for managing up to 1,000+ APs

- **CPU**: Intel® Core™ i5 3.2 GHz quad-core or above
- **RAM**: 4 GB minimum
- **HDD**: 500 GB (actual requirement dependent on log size)
- **OS**: Microsoft® Windows® 7 or later + VMware® Player 7.0 or compatible virtualization software

Browser Requirements

- Internet Explorer 10 or better
- Firefox 34.0 or better
- Chrome 31.0 or better
- Safari 8.0 or better

Network Topology Requirements

At sites where APs are deployed, a DHCP-enabled network for APs to obtain an IP address

Simplified Device Management

EzMaster Network Management Software makes device management easy. How? Through centralized bulk configuration, provisioning and monitoring, a comprehensive at-a-glance network dashboard, rich analytics and reporting, and much more.

ezMaster Software Features

- **Centralized Management**
  - Configure, Managed & Monitor 1,000+ Neutron Devices
  - Cross-Network AP Management
  - AP Group Configuration

- **Access Point Configuration & Management**
  - Auto Channel Selection
  - Auto Tx Power
  - Background Scanning
  - Band Steering (Auto Band Steering & Band Balancing)
  - Client Isolation
  - Client Limiting
  - Fast Roaming
  - L2 Isolation
  - LED On/Off Control
  - Multiple SSID
  - RSSI Threshold
  - Secure Guest Network
  - Traffic Shaping
  - VLAN Isolation
  - VLAN Tag

- **Comprehensive Monitoring**
  - Device Status Monitoring
  - Floor Plan View
  - Map View
  - Rogue AP Detection
  - System Status Monitoring
  - Visual Topology View
  - Wireless Client Monitoring
  - Wireless Coverage View
  - Wireless Traffic & Usage Statistics

- **Management & Maintenance**
  - Bulk Firmware Upgrade
  - Captive Portal
  - Email Alert
  - ezRedundancy (Available 2016)
  - Kick/Ban Clients
  - One-Click Update
  - Remote Logging
  - Seamless Migration
  - SmartSync Redundancy (Available 2016)
  - Syslog
Technical Specifications

**Frequency**
- RF: 2.4 and 5 GHz Frequency Bands

**Standards**
- IEEE 802.11b/g/n on 2.4 GHz
- IEEE 802.11a/n/ac on 5 GHz
- IEEE 802.3at/af

**Radio Chains/Spatial Streams**
- 2x2:2

**Radio I**
- 11b/g/n: 2.412–2.484

**Radio II**
- 11a/n/ac: 5.18-5.24 and 5.26-5.32 and 5.5-5.7 and 5.745-5.825 GHz

**Data Rates**
- Up to 300 Mbps on 2.4 GHz
- Up to 867 Mbps on 5 GHz

**Memory Capacity**
- Micro SD/SDXC – up to 64G

**Power Consumption**
- Maximum 12.4W

**Antenna**
- Internal High-Gain Antennas 5dBi per band

**Physical Interface**
- 1 x 100/1000 Gigabit Ethernet Port
- - 802.3af PoE Input
- 1 x Reset Button
- 1 x Power Connector
- 1 x Micro SD/SDXC Slot
- 24 x IR LEDs
- 1 x Embedded Microphone

**LED Indicators**
- 1 x Power
- 1 x 2.4 GHz
- 1 x 5 GHz
- 1 x Ethernet
- 1 x Mesh

**Power Source**
- 24V Proprietary Compliant Source
- 12VDC/1.5A
- Active Ethernet (PoE)

**Transmit Power**
- Up to 21dBm on 2.4 GHz
- Up to 19dBm on 5 GHz

**Modulations**
- 802.11b: BPSK, QPSK, CCK
- 802.2/a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM

**Supported Radio Technology**
- 802.11b: Direct-Sequence Spread-Spectrum (DSSS)
- 802.11a/g/n/ac: Orthogonal Frequency-Division Multiplexing (OFDM)

**Channelization**
- 802.11ac with 20/40/80 MHz channel width
- 802.11n with 20 MHz channel width

**Operation Modes**
- Mesh Access Point/Access Point
- Standalone: Access Point, Client Bridge, WDS Access Point, WDS Bridge, WDS Station
- (Device cannot be managed when used in Bridge mode)

**Camera**

**Image Sensor**
- Sony 1/2.9” 2-Megapixel Progressive Scan CMOS

**Lens**
- Fixed Board Lens
- Fixed-Focus, f=2.8 mm / F2.0

**F.O.V.**
- 120° (diagonal)

**IR Illuminator**
- 24 Pcs LEDs, Up to 65-Feet

**Day/Night**
- Removable IR-Cut Filter

**Minimum Illumination**
- Color (IR-Off): 0.01 Lux / F2.0
- B/W (IR-On): 0 Lux / F2.0

**Shutter Time**
- 1/2 sec. to 1/10,000 sec.

**Video**

**Compression**
- H.264/MJPEG

**Stream**
- 2x Video Streams

**Frame Rates**
- Up to 30 FPS at 1920 x 1080P

**Image Settings**
- Adjustable Image Size, Quality & Bit Rate
- Configurable
- Brightness
- Sharpness
- Contrast
- White Balance
- Saturation
- Exposure
- AGC/AWB/AES
- Flip & Mirror
- Time Stamp & Text Caption Overlay
- Auto/Manual Day & Night Mode
- 3D Noise Reduction
- Low/Light Compensation (LLC)

**Audio**

**Audio Streaming**
- 1-Way

**Interface**
- Built-In Microphone

**Deployment Options**
- Standalone (Individually Managed)
- Managed Mode (with Neutron Series Switch/ezMaster)

**Multiple BSSID**
- Supports up to 16 SSIDs, 8 SSIDs per Radio

**VLAN Tagging**
- Supports 802.1q SSID-to-VLAN Tagging
- VLAN Pass-Through

**Spanning Tree**
- Supports 802.1d Spanning Tree Protocol

**QoS**
- Compliant with IEEE 802.11e Standard
- WMM

**SNMP**
- v1, v2c, v3

**MIB**
- I/IL Private MIB

**Standalone Management Features**
- Auto-Channel Selection
- Wireless STA (Client) Connection List
- Guest Network
- Fast Roaming (802.11k & 802.11r)
- Pre-Authentication (802.11i, 802.11x)
- PMK Caching (802.11i)
## Technical Specifications

### Standalone Management Features
- Band Steering
- Traffic Shaping
- RSSI Threshold
- VLANs for Access Point - Multiple SSIDs
- Backup/Restore Settings
- Auto Reboot
- E-Mail Alert

### Wireless Management Features (with ezMaster & Neutron Switch)
- Access Point Auto Discovery and Provisioning
- Access Point Auto IP Assignment
- Access Point Group Management
- Remote Access Point Rebooting
- Access Point Device Name Editing
- Access Point Radio Settings
- Fast Roaming (802.11k & 802.11r)
- Pre-Authentication (802.11i, 802.11x)
- PMK Caching (802.11i)
- RSSI Threshold
- Access Point Client Limiting
- Client Fingerprinting
- Access Point VLAN Management
- Secured Guest Network
- Captive Portal
- Access Point Status Monitoring
- Rogue Access Point Detection
- Wireless Client Monitoring
- Background Scanning
- Auto-Transmit Power
- Auto-Channel
- Email Alert
- Wireless Traffic & Usage Statistics
- Real-Time Throughput Monitoring
- Smartsync Redundancy
- Visual Topology View
- Floor Plan View
- Map View
- Wireless Coverage Display
- Secure Control Messaging (SSL Certificate)
- Local MAC Address Database
- Remote MAC Address Database (RADIUS)
- Unified Configuration Import/Export
- Bulk Firmware Upgrade Capability
- One-Click Update
- Intelligent Diagnostics
- Kick/Ban Clients
- Wi-Fi Scheduler
- Auto Reboot

### Configuration
- Web Interface (HTTP)
- CLI (Telnet)

### Security
- WEP Encryption (64/128/152 bit)
- WPA/WPA2 Enterprise (PSK using TKIP or AES)
- Hide SSID in Beacons
- MAC Address Filteri, Up to 50 MACs per SSID
- SSH Support
- Client Isolation
- QoS (Quality of Service)
  - IEEE 802.11e
  - WMA (Wireless Multimedia)

### Supporting Protocol
- IPv4, TCP, UDP, ICMP, NTP, DNS, DHCP, FTP, HTTP, UPnP, NFS/Samba Client, QoS/DSCP, RTP, RTSP, 3GPP, PPPoE, Time Zone Management

### ONVIF Compatible (Profile S)

### Alarm & Event/Recording
- Event Trigger
  - Motion/Tamper/Audio Detection

### Event Notification
- Email/Push Notifications

### Event Actions
- File Upload to NFS/SAMBA/FTP/SMT/Local SD Card/EnGenius Cloud & Play Audio
- EnGenius Simple Smart Recording (Only for EnGenius Cloud Series Routers/Gateways)

### Video Buffer
- 5-Seconds Pre-Alarm & Post-Alarm

### Video Playback
- PC/iPhone®/Android™ via EnViewer App

### Schedule Recording

### Viewing System Requirements

### Operating System
- Microsoft* Windows* XP/2000/2003/Vista/7/8/10

### Video Management Software
- Microsoft Windows XP/2000/2003/Vista/7/8/10

### EnViewer Mobile APP
- iOS/Android Devices

### Live Viewing for Up to 5 Clients

### Temperature Range
- Operating: 32°F to 122°F, 0°C to 50°C

### Humidity (non-condensing)
- Operating: 80% or less
- Storage: 80% or less

### Device Dimensions & Weights:
- Weight: 1.11 lbs. (503.4 g)
- Diameter: 5.27" (134 mm)
- Height: 3.81" (97 mm)

### Package Contents
- 12V/1.5A Power Adapter
- Mounting Bracket
- Mounting Screw Set
- T-Rail Mounting Kit
- RJ45 Ethernet Cable
- Quick Installation Guide

### Certifications
- FCC, IC, CE

### Warranty
- 1-Year Standard

### Operating System
- Microsoft* Windows* XP/2000/2003/Vista/7/8

### EnViewer Mobile APP
- iOS/Android Devices

### Live Viewing for Up to 5 Clients

### Temperature Range
- Operating: 32°F to 122°F, 0°C to 50°C

### Humidity (non-condensing)
- Operating: 80% or less
- Storage: 80% or less

### Device Dimensions & Weights:
- Weight: 1.11 lbs. (503.4 g)
- Diameter: 5.27" (134 mm)
- Height: 3.81" (97 mm)

### Package Contents
- 12V/1.5A Power Adapter
- Mounting Bracket
- Mounting Screw Set
- T-Rail Mounting Kit
- RJ45 Ethernet Cable
- Quick Installation Guide

### Certifications
- FCC, IC, CE

### Warranty
- 1-Year Standard