

EL-N Series PTP Wireless Mesh Network System



- Dedicated to Outdoor Wireless Surveillance Transmission Backhaul System
- Large Cities and Vast Range of Wireless Transmission Mesh Backhaul System
- Import point to point wired network transmission technology
- Point to Point Mesh network transmission system
- Automatic detection loop and break & Auto Repair Connection
- IGMP broadcast packet /network storm resolve technical



Model:

EL-N-1

EL-N-2

EL-N-3

- In wireless transmission, import point to point wired network transmission technology design
- Support Frequency 2.3GHz ~ 2.7GHz / 4.9GHz ~ 6.1GHz
- Point to point wired network technology, single module link of transmission of TCP packets 200Mbps bandwidth
- Design Point to Point Mesh network technology, after the series 8-hop wireless and TCP bandwidth is still up to 150Mbps; after 12 hop wireless series is still up to 140Mbps bandwidth
- Ultra-low latency real transmission response, even after 10 times of the relay platform, the system can still maintain a 15ms response time delay following

- Point to point wireless series technology, can easily achieve system expansion extended network, introducing Mesh multipath network technology, a multi-path redundancy connection mechanism
- Point to Point Wireless Mesh Network multipath, can automatically maintain multiple path redundancy while automatically avoiding the formation of bad network loop status
- Designed with a high-performance Multicast / Broadcast transmission characteristics, can greatly enhance the video multicast or broadcast efficiency, increase related applications.
- EL-N series support the maximum number of hops 250 hops (system design must also consider the use of hops, transmission delay and overall performance).
- EL-N parameter setting -- Extra Cost, combined with the design of wisdom and humanity, which allows users to optionally specify a transmission path and redundant path.
- EL-N-specific communication can block the other's illegal attempt to wireless connectivity; you can enable high-security AES wireless encryption to prevent the wireless data being intercepted monitor and steal.

Product Highlights

➤ High Capacity / Low Latency

Simply design for purely PTP applications. Remove the useless features and protocol for PTMP applications and hotspot coverage to improve the throughput capacity and latency performance.

➤ Robust Design for Harsh Environment

For complete outdoor applications, radio can balance the internal pressure itself automatically, complies with IP-68 water resistant standard and IEC61000-4-5 surge protection standard.

➤ Import point to point wired network transmission technology, with 100% completely replace physical characteristics of the cable network



EL-N series products include EL-N-1 single-radio, EL-N-2 dual-radio and EL-N-3 triple-radio, three models, with high efficiency, high stability, 100% completely replace the physical cable network the characteristics, the Mesh node and node connection by point to point wireless connection of radio frequency, you can quickly set up wireless relay jumper in series to extend the range of applications.

➤ **Special design Mesh multipath network mechanisms to enable wireless communications link to upgrade redundancy and stability**

Point to point wireless transmission network system tandem formed based on introducing unique multipath Mesh network technology, to achieve redundancy and automatic wireless network system to avoid the formation of bad network circuit state function, so the operating system is more stable wireless transmission

➤ **Designed for high-efficiency multi-packet transmission and broadcast packets**

EL-N Series multi-point packet with a broadcast packet transmission for surveillance cameras to provide higher transmission efficiency solutions & import IGMP Snooping protocol technology to improve the efficiency of IP multimedia streaming.

➤ **Deploying have extensions extending wireless Mesh network structure architecture**

Design Point to Point Mesh network series technology, can easily expand and extend network reach, after eight hop wireless series, the TCP bandwidth is still up to 150Mbps; after 12 hop wireless bandwidth series is still up to 140Mbps, can be applied transmission backbone using a wide range of cities or large bandwidth wireless mesh surveillance system.

➤ **Wireless transmission security and encryption**

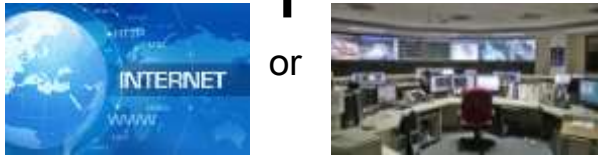
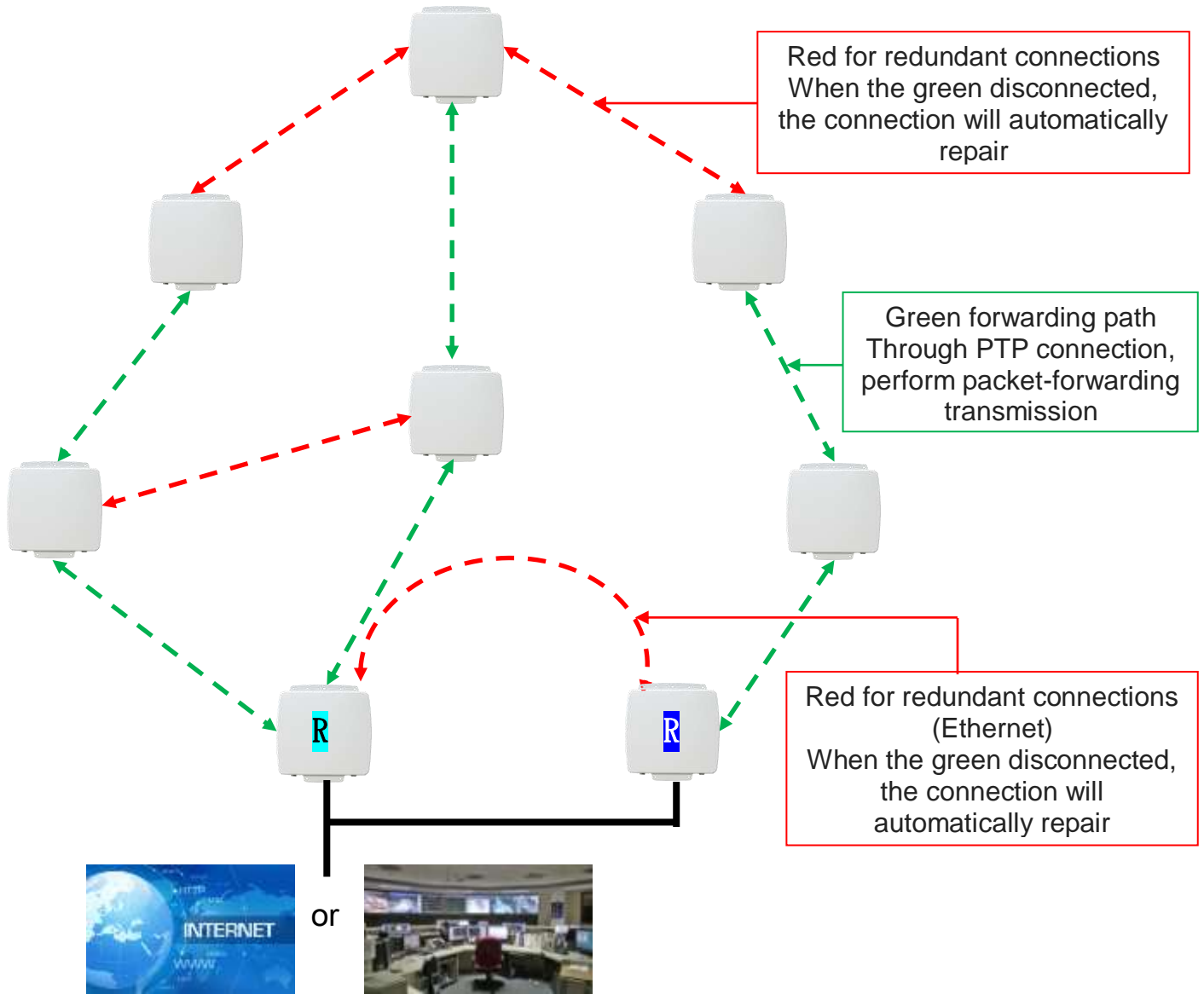
EL-N-specific communication can block the other's illegal attempt to wireless connectivity; you can enable high-security AES wireless encryption to prevent the wireless data being intercepted monitor and steal.

➤ **Wireless Signal Interference Makes Resistance Ability Excellent**

Support full RF module frequency band from 2.3~2.7GHz & 4.9~6.1GHz and greater use of the channel width, plus a specially designed proprietary tandem technology and Mesh wireless signal transmission pure point to point, will make radio signal interference ability more excellent performance.
(Default 5GHz 11a / n 2x2 MIMO mini PCI card)

Mesh multipath network system structure and application diagram

EL-N Mesh multi-path network system architecture diagram



Internet or center



General Node

Root / Slave Node

Root / Master Node

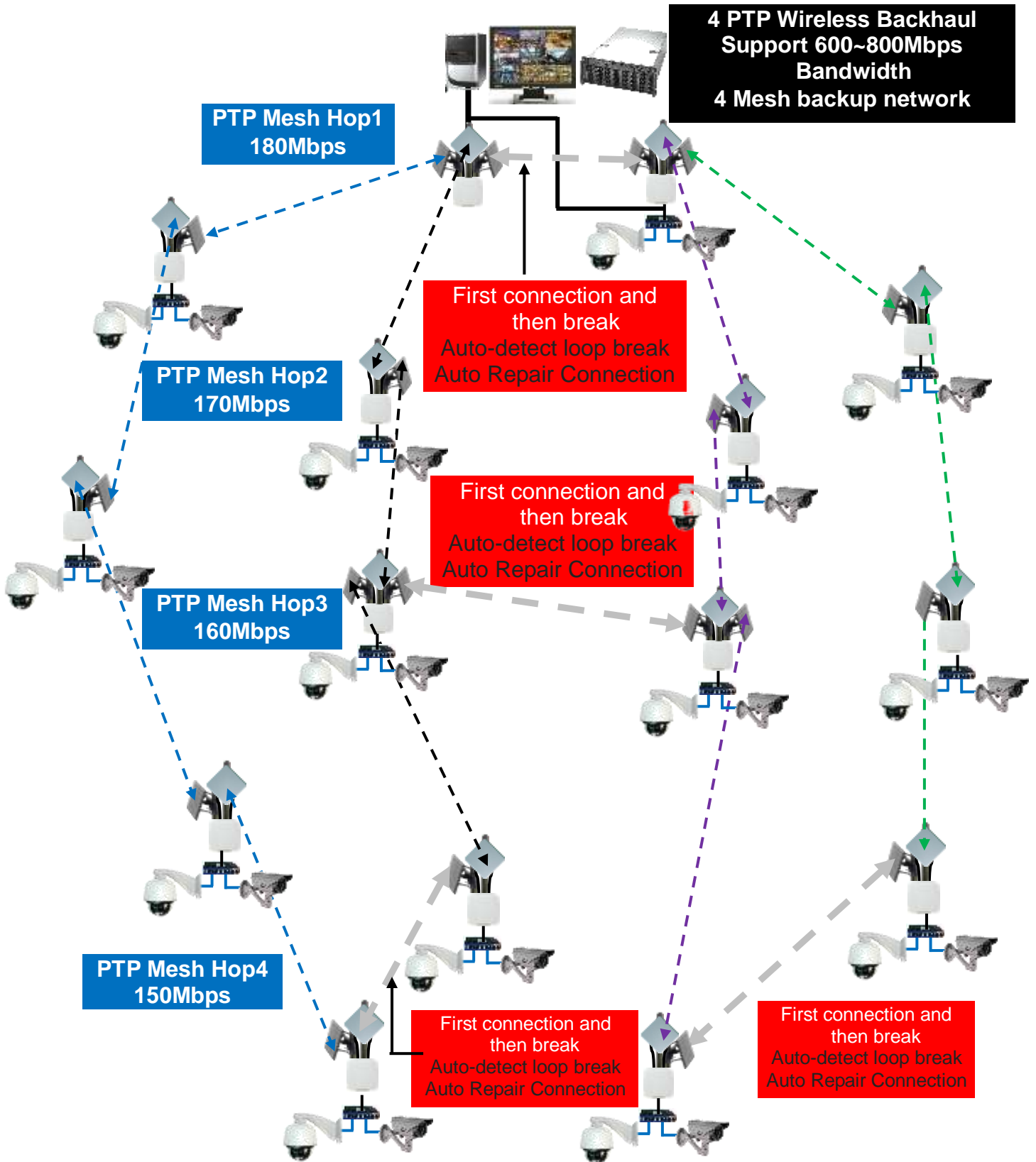
— Ethernet

← - - - → Forwarding Path

← - - - → Block / Backup Path

EL-N multipath of Mesh network architecture application diagram:

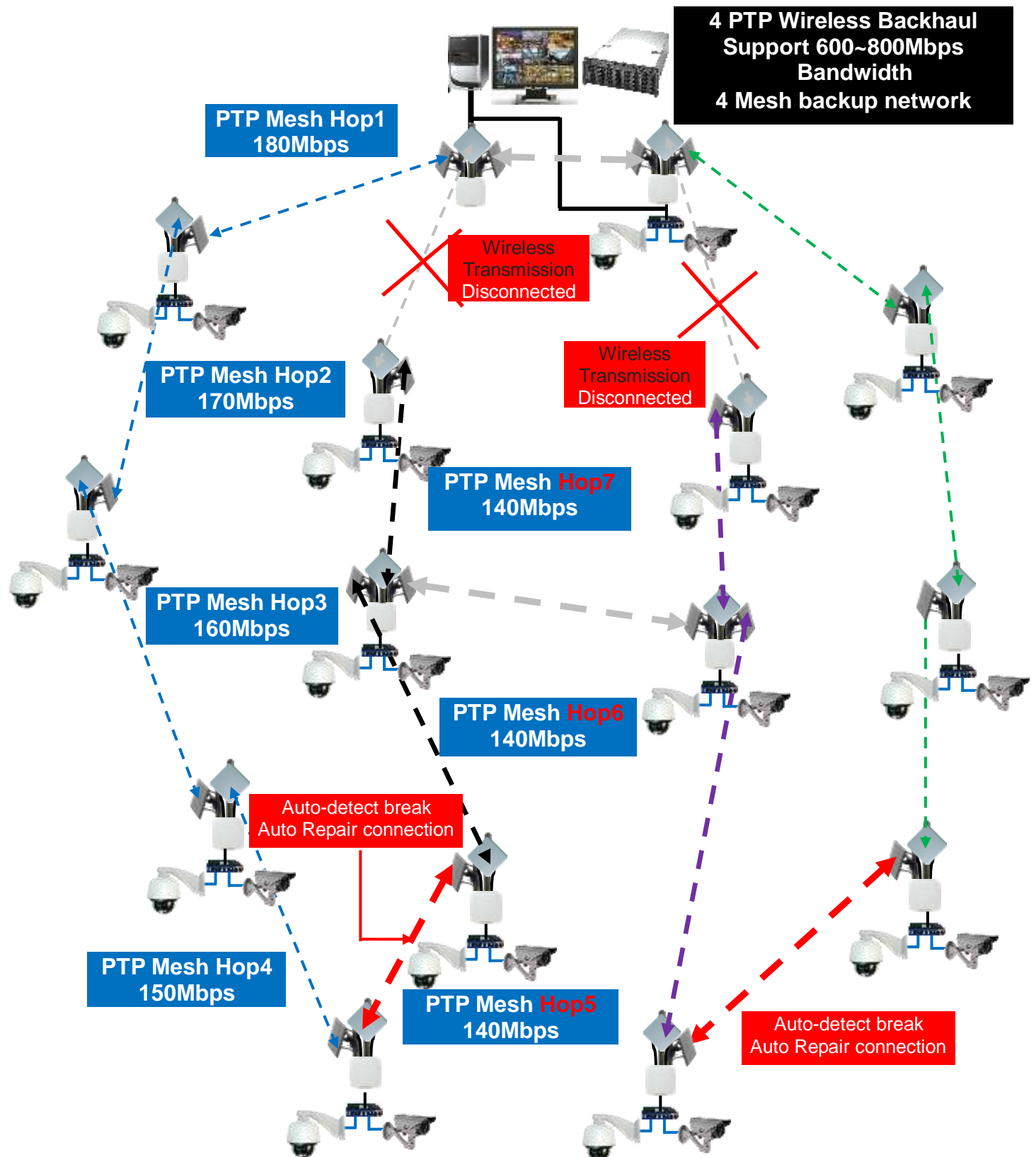
Wireless Mesh network structure extensible structure for backup system Wireless surveillance system applied to the big city transport



■ EL-N Mesh multipath network "after disconnection, automatic backup connection"

Application Diagram:

**Wireless Mesh network structure extensible structure for backup system
 Wireless surveillance system applied to the big city transport**





Product Specification

Key Components

Main Processor	Atheros AR7161 (680Mhz)
Wireless Chipset	Atheros AR9220 mini PCI, Support IEEE 802.11n a/g, 2T2R MIMO, 300Mbps
Switch Controller	Atheros AR8035
Flash Memory	16MBytes
SDRAM	128MBytes

Interfaces Specifications

Wireless RF Module	EP09-HB91 mini PCI, 802.11a/n 2 x 2 MIMO 300Mbps, Output power 26dBm. DNMA-H92 mini PCI, 802.11a/g/n dual band 2 x 2 MIMO 300Mbps, Output power 23dBm. (Optional)
Frequency	4.9~6.1GHz / (2.3~2.7GHz) (Default 5GHz 11a/n 2x2 MIMO mini PCI)
Bandwidth	10MHz / 20MHz / 40 MHz
Wireless Interface	EL-N-1 : 2 x N-type Female Connectors EL-N-2 : 4 x N-type Female Connectors EL-N-3 : 6 x N-type Female Connectors
Ethernet Interface	10/100/1000 Base-T RJ-45 port with M25 Calbe Gland

Index MCS	IEEE 802.11an /HT20				IEEE 802.11an /HT40			
	Data Rate (Mbps)		Output Power dBm	Rx Sensitivity	Data Rate (Mbps)		Output Power dBm	Rx Sensitivity
	GI=800ns	GI=400ns			GI=800ns	GI=400ns		
MCS8	13	14.4	24(±1.5)	-94 dBm	27	30	22(±1.5)	-90 dBm
MCS9	26	28.9	23(±1.5)	-92 dBm	54	60	22(±1.5)	-89 dBm
MCS10	39	43.3	22(±1.5)	-90 dBm	81	90	21(±1.5)	-87 dBm
MCS11	52	57.8	21(±1.5)	-87 dBm	108	120	20(±1.5)	-83 dBm
MCS12	78	86.7	20(±1.5)	-84 dBm	162	180	19(±1.5)	-80 dBm
MCS13	104	115.6	19(±1.5)	-80 dBm	216	240	18(±1.5)	-77 dBm
MCS14	117	130.3	18(±1.5)	-78 dBm	242	270	17(±1.5)	-75 dBm
MCS15	130	144.4	18(±1.5)	-76 dBm	270	300	17(±1.5)	-73 dBm



General Specs

Mesh Group ID type Mesh network, support the maximum number of hops for the 250 relay jump

Through Ethernet Extra Cost & Extra Cost to allows the user to optionally specify the transmission path and redundant path

PTP Mesh multi-path network, auto detects circuit loop connect to disconnect the loop link and when Fault disconnection will auto repair back up link

Fast Transparent Forwarding

IGMP Snooping -- IGMP (Internet Group Management Protocol)

VLAN / QoS Mapping

Wireless Security : AES 128 bits

Note: When using AES encryption, using 40MHz bandwidth performance is reduced by about 7 ~ 13Mbps,

Hardware Watch dog

Antenna Alignment : WEB GUI Local / Remote Information

Firmware Upgrade : Dual Images

Power requirements: supports 802.3af/at 48VDC PoE Passive 1A, support 1Gbps Ethernet bandwidth

Size: 260mm * 250mm * 80mm

Weight: EL-N-1/2/3 weight 1.8Kg / 1.9Kg / 2.0Kg, product packaging (including accessories) 3.7Kg, shipping cartons 4 box total is 16Kg

Operation temperature : - 40°C ~ + 70°C

Humidity : 0% ~ 95% Non-condensing

Storage temperature range : - 40°C ~ + 85°C

Waterproof and dustproof : IP 68

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Package Contents

1. IO-Power Outdoor EL-N Series PTP Wireless Mesh Network System (IOP-EL-N-1/2/3 Series)
2. PoE Power Injector
3. Power Adapter
4. AC Power Code
5. Mounting Kit & Screw

If any of the above items are missing, please contact your reseller.