

# Pakedge Switches

Pakedge switches are designed to meet the most demanding needs of high bandwidth, low latency applications found in high performance commercial and residential A/V networks. Built with enterprise grade components and encased in solid, industrial quality housing, Pakedge switches provide seamless, scalable, and reliable network connectivity. No matter what your network needs are, there is a Pakedge switch for you.



Enterprise Performance

Designed for A/V Applications

Enhanced Security

Advanced Traffic Management

Intuitive GUI

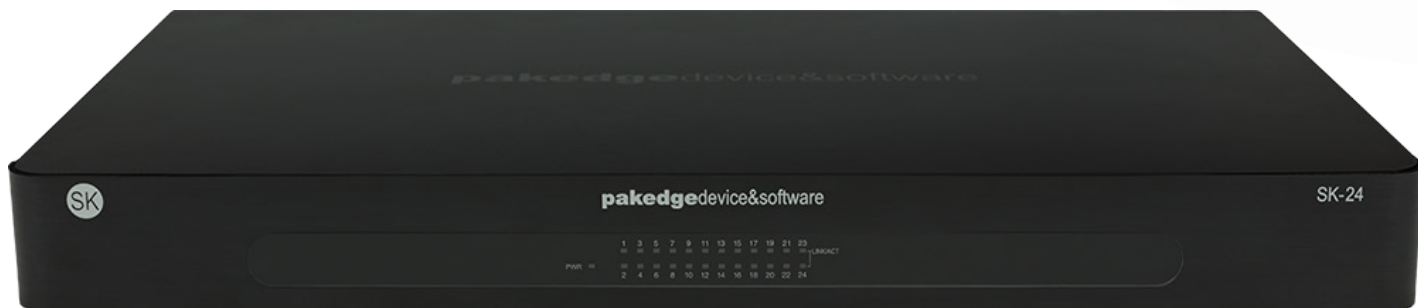
# Switch Families

## SE-Series



Unmanaged Switch

## SK-Series



Managed Switch

## SX-Series



Managed Switch

# SE-Series

Pakedge SE-Series unmanaged switches are a staple in networks of all sizes, offered in various port counts, port orientations and PoE models. The SE-Series combine plug and play ports with gigabit switching performance, Pakedge reliability, and sleek AV style aesthetics.

They are ideal for use in smaller and simple networks that don't require advanced traffic management features, such as traffic segmentation, priority or Pakedge Zones™. SE-Series switches can also be used as an "edge" device downstream of a managed switch. This allows the managed switch to segment traffic while the unmanaged switch provides extra plug and play ports directly at the point of use.



## Special Port Features (Select Models)

- Black Stealth Ports™
- Fiber Ports
- Powered by PoE
- PoE/PoE+ Ports
- PoE Passthrough

## When to use an SE-Series Switch

- Small networks with few devices that don't require advanced bandwidth management
- Devices that require Power over Ethernet without the need for advanced management
- At the edge or point of use - networked devices and a managed switch further upstream.



Auto Detect PoE/PoE+ devices



Auto Detect Port Speeds



Plug and Play Ports



Fanless thermal design



High throughput gigabit plug and play ports designed for AV streaming.



Non shared Fiber ports on select switches



Front and rear port orientation models.

## Compare Models

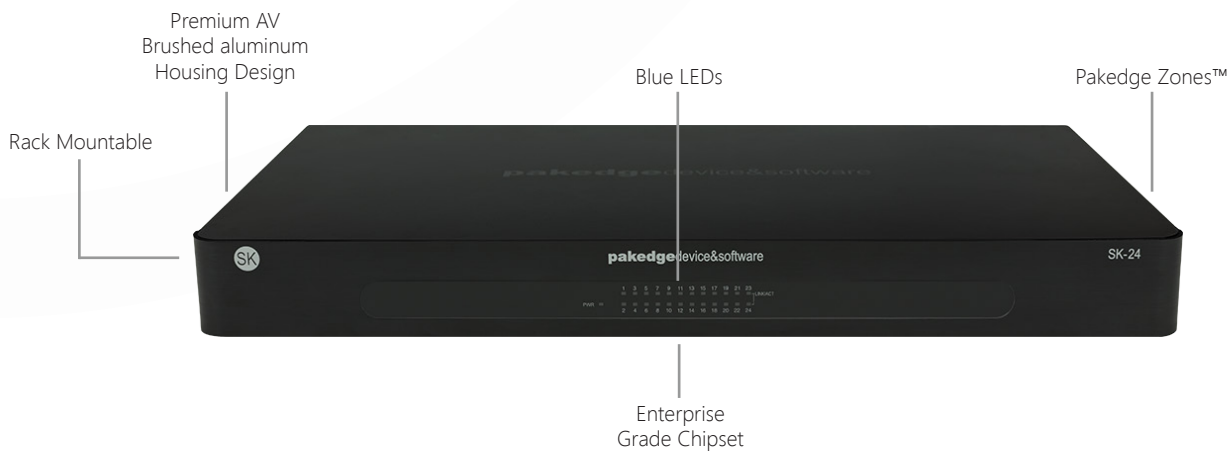
|                  | Ethernet Ports | PoE Ports | PoE+ Ports | Powered by PoE | PoE Passthrough | Fiber Ports | Port Orientation | Rack Mountable |
|------------------|----------------|-----------|------------|----------------|-----------------|-------------|------------------|----------------|
| <b>SE Series</b> |                |           |            |                |                 |             |                  |                |
| SE-5-EP          | 5              | -         | -          | ✓              | -               | -           | Rear Ports       | -              |
| SE-5P2-EP-A      | 5              | 2         | -          | ✓              | ✓               | -           | Rear Ports       | -              |
| SE-8-EP          | 8              | -         | -          | ✓              | -               | -           | Rear Ports       | -              |
| SE-8P2-EP-A      | 8              | 2/4*      | -          | -              | ✓               | -           | Rear Ports       | -              |
| SE-18            | 16             | -         | -          | -              | -               | 2           | Rear Ports       | ✓              |
| SE-26            | 24             | -         | -          | -              | -               | 2           | Rear Ports       | ✓              |
| S20fe            | 16             | -         | -          | -              | -               | 4           | Front Ports      | ✓              |
| S28fe            | 24             | -         | -          | -              | -               | 4           | Front Ports      | ✓              |
| SE-8P4           | 8              | 4         | 2          | -              | -               | -           | Rear Ports       | ✓              |
| SE-8P            | 8              | 8         | 4          | -              | -               | -           | Rear Ports       | ✓              |
| S8P4fe           | 8              | 4         | 2          | -              | -               | -           | Front Ports      | ✓              |

\* 4 PoE ports with AC adapter only

# SK-Series

Pakedge SK-Series value line managed switches provide advanced traffic management capabilities for high bandwidth, low latency AV networks. Incorporating Pakedge technologies such as TruStream™ for traffic prioritization and quality assurance and Pakedge Zones™ for segmentation of diverse multimedia traffic, these switches are an integral part of the Pakedge Connect+ Platform and are ideal for high performance networks small and large.

The SK-Series is designed to provide the features & functionality of an enterprise grade switch for budget-conscious installations. It incorporates a high performance enterprise grade chipset, an efficient fanless thermal design, and intuitive setup menus.



Fully Configurable Switch



High throughput gigabit plug and play ports designed for AV streaming.



Fanless thermal design



Front and rear port orientation models.



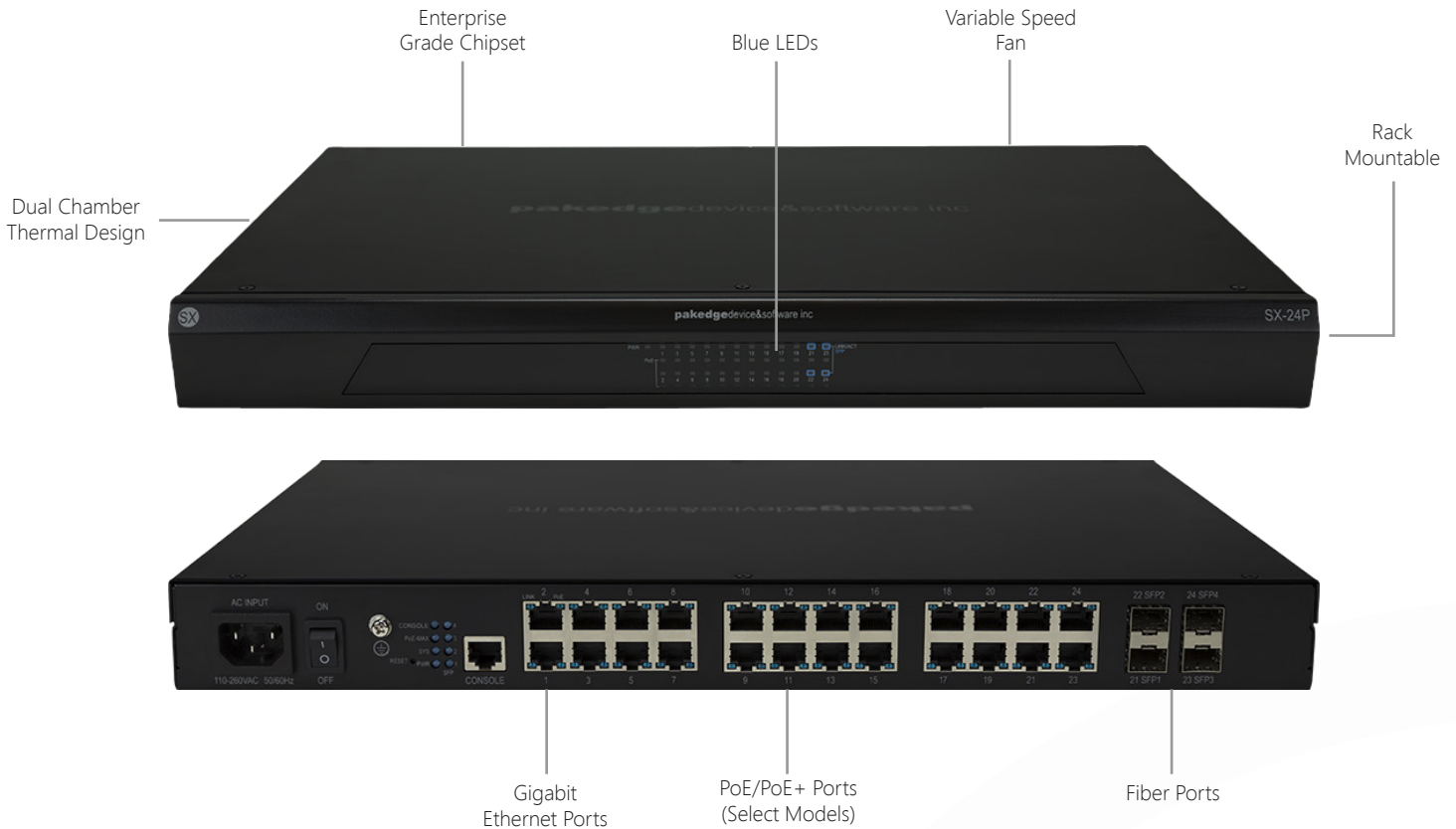
Pakedge Zones for high quality A/V traffic management.



Connect+ Certified

# SX-Series

SX-Series switches provide uncompromising top of the line performance with state of the art features. Designed specifically for demanding network systems, SX-Series switches incorporate high performance enterprise grade switch on a chip (SoC) cores, Pakedge Zone Wizard and Zone Template setup tools, and a high efficiency thermal management system incorporating dual chambers and ultra-quiet variable speed fans. Ideal for installations in demanding, noise sensitive environments like home theaters or conference rooms.



Fully Configurable Switch



High throughput gigabit plug and play ports designed for AV streaming.



Pakedge Zones for high quality A/V traffic management.



Auto Detect Port Speeds



Auto Detect devices PoE/PoE+



Non shared Fiber ports on select switches



Zone Wizard



Connect+ Certified

## When to use an SK-Series Switch

- Small to medium networks with high bandwidth, low latency devices and applications (streaming video, VOIP, high resolution audio, multi-zone audio)
- Networks requiring traffic segmentation for performance (Networks that require QoS or Pakedge Zones™ to segment network traffic.)
- Network security requirements that necessitate the isolation of application specific traffic (automation systems, IOT, BYOD wireless)
- Budget constrained projects

## When to use an SX-Series Switch

- Medium to large networks with large numbers of high bandwidth, low latency applications (streaming video, VOIP, high resolution audio, multi-zone audio)
- Networks requiring the highest levels of performance and reliability
- Networks requiring traffic segmentation for performance (Networks that require QoS or Pakedge Zones™ to segment network traffic.)
- Network security requirements that necessitate the isolation of application specific traffic (automation systems, IOT, BYOD wireless, IP security cameras)
- Network devices requiring PoE as a power source (touch panels, VOIP devices, access points, etc.)
- Large network projects that require use of advanced setup tools for rapid deployment

## Compare Models

|                  | Ethernet Ports | PoE Ports | PoE+ Ports | Powered by PoE | Fiber Ports | Port Orientation |
|------------------|----------------|-----------|------------|----------------|-------------|------------------|
| <b>SK Series</b> |                |           |            |                |             |                  |
| S8Mpd            | 8              | -         | -          | ✓              | 1           | Rear Ports       |
| SK-24            | 24             | -         | -          | -              | 2           | Rear Ports       |
| SK-24F           | 24             | -         | -          | -              | 2           | Front Ports      |
| <b>SX Series</b> |                |           |            |                |             |                  |
| SX-24P8          | 24             | 8         | 4          | -              | 4 Combo     | Rear Ports       |
| SX-24P16         | 24             | 16        | 12         | -              | 4 Combo     | Rear Ports       |
| SX-24P           | 24             | 24        | 12         | -              | 4 Combo     | Rear Ports       |
| S8Hav            | 8              | 8         | 4          | -              | 4 Combp     | Rear Ports       |
| S24av            | 24             | -         | -          | -              | 2 Combo     | Rear Ports       |
| S24F             | 24             | -         | -          | -              | 2 Combo     | Front Ports      |
| S24Hf            | 24             | 24        | 12         | -              | 4 Combo     | Front Ports      |

# Summary

|                  | Ethernet Ports | PoE Innovations |            |                |                 | Ports       |                  | VLANs |                |             | Thermal Management |              |         | TruStream™ | Rack Mountable |
|------------------|----------------|-----------------|------------|----------------|-----------------|-------------|------------------|-------|----------------|-------------|--------------------|--------------|---------|------------|----------------|
|                  |                | PoE Ports       | PoE+ Ports | Powered by PoE | PoE Passthrough | Fiber Ports | Port Orientation | VLANs | Pakedge Zones™ | Zone Wizard | Quiet Fan          | Variable Fan | Fanless |            |                |
| <b>SE Series</b> |                |                 |            |                |                 |             |                  |       |                |             |                    |              |         |            |                |
| SE-5-EP          | 5              | -               | -          | ✓              | -               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | -              |
| SE-5P2-EP-A      | 5              | 2               | -          | ✓              | ✓               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | -              |
| SE-8-EP          | 8              | -               | -          | ✓              | -               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | -              |
| SE-8P2-EP-A      | 8              | 2/4*            | -          | -              | ✓               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | -              |
| SE-18            | 16             | -               | -          | -              | -               | 2           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| SE-26            | 24             | -               | -          | -              | -               | 2           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| S20fe            | 16             | -               | -          | -              | -               | 4           | Front Ports      | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| S28fe            | 24             | -               | -          | -              | -               | 4           | Front Ports      | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| SE-8P4           | 8              | 4               | 2          | -              | -               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| SE-8P            | 8              | 8               | 4          | -              | -               | -           | Rear Ports       | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| S8P4fe           | 8              | 4               | 2          | -              | -               | -           | Front Ports      | -     | -              | -           | -                  | -            | ✓       | -          | ✓              |
| <b>SK Series</b> |                |                 |            |                |                 |             |                  |       |                |             |                    |              |         |            |                |
| S8Mpd            | 8              | -               | -          | ✓              | -               | 1           | Rear Ports       | ✓     | -              | -           | -                  | -            | ✓       | ✓          | ✓              |
| SK-24            | 24             | -               | -          | -              | -               | 2           | Rear Ports       | ✓     | ✓              | -           | -                  | -            | ✓       | ✓          | ✓              |
| SK-24F           | 24             | -               | -          | -              | -               | 2           | Front Ports      | ✓     | ✓              | -           | -                  | -            | ✓       | ✓          | ✓              |
| <b>SX Series</b> |                |                 |            |                |                 |             |                  |       |                |             |                    |              |         |            |                |
| SX-24P8          | 24             | 8               | 4          | -              | -               | 4 Combo     | Rear Ports       | ✓     | ✓              | ✓           | -                  | -            | ✓       | ✓+         | ✓              |
| SX-24P16         | 24             | 16              | 12         | -              | -               | 4 Combo     | Rear Ports       | ✓     | ✓              | ✓           | -                  | ✓            | -       | ✓+         | ✓              |
| SX-24P           | 24             | 24              | 12         | -              | -               | 4 Combo     | Rear Ports       | ✓     | ✓              | ✓           | -                  | ✓            | -       | ✓+         | ✓              |
| SX-24            | 24             | -               | -          | -              | -               | 4 Combo     | Rear Ports       | ✓     | ✓              | ✓           | -                  | -            | ✓       | ✓          | ✓              |
| S24F             | 24             | -               | -          | -              | -               | 2 Combo     | Front Ports      | ✓     | -              | -           | -                  | -            | ✓       | ✓          | ✓              |
| S24Hf            | 24             | 24              | 12         | -              | -               | 4 Combo     | Front Ports      | ✓     | -              | -           | ✓                  | -            | -       | ✓          | ✓              |

## Notes

✓+ - This switch has IGMP Query in addition to IGMP snooping.

Combo Ports - These fiber ports are shared combo ports, meaning that when used, they take the place of one of the RJ-45 ports on the switch.

\* 4 PoE ports with AC adapter only



# SE-Series Specifications

| Product Name                    | SE-5-EP  | SE-5-P2-EP-A       | SE-8P2-EP-A        | SE-8-EP            | SE-18               | SE-26               | S20fe              | S28fe              | SE-8P4              | SE-8P               | S8P4fe              |
|---------------------------------|--|--------------------|--------------------|--------------------|---------------------|---------------------|--------------------|--------------------|---------------------|---------------------|---------------------|
| <b>Powered By PoE</b>           | ✓  | ✓                  | -                  | ✓                  | -                   | -                   | -                  | -                  | -                   | -                   | -                   |
| <b>Port Orientation</b>         | Rear Facing  | Rear Facing        | Rear Facing        | Rear Facing        | Rear Facing         | Rear Facing         | Front Facing       | Front Facing       | Rear Facing         | Rear Facing         | Front Facing        |
| <b>Port Density</b>             |  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Total Ports</b>              | 5  | 5                  | 8                  | 8                  | 16                  | 24                  | 20                 | 28                 | 8                   | 8                   | 8                   |
| <b>PoE</b>                      | -  | 2                  | 2/4*               | -                  | -                   | -                   | -                  | -                  | 4                   | 8                   | 4                   |
| <b>PoE+</b>                     | -  | -                  | -                  | -                  | -                   | -                   | -                  | -                  | 2                   | 4                   | 2                   |
| <b>SFP Ports</b>                | -  | -                  | -                  | -                  | 2                   | 2                   | 4                  | 4                  | -                   | -                   | -                   |
| <b>Performance</b>              |  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>PoE Budget</b>               | -  | 12.95W by PoE+     | 12.95W by PoE+     | -                  | -                   | -                   | -                  | -                  | 63W                 | 136W                | 63W                 |
| <b>Fan</b>                      | -  | -                  | -                  | -                  | -                   | -                   | -                  | -                  | -                   | -                   | -                   |
| <b>Switch Power Consumption</b> | 2.9W   | 6.7W               | 6.7W               | 4.5W               | 11W                 | 15.5W               | -                  | -                  | 12W                 | 14W                 | 12W                 |
| <b>Switching Capacity</b>       | 10Gbps   | 10Gbps             | 16Gbps             | 16Gbps             | 36Gbps              | 52Gbps              | -                  | -                  | 16Gbps              | 16Gbps              | 16Gbps              |
| <b>Packet Buffer</b>            | 832Kbits   | 832Kbits           | 832Kbits           | 832Kbits           | 3.5Mbits            | 3.5Mbits            | 3.5Mbit            | 3.5Mbit            | 128Kbits            | 128Kbits            | 128Kbits            |
| <b>Throughput</b>               | 7.4Mpps  | 7.4Mpps            | 11.9Mpps           | 11.9Mpps           | 26.7Mpps            | 38.6Mpps            |                    |                    | 11.9Mpps            | 11.9Mpps            |                     |
| <b>MAC Table</b>                | 1K   | 1K                 | 1K                 | 1K                 | 16K                 | 16K                 | 16K                | 16K                | 8K                  | 8K                  | 8K                  |
| <b>Jumbo Frame</b>              | 9K   |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Link Agg Max</b>             | -  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Max Multicast</b>            | -  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>QoS Queues</b>               | -  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Power</b>                    |  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Input Voltage</b>            | 100-240V AC, 50/60Hz   |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Physical Specifications</b>  |  |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Dimensions</b>               | 5.86 x 3.30 x 1.02   | 5.86 x 3.30 x 1.02 | 7.59 x 3.30 x 1.02 | 7.59 x 3.30 x 1.02 | 12.68 x 7.30 x 1.73 | 12.68 x 7.30 x 1.73 | 2 x 17 x 5         | 2 x 17 x 5         | 12.68 x 7.30 x 1.73 | 12.68 x 7.30 x 1.73 | 10.46 x 7.26 x 1.70 |
| <b>Weight</b>                   | 1.2lbs   | 1.2lbs             | 1.5                | 1.5lbs             | 4.3lbs              | 4.3lbs              | 2lbs               | 2.3lbs             | 4.3lbs              | 4.3lbs              | 3.3lbs              |
| <b>Operating temperature</b>    | 0~40°C (32°~104°F)   | 0~40°C (32°~104°F) | 0~40°C (32°~104°F) | 0~40°C (32°~104°F) | 0~40°C (32°~104°F)  | 0~40°C (32°~104°F)  | 0~40°C (32°~104°F) | 0~40°C (32°~104°F) | 0~40°C (32°~104°F)  | 0~40°C (32°~104°F)  | 0~40°C (32°~104°F)  |
| <b>Storage temperature</b>      | -40 ~ 70° (-40°~158°F)   |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Operating Humidity</b>       | 10% - 90% non-condensing   |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Certifications</b>           | FCC/CE, RoHS   |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |
| <b>Standards</b>                | IEEE802.3 10BASE-T, IEEE802.3u, 100BASE-TX, IEEE802.3x full-duplex flow control, IEEE802.3ab, 1000BASE-T |                    |                    |                    |                     |                     |                    |                    |                     |                     |                     |

# SK-Series Specifications

| Product Name                    | S8Mpd  | SK-24                  | SK-24F                 |
|---------------------------------|--|------------------------|------------------------|
| <b>Powered By PoE</b>           | ✓  | -                      | -                      |
| <b>Port Orientation</b>         | Rear Facing  | Rear Facing            | Front Facing           |
| <b>Port Density</b>             |  |                        |                        |
| <b>Total Ports</b>              | 8  | 24                     | 24                     |
| <b>PoE</b>                      | -  | -                      | -                      |
| <b>PoE+</b>                     | -  | -                      | -                      |
| <b>SFP Ports</b>                | 1  | 2                      | 2                      |
| <b>Performance</b>              |  |                        |                        |
| <b>PoE Budget</b>               | -  | -                      | -                      |
| <b>Fan</b>                      | -  | -                      | -                      |
| <b>Switch Power Consumption</b> | 38.5W  | 20W                    | 20W                    |
| <b>Switching Capacity</b>       | 16Gbps   | 52Gbps                 | 52Gbps                 |
| <b>Packet Buffer</b>            | 1.5Mbits   | 64Kbits                | 64Kbits                |
| <b>Throughput</b>               | 11.5Mpps   | 38.6Mpps               | 38.6Mpps               |
| <b>MAC Table</b>                | 8K   | 16K                    | 16K                    |
| <b>Jumbo Frame</b>              | 9K   | 10K                    | 10K                    |
| <b>Link Agg Max</b>             | 6  |                        |                        |
| <b>Max Multicast</b>            | 256  |                        |                        |
| <b>QoS Queues</b>               | 4  |                        |                        |
| <b>Power</b>                    |  |                        |                        |
| <b>Input Voltage</b>            | 100-240V AC,<br>50/60Hz  |                        |                        |
| <b>Physical Specifications</b>  |  |                        |                        |
| <b>Dimensions</b>               | 8.52 x 5.28 x<br>1.23  | 17.36 x 9.99<br>x 1.73 | 17.36 x 8.66<br>x 1.73 |
| <b>Weight</b>                   | 4lbs   | 6.7lbs                 | 9.6lbs                 |
| <b>Operating temperature</b>    |  |                        |                        |
| <b>Operating temperature</b>    | 0~40°C<br>(32°~104°F)  |                        |                        |
| <b>Storage temperature</b>      |  |                        |                        |
| <b>Storage temperature</b>      | -40 ~ 70°<br>(-40°~158°F)  |                        |                        |
| <b>Operating Humidity</b>       |  |                        |                        |
| <b>Operating Humidity</b>       | 10% - 90% non-<br>condensing   |                        |                        |
| <b>Certifications</b>           |  |                        |                        |
| <b>Certifications</b>           | FCC/CE, RoHS   |                        |                        |
| <b>Standards</b>                |  |                        |                        |
| <b>Standards</b>                | IEEE802.3 10BASE-T, IEEE802.3u, 100BASE-TX,<br>IEEE802.3x full-duplex flow control, IEEE802.3ab,<br>1000BASE-T |                        |                        |

# SX-Series Specifications

| Product Name                    | SX-24  | S24F                    | S24Hf                 | SX-24P8                 | SX-24P16                   | SX-24P                     |
|---------------------------------|--|-------------------------|-----------------------|-------------------------|----------------------------|----------------------------|
| <b>Powered By PoE</b>           | -  | -                       | -                     | -                       | -                          | -                          |
| <b>Port Orientation</b>         | Rear Facing  | Front Facing            | Front Facing          | Rear Facing             | Rear Facing                | Rear Facing                |
| <b>Port Density</b>             |  |                         |                       |                         |                            |                            |
| <b>Total Ports</b>              | 24   | 24                      | 24                    | 24                      | 24                         | 24                         |
| <b>PoE</b>                      | -  | -                       | 24                    | 8                       | 16                         | 24                         |
| <b>PoE+</b>                     | -  | -                       | 12                    | 4                       | 12                         | 12                         |
| <b>SFP Ports</b>                | 4  | 2                       | 4                     | 4                       | 4                          | 4                          |
| <b>Performance</b>              |  |                         |                       |                         |                            |                            |
| <b>PoE Budget</b>               | -  | -                       | 400W                  | 123W                    | 370W                       | 370W                       |
| <b>Fan</b>                      | -  | -                       | ✓                     | -                       | Variable Speed Quiet       | Variable Speed Quiet       |
| <b>Switch Power Consumption</b> | 30W  | 30W                     | 450W*                 | 141W                    | 388W                       | 388W                       |
| <b>Switching Capacity</b>       | 64Gbps   | 64Gbps                  | 64Gbps                | 56Gbps                  | 56Gbps                     | 56Gbps                     |
| <b>Packet Buffer</b>            | 4Mbits   | 4Mbits                  | 4Mbits                | 4Mbits                  | 4Mbits                     | 4Mbits                     |
| <b>Throughput</b>               | 35.7Mpps   | 35.7Mpps                | 35.7Mpps              | 35.7Mpps                | 35.7Mpps                   | 35.7Mpps                   |
| <b>MAC Table</b>                | 8K   |                         |                       |                         |                            |                            |
| <b>Jumbo Frame</b>              | 16K  | 16K                     | 16K                   | 9K                      | 9K                         | 9K                         |
| <b>Link Agg Max</b>             | 8  | 8                       | 8                     | 6                       | 6                          | 6                          |
| <b>Max Multicast</b>            | 256  |                         |                       |                         |                            |                            |
| <b>QoS Queues</b>               | 4  |                         |                       |                         |                            |                            |
| <b>Power</b>                    |  |                         |                       |                         |                            |                            |
| <b>Input Voltage</b>            | 100-240V AC,<br>50/60Hz  |                         |                       |                         |                            |                            |
| <b>Physical Specifications</b>  |  |                         |                       |                         |                            |                            |
| <b>Dimensions</b>               | 17.12 x 12.21<br>x 1.73  | 17.125 x 8.12<br>x 1.74 | 12.75 x 7.5 x<br>1.75 | 17.12 x 12.21<br>x 1.73 | 17.12 x 12.21<br>x 1.73    | 17.12 x 12.21<br>x 1.73    |
| <b>Weight</b>                   | 7.9lbs   | 6.7lbs                  | 11.5lbs               | 13lbs                   | 13lbs                      | 13lbs                      |
| <b>Operating Temperature</b>    |  |                         |                       |                         |                            |                            |
| <b>Operating Temperature</b>    | -  | -                       | 0~40°C<br>(32°~104°F) | 0~40°C<br>(32°~104°F)   | 0° ~ 40°C<br>(32° ~ 104°F) | 0° ~ 40°C<br>(32° ~ 104°F) |
| <b>Storage Temperature</b>      | -40 ~ 70°<br>(-40°~158°F)  |                         |                       |                         |                            |                            |
| <b>Operating Humidity</b>       | 10% - 90% non-condensing   |                         |                       |                         |                            |                            |
| <b>Certifications</b>           | FCC/CE, RoHS   |                         |                       |                         |                            |                            |
| <b>Standards</b>                | IEEE802.3 10BASE-T, IEEE802.3u, 100BASE-TX, IEEE802.3x full-duplex flow control, IEEE802.3ab, 1000BASE-T |                         |                       |                         |                            |                            |

## Warranty

Pakedge Device & Software offers a 3-year limited warranty. Pakedge Device & Software will repair or replace products that do not perform as specified within 3 years of the date of purchase due to a defect in materials, workmanship, or functionality.

# Switch Types

Pakedge switches are available in two types - Unmanaged & Managed

Pakedge unmanaged SE-Series switches are “plug and play” switches that require no configuration setup. They auto-discover connected devices, auto-detect network speeds and communication modes, and integrate into the network in seconds. Unmanaged switches are ideal for use in small networks with a limited number of devices that don't require a lot of bandwidth management, in a segment of a network downstream of a managed switch, or at the “edge” near the point of use of the device. Key benefits of unmanaged switches include ease of installation, and simple network expansion.

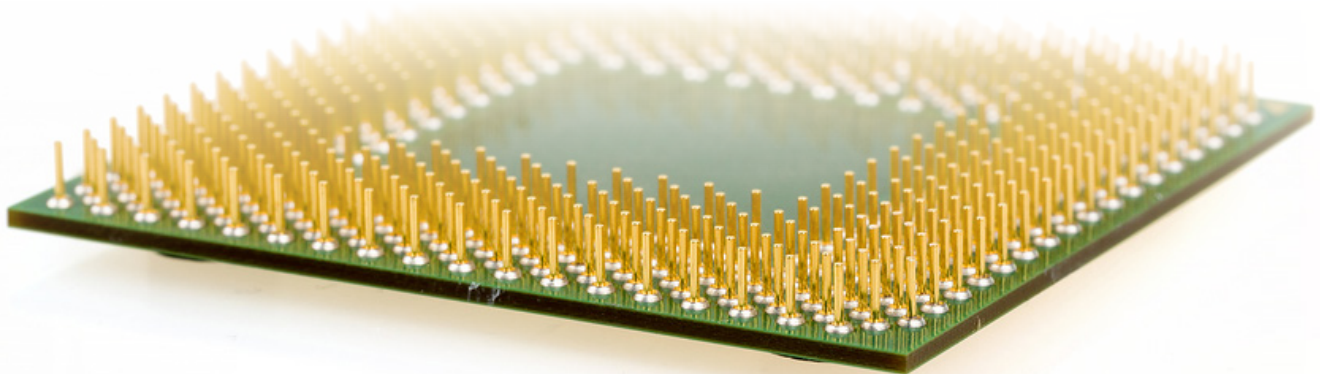
Pakedge managed SK and SX-Series switches are fully configurable to meet the unique needs of a specific network for maximum performance. These settings include bandwidth management settings, port settings, and security settings. Managed switches are ideal for networks, large or small, that have high bandwidth, low latency devices that compete against each other and require active bandwidth management for best performance. Key benefits include optimized performance tailored specifically to your network and the ability to scale and meet your network needs today and tomorrow.

## Key Switch Features

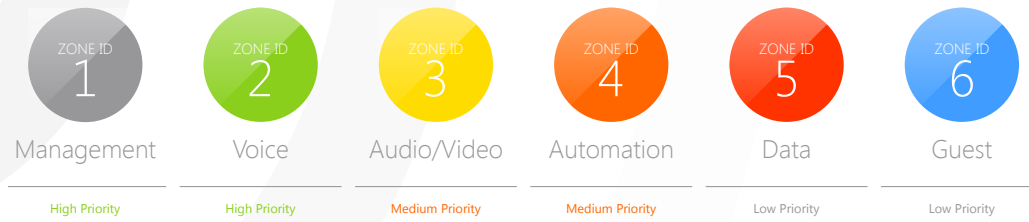
### Enterprise Chipset



High performance switches start with the core. The engines powering Pakedge switches are enterprise grade high performance processors using switch on a chip (SoC) technology. Network processors are optimized to process AV network traffic flows at high speeds. They reduce the load on other system components by taking on many of the packet-based communications maintenance tasks such as general TCP processing, network address translation and some encryption/decryption tasks. AV Traffic management is a key function of the switch and the chipset is the heart of that functionality. A high performance chipset is critical to fast and accurate switching capabilities.

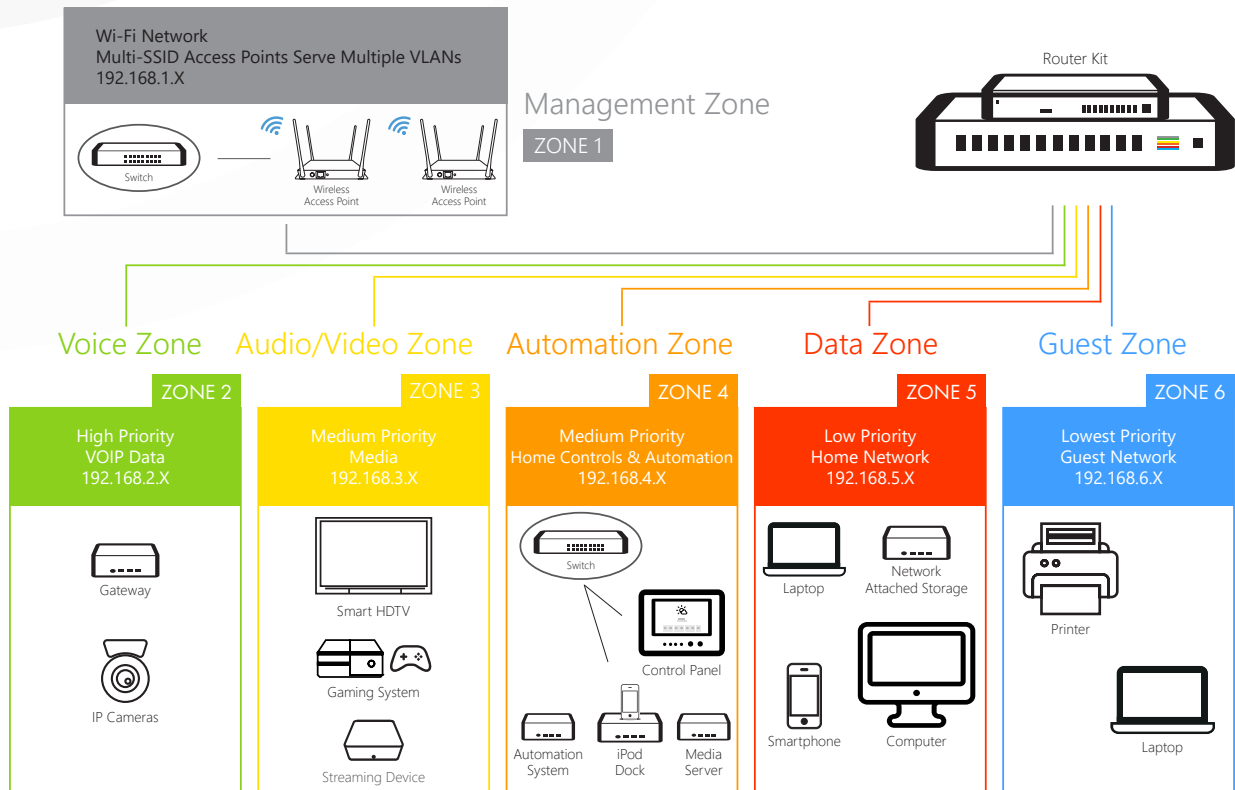


# Pakedge Zones™



While VLANs can segment a network into multiple smaller networks and prioritize them, the configuration process can be difficult. Enterprise networks can support hundreds of VLANs, and managing them all can be a daunting task.

Pakedge Zones simplify VLANs for A/V networks by breaking them into six subnetworks: management, voice, audio/video, automation, data and guest. Network ports on routers and switches under these subnetworks are color-coded for easy identification.



## Traffic Segmentation

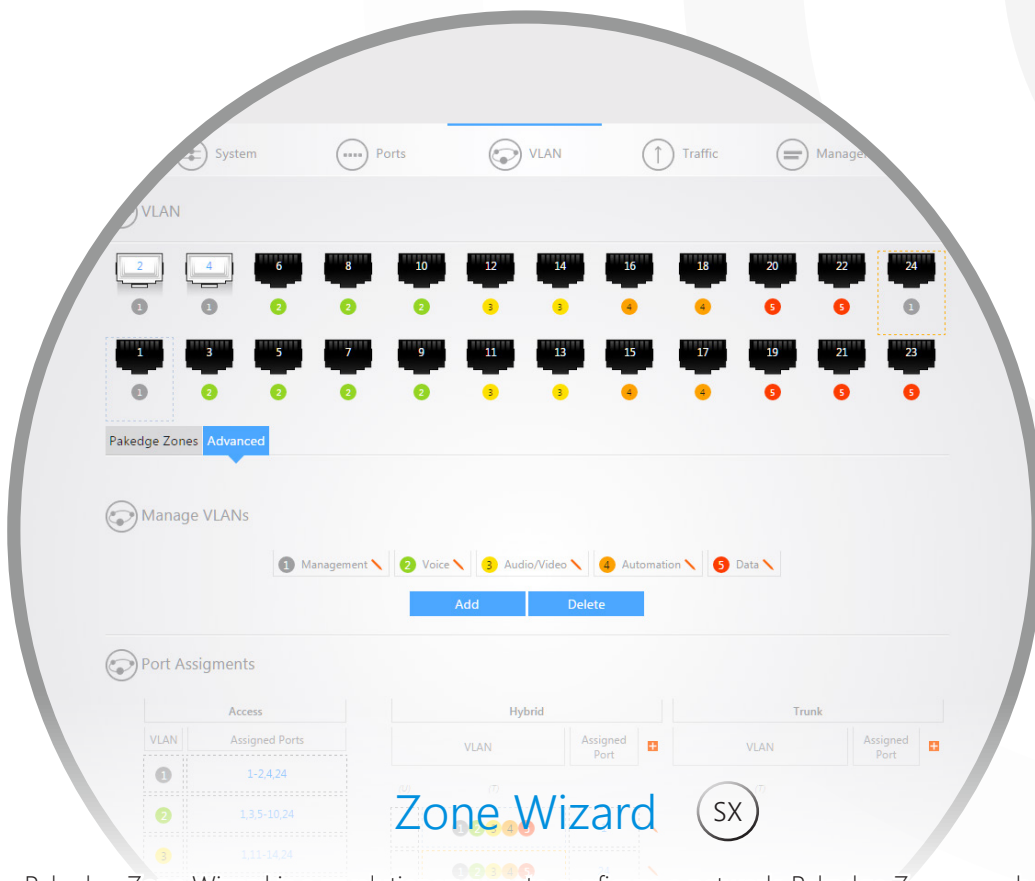
Pakedge Zones™ make traffic segmentation easy - allowing multiple traffic types and even broadcast traffic from devices like IP security cameras to exist on the network without interference. Pakedge Zones prevent traffic from flooding your network so that latency sensitive traffic like VoIP can maintain optimal performance.

## Assignment

Pakedge Zones can be assigned to fixed ports, or devices can be assigned to a specific Pakedge Zone, thus enabling ports to be used for multiple Pakedge Zones™.

## Security

Pakedge Zones™ can be used to provide enhanced network security by allowing users and devices to be separated onto different zones from sensitive network equipment or private information.



The New Packedge Zone Wizard is a revolutionary way to configure a network. Packedge Zones can be applied through a simple drag-and-drop process, allowing for network segmentation and prioritization through an easy, color-coded, drag-and-drop process. With the Zone Wizard, formerly complicated configurations can be completed in mere minutes.

## Zone Templates



Packedge Zone Templates are preconfigured Packedge Zone configurations based on common network setups. Zone Templates reduce set-up time while minimizing configuration errors by allowing users to simply select the Packedge Zone configuration most applicable to their network needs.

Key

- Management (VID 1) + Zone Link
- Voice (VID 2)
- Audio/Video (VID 3)
- Automation (VID 4)
- Data (VID 5)
- Guest (VID 6)  
*(isolated)*

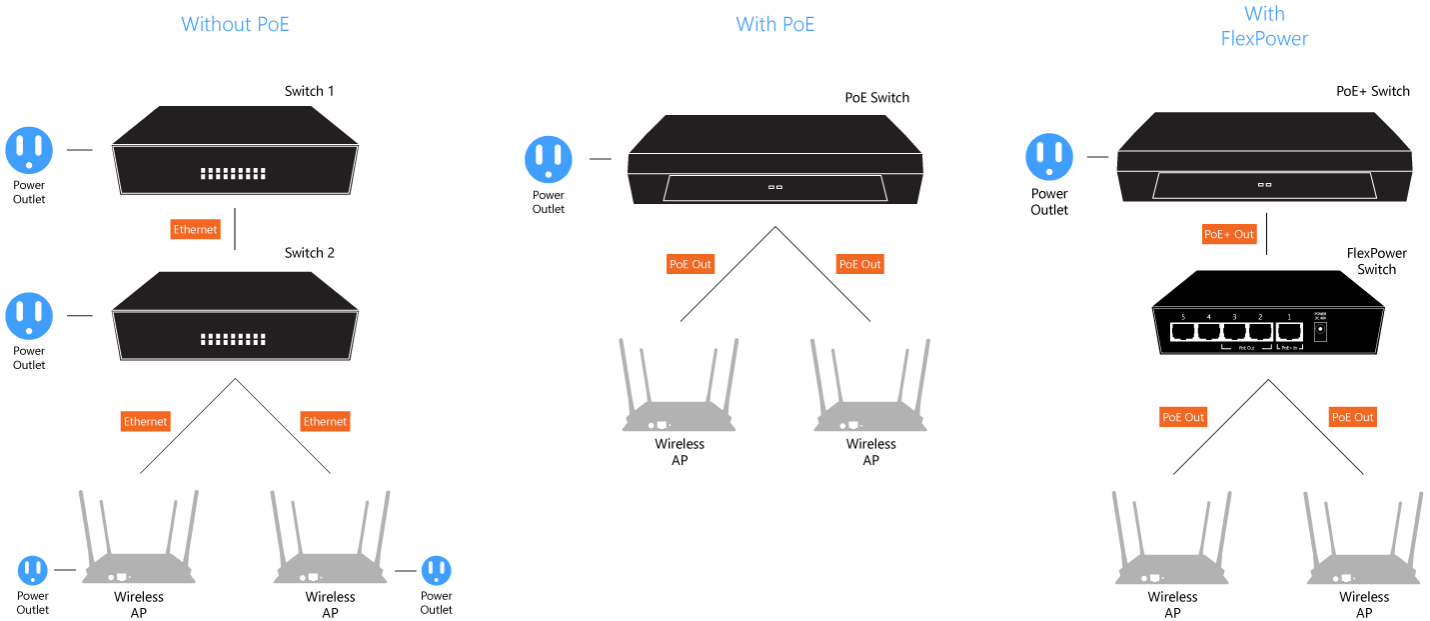
Available Templates

- Audio/Video - Automation - Data
- Voice - Audio/Video - Automation
- Voice - Guest
- Data - Guest
- All Management (Default)

# PoE Innovations

Pakedge switches incorporate a number of innovations around Power over Ethernet (PoE), "Powered by PoE" and "PoE Passthrough". "Powered by PoE" switches utilize a PoE source to supply power to operate the switch. The PoE source can be a power injector or an upstream PoE switch. "Powered by PoE" switches are ideal for use in locations where there is no nearby electrical power source, or in retrofit projects where the cost of running an electrical line is cost prohibitive. These locations include access tunnels, attics and other unwired spaces.

"PoE Passthrough" switches offer the convenience of "Powered by PoE" switches with the additional benefit of passing through enough power to drive additional devices - like touch panels, IP security cameras, and wireless access points. They are ideal for use in areas like attics and basements without easy access to traditional wall outlets, or to extend a PoE cable run from a PoE+ switch farther away than 100m.

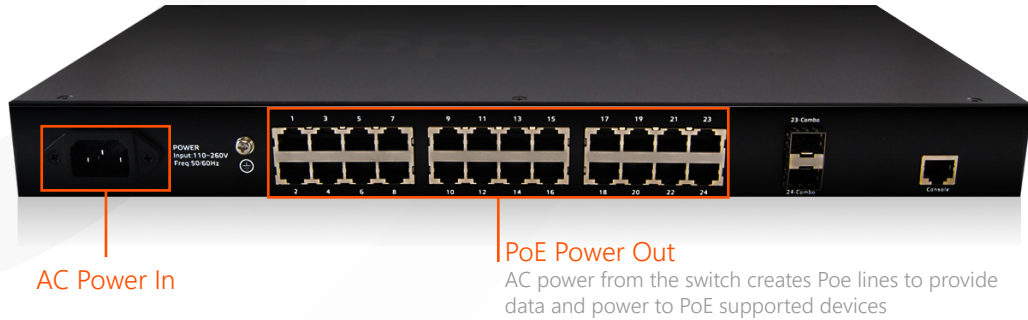


|                             | Ethernet Ports | PoE Ports | PoE+ Ports | Management | Application  |
|-----------------------------|----------------|-----------|------------|------------|--|
| <b>PoE Switches</b>         |                |           |            |            |  |
| SE-8P4                      | 8              | 4         | 2          | Unmanaged  | Use PoE switches to provide PoE or PoE+ power to devices throughout the network like touch panels, security cameras, wireless access points and PoE Powered or PoE Passthrough switches while providing a data connection.     |
| SE-8P                       | 24             | 8         | 4          | Unmanaged  |  |
| SE-8P4fe                    | 24             | 4         | 2          | Unmanaged  |  |
| SX-24P8                     | 24             | 8         | 4          | Managed    |  |
| SX-24P16                    | 24             | 16        | 12         | Managed    |  |
| SX-24P                      | 24             | 24        | 12         | Managed    |  |
| S24HF                       | 24             | 24        | 12         | Managed    |  |
| <b>PoE Powered Switches</b> |                |           |            |            |  |
| S8Mpd                       | 8              | -         | -          | Managed    | Powered by PoE switches are ideal at the point of use of other devices - like in an entertainment center - or as a way to expand your network without needing additional AC power, perfect for areas like attics or basements. |
| SE-5-EP                     | 5              | -         | -          | Unmanaged  |  |
| SE-8-EP                     | 8              | -         | -          | Unmanaged  |  |
| <b>PoE Pass Through</b>     |                |           |            |            |  |
| SE-5P2-EP-A                 | 5              | 2         | -          | Unmanaged  | All of the benefits of a PoE powered switch but with the additional ability to power up to 2 PoE devices without running multiple cables from a PoE+ switch.   |
| SE-8P2-EP-A                 | 8              | 2*        | -          | Unmanaged  |  |

\*4 Ports PoE when powered with AC Adapter.

# PoE Switch Variations

## PoE Switches



AC Power In

PoE Power Out

AC power from the switch creates PoE lines to provide data and power to PoE supported devices

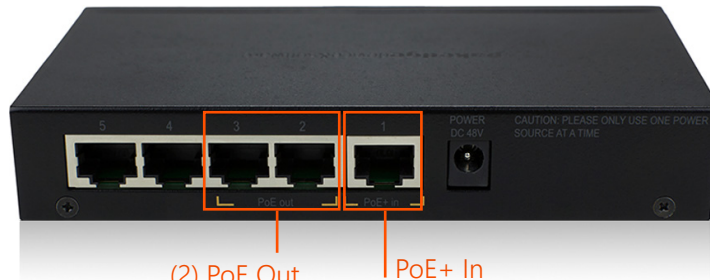
## PoE Powered Switches



PoE Power In

Power the entire switch using a single PoE line

## PoE Passthrough Switches



(2) PoE Out

(1) PoE+ In creates (2) PoE Out lines

PoE+ In

By utilizing a PoE+ In line, you can power the switch and create (2) PoE Out lines at the same time



Pakedge managed switches incorporate TruStream™ technologies designed for seamless and efficient processing of multimedia traffic.

## Traffic Prioritization

A series of traffic management algorithms ensure that traffic is prioritized and delivered by device, port, or media type based on user configurable specification.

Latency sensitive devices and traffic types like streaming video and VoIP phones can be prioritized ahead of traffic from less sensitive devices resulting in overall improved networking.

## Link Aggregation

Link Aggregation allows the switch to combine multiple network connections in parallel to create a trunk capable of increasing bandwidth and carrying more traffic than a single connection. This is ideal for connections between switches.

## Multicast/Broadcast Traffic Management

Pakedge switches incorporate IGMP protocols to prevent multi-cast traffic storms from overwhelming the network and slowing the system to a crawl. Multicast and broadcast traffic is commonly generated by media streaming applications from audio and video broadcast servers, such as Sonos™ and other devices. IGMP snooping enables Pakedge managed switches to identify multicast traffic throughout the network and only pass it to the nodes that need it. IGMP query (available in SX switches) only enables nodes in the network to be identified as those that want to receive multicast traffic.

## Bandwidth Management

TruStream™ enables flow control between our managed switches and computers/devices on a network, allowing data to be handled at the most efficient pace for all devices, reducing data overflow and ensuring that data isn't lost. Network performance and scalability is optimized

through a suite of bandwidth management techniques such as Flow Control and User Specified rate limits to increase throughput, ensure smooth operation for bandwidth heavy applications, and prevent individual ports from sending more traffic than downstream ports can process.

## Enhanced Security



Pakedge managed switches employ a variety of features to protect the security of your network. These features, when integrated with other Pakedge devices, provide an advanced multi-layer level of network security.

### Access Control Lists

- Allow or block individual devices based on MAC and IP addresses to ensure only authorized devices connect.

### ARP Spoofing Prevention

- Prevents an attack that tricks network equipment into believing that an unauthorized device is "trusted"

### MAC Filtering

- Block or allow devices based on MAC address or port number

### Worm Attack Defense

- Prevents viruses from spreading to vulnerable devices throughout a network

### Denial of Service (DoS) Defense

- Prevents external attacks that overload networks, shutting them down.

### Mac Attack Defense

- Prevents a type of attack that exposes all devices within the network to external access

### Port Based Network Access Control

- Works with corporate authentication servers to allow large numbers of devices.

### IP Filtering

- Allow specific devices to pair to specific ports based on IP address, MAC address, or port number.

## Thermal Management



Pakedge switches employ a variety of thermal management designs to dissipate heat. Most switches are based on a passive thermal design, allowing the heat to dissipate through vents in the switch casing to the surrounding environment.

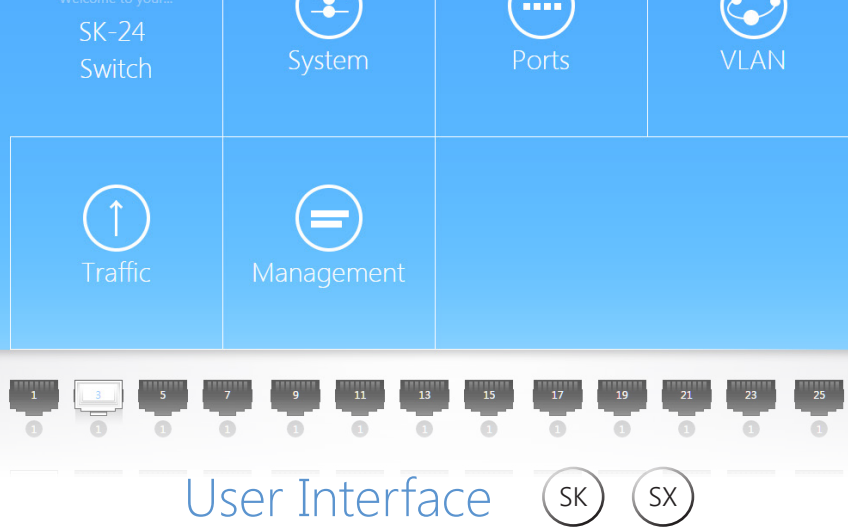
Switches with a high number of PoE ports (typically greater than 8) utilize active thermal management through a cooling fan. These fans are located inside the unit and exhaust hot air through vents in the casing. Fans may be quiet fans that operate continuously or quiet variable speed fans that throttle up or down depending on heat generation.

Pakedge SX series switches employ a unique air chamber design, which works in conjunction with the variable speed fan for maximum cooling efficiency and low noise. The chamber isolates the heat generating components from the other parts of the electronic architecture to maximize fan effectiveness, allowing for quieter operation than standard switches.

## Optical Fiber Ready



Pakedge switches with SFP ports can utilize fiber cable for connections - enabling faster speeds and more reliable data transmission over greater distances than Ethernet, with Ethernet range is limited to 100m. Fiber is an ideal way to connect switches together for uninterrupted throughput. Fiber is not susceptible to EMI and is capable of higher data rates than any other types of networking media.



## User Interface



Pakedge switch management menus are designed with an emphasis on user experience/use interface (UX/UI) principles. The result is a simple, intuitive, easy to use menu that is simple in look and feel across the entire Pakedge product line. The unified design language makes it easy to use any Pakedge product – with previously difficult features like Pakedge Zones simplified into an easy drag-and-drop format. designed to prioritize simplicity without sacrificing functionality. The most important and commonly used AV features are brought to the forefront – ensuring faster setup, easier configuration, and simple maintenance.

## Port Orientations

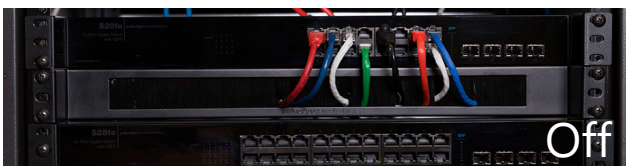


### Rear Port Switch

Designed with a premium AV look to blend into rack with other rear cabled devices like AV receivers for a sleek, clean AV look.

### Front Port Switch

Allows for rapid cable changes, with an industrial look and sporting Black Stealth Ports™ making it easy to blend into any server rack.



### Cover Plates (2U & 3U)

Pakedge offers two cover plate options for front port cable management. The 2U and 3U cover plates hide cables for a premium look and elegant finish.

## Switch Accessories

SFP  
GBIC-SMF



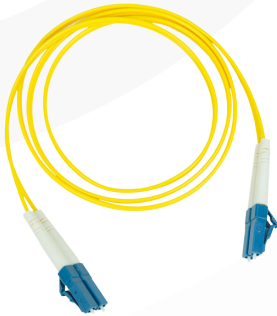
The GBIC-SMF plugs into SFP ports on select Pakedge switches and routers, allowing the insertion of fiber-optic cables for the interconnecting of routers and switches.

Use with:

S8Mpd, SE-18, SE-26, S20fe, S28fe, SK-24, SK-24F, S8Hav, S24av, S24F, S24Hf, SX-24P8, SX-24P16, SX-24P

## Fiber Cables

FC-LC-LC-SM



Pakedge single mode fiber cables can transmit signals long distances without data loss or emitting interference. Constructed with extra durable cable jackets and a transparent glass cores, fiber cables are ideal for connecting switches to other switches without deterioration in quality. Available in lengths of 1, 2, 3, 4, 5, 10, 25, 75, 100, 200, 300, and 400 meters.

Use with:

S8Mpd, SE-18, SE-26, S20fe, S28fe, SK-24, SK-24F, S8Hav, S24av, S24F, S24Hf, SX-24P8, SX-24P16, SX-24P

## Cover Plates (2U & 3U)

RC-2U, RC-3U



Pakedge cover plates attach easily to the front of an A/V rack, keeping unruly front-facing switch cables out of sight and out of mind. A smoky plexiglass viewport allows the diagnostic LEDs to shine through with a cool blue A/V glow. Pakedge cover plates come in both 2U and 3U rack widths.

Use with:

Front Port Switches

## Brush Plate

BR-1U



The Pakedge brush plate separates and organizes cables through a dense nylon brush strip and covers unused rack space to reduce dust accumulation near valuable equipment.

Use with:

Front Port Switches

## Rack Shelf

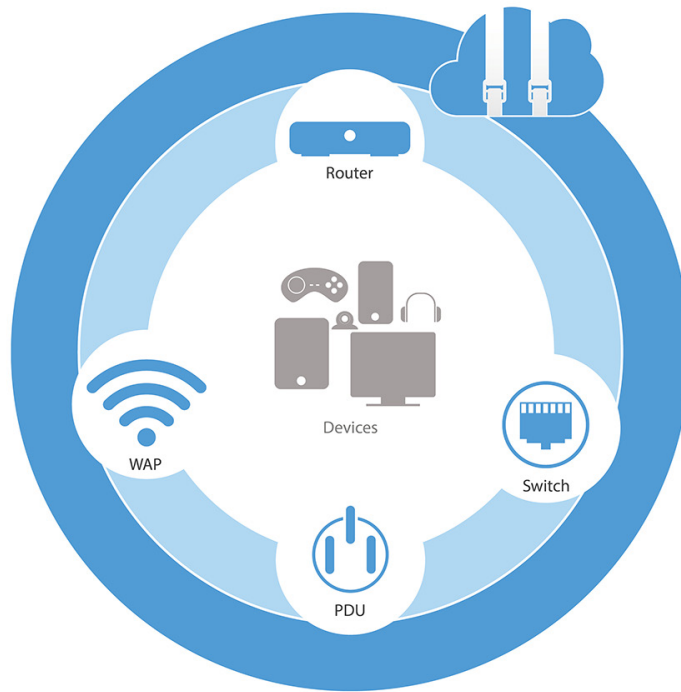
RS-1U



Equipment without mounting hardware can be placed on the Pakedge Rack Shelf for easy storage. The rack shelf offers versatility for switches with rear ports – allowing them to be rotated for quick access to cables.

Use with:

SE-5-EP, SE-5P2-EP/A, SE-8-EP, SE-8P2-EP/A



### Connect+ Certified

The Pakedge Connect+ Platform is a carefully integrated system of switches, routers, wireless, power management and software technologies, designed specifically to work with each other to deliver seamless, scalable, and reliable multimedia networking performance. When unified with the BakPak Cloud Management System, the functionality of the Pakedge Connect+ Platform is extended with cloud-enabled services such as monitoring and management of all connected devices anywhere, any time, and from any device.

### Why Pakedge?

- Purpose-built for A/V networking applications
- Enterprise-level performance
- Seamless, scalable, and reliable
- End-to-end network system solutions
- Free lifetime technical support
- Free lifetime firmware updates and functionality support

### Warranty

Pakedge Device & Software offers a 3-year limited warranty. Pakedge Device & Software will repair or replace products that do not perform as specified within 3 years of the date of purchase due to a defect in materials, workmanship, or functionality.





### About Pakedge Device & Software

Pakedge is an industry leading manufacturer of high performance end-to-end networking platforms for residential and commercial A/V applications. Recognized by industry peers and winner of the prestigious CEPro Brand Leader award for Networking in 2013 and 2014, Pakedge specializes in integrating high performance engineering innovations, operational simplicity, and systems engineering to develop technology that enables customers to unleash the power of their network.

## **pakedge**device&software inc

---

 3847 Breakwater Avenue,  
Hayward, CA 94545

 17011 Beach Blvd. Suite 600  
Huntington Beach, CA 92647

 [www.pakedge.com](http://www.pakedge.com)

 [sales@pakedge.com](mailto:sales@pakedge.com)

 1 (650) 385-8702