

## Product Highlights

### Performance

- 7132LB: 48 x SFP28, 4 x QSFP28
- 1.6(3.2)Tbps (FDX) Front Panel I/O
- Ultra-low latency switching from 89ns with switchapp
- Xilinx Virtex® UltraScale+™ FPGAs
- Enhance Performance Optics

### Core Features

- Ultra low latency layer 2 layer 3 switching
- 10G/25G Capable
- Custom Application FPGA
- High performance x86 control-plane

### Redundancy & Data Center Optimized

- High-density, compact 1RU form-factor
- Dual redundant, hot swappable PSU
- Dual redundant, hot swappable fans
- AC & DC power options
- Rear to front or front to rear cooling
- Tool-less rails for simple installation

### Arista Extensible Operating System

- Single binary image for all products
- Fine-grained truly modular network OS
- Stateful Fault Containment (SFC)
- Stateful Fault Repair (SFR)
- Full Access to Linux shell and tools
- Extensible platform - bash, python, C++ , GO, OpenConfig
- FPGA Development Kit for custom in-network applications

### Management platform

- Linux based
- Industry standard CLI
- JSON RPC API for remote management
- Flexible Time Synchronization with PTP, NTP, PPS

### FPGA Applications

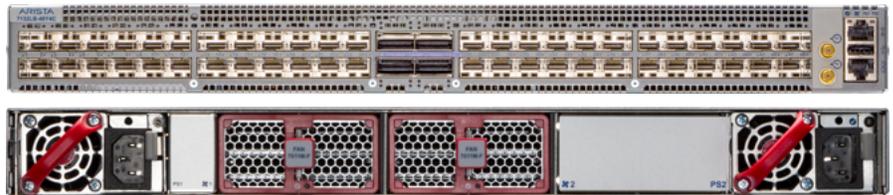
- SwitchApp

## Overview

Responding quickly to market events is critically important in the market data and exchange trading world. Exchanges and trading firms are making efforts to reduce latency where every nanosecond counts. Market data volumes and daily trading orders are increasing daily. The lack of higher speed infrastructure in ultra low latency networks has inhibited high frequency trading venues from upgrading the network. The Arista 7132LB Series provides a 25GbE ready programmable platform with the lowest latency Layer 2 and Layer 3 switching combined with the ability to develop and deploy cutting-edge custom network applications. The 7132LB Series are optimized for Arista's custom FPGA-based network applications and can equally be leveraged to run 3rd party partner and customer developed applications. With Arista's FPGA Development Kit, FPGA developers can utilize the platform to deploy and deliver their performance critical applications.

With 48 SFP28 ports and 4 QSFP28 ports, the platform supports the next-generation of 25G ultra low latency applications, featuring a Xilinx UltraScale+ FPGA. Each port can be individually configured to 10G or 25G. The 1RU form factor platform also includes 3 SMA ports for PPS IN/OUT and a GPS antenna input.

The Arista 7132 Series programmable platform capabilities, low latency layer 2 and 3 switching, high-speed multiplexing, precision timestamping and high-density layer 1 switching power your next generation ultra-low latency network applications.



*Arista 7132LB-48Y4C: 48x SFP28, 4 x QSFP28 ports*

## Arista EOS

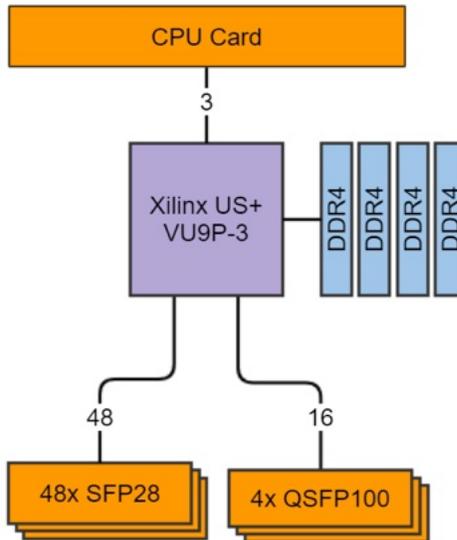
All Arista products including the 7132LB Series run the same Arista EOS software, simplifying network administration with a single standard across all switches. Arista EOS is a modular switch operating system with a unique state sharing architecture that cleanly separates switch state from protocol processing and application logic. Built on top of a standard Linux kernel, all EOS processes run in their own protected memory space and exchange state through an in-memory database. This state sharing architecture provides the foundation for self-healing resiliency and enables straightforward third-party development and application integration.

Arista EOS enables advanced monitoring and automation capabilities such as Zero Touch Provisioning, LANZ, and Linux based tools to be run natively on the switch.

Arista CloudVision provides a network-wide approach for workload orchestration, workflow automation and real-time telemetry enabling companies to manage the network with much fewer human resources. Rapid integration with a wide range of third-party applications for virtualization, management, automation and orchestration services are equally available.

Platform Architecture

The Xilinx UltraScale+ VU9P-3 FPGA is directly connected to 48 x SFP28 and 4 x QSFP28 front panel ports, providing a platform to support existing Arista applications such as Low Latency Mux or High Precision Timestamping, while allowing the FPGA to be also utilized by the customers for their custom applications. The FPGA also has three direct connections to the CPU card and four direct connections to 8G DDR4 memory.



Arista 7132LB-48Y4C System Architecture

7132 FPGA Applications

Arista offers several powerful network applications to simplify and transform network infrastructure. These applications are designed for use cases including ultra-low latency exchange trading, network visibility and vendor- or broker-based shared services. These applications enable a complete lifecycle of networking functions, such as packet replication, multiplexing, filtering, time stamping, aggregation and capture.

Application	Overview	Key Features	Use it for...
SwitchApp	Layer 2 and Layer 3 Switching	<ul style="list-style-type: none"> <li>Ultra Low Latency Packet Forwarding with 89-150ns latency</li> <li>Non Blocking Bandwidth Profiles upto 600 Gbps</li> <li>Full cut through architecture</li> <li>Sub-nanosecond precise time stamping</li> <li>Upto 48 ports at 10G and 36 ports of Layer2/Layer 3 support at 25G.</li> <li>Different profiles for latency vs bandwidth vs features</li> </ul>	<ul style="list-style-type: none"> <li>Layer 2 and Layer 3 Forwarding</li> <li>Packet encapsulating and filtering</li> <li>Improved network reliability &amp; troubleshooting problems</li> <li>Accurate latency measurement &amp; monitoring</li> <li>Regulatory compliance (MiFID II - RTS 25)</li> </ul>

## Custom Applications & FPGA Development Kit

FPGA developers can write custom applications for the 7132LB Series with Arista's FPGA Development Kit (FDK). The FDK includes API documentation, sample code, and IP cores to streamline development. Arista development toolkits enable complete and unfettered access to the facilities provided by the in-system FPGAs.

IP Core	Features
10GbE MAC/PHY	<ul style="list-style-type: none"> <li>• Ultra low latency 10GbE Ethernet PCS/PMA and MAC</li> <li>• 10GbE support</li> <li>• AXI4 stream interface</li> <li>• Register interface for counters and link status</li> </ul>
25GbE MAC/PHY	<ul style="list-style-type: none"> <li>• Ultra low latency 25GbE Ethernet PCS/PMA and MAC</li> <li>• 25GbE support</li> <li>• AXI4 stream interface</li> <li>• Register interface for counters and link status</li> </ul>
Timestamper	<ul style="list-style-type: none"> <li>• Complete precision timestamping system</li> <li>• Includes timestamper core + sync &amp; control daemon</li> <li>• PPS synchronization</li> <li>• Example Start-of-Frame timestamping application</li> </ul>
Mux	<ul style="list-style-type: none"> <li>• 10GbE packet multiplexer</li> <li>• Configurable scheduling algorithms</li> <li>• Advanced eXtensible Interface (AXI4) streaming inputs</li> <li>• Status and packet counters</li> <li>• Storm control</li> </ul>

## Precision Timing (IEEE 1588v2 and PPS)

To meet the stringent timing and synchronization requirements in financial markets, telecom, and media & entertainment networks, Arista's 7132LB delivers high precision in-band time and frequency distribution support via Precision Time Protocol (PTP, IEEE 1588v2) with optional Pulse-Per-Second (PPS) inputs for added accuracy. Leveraging a high stability on-board oscillator, 7132LBs can achieve picosecond-level time synchronization.

The 7132LB features two front-panel SMA ports for PPS, one input and one output port. An internal PPS distribution network delivers PPS signals to the FPGA serving the network application. A single front-panel SMA port can output the internal 10Mhz PPS clock to downstream systems\*.

## High Availability and Flexibility

The Arista 7132LB Series provide enterprise-grade reliability. They enable flexible deployment and continuous operations with system wide monitoring of both hardware and software components, simple serviceability and provisioning to prevent single points of failure.

Key features include:

- AC and DC power supply options
- Front to Rear cooling with dynamic temperature control.
- Redundant, color coded, field serviceable power and cooling subsystems:
  - 1+1 hot-swappable platinum rated power supplies
  - N+1 hot-swappable fans
- Live software patching
- Self healing software with Stateful Fault Repair (SFR)

\*Not currently supported in EOS

## Specifications

Switch Model	7132LB-48Y4C
Front-Panel Ports	48x SFP28, 4x QSFP28
FPGA	1x Xilinx® UltraScale+™ VU9P-3
FPGA DRAM	4 x 8GB DDR4
FPGA Development Kit (FDK)	Yes
Vitis™ Development Kit (VDK)	Yes <sup>1</sup>
Clock	OCXO
CPU	8-core x86
System DRAM / SSD	32 GB DDR4 / 120 GB
RS-232 Serial Ports	1 (RJ-45)
USB Ports	1
100/1000 Management Ports	1
PPS Input Ports (5V TTL, 50Ω or Hi-Z)	1
PPS Output Ports (5V TTL) <sup>1</sup>	1
Hot-swap Power Supplies	2 (1+1 redundant)
Hot-swappable Fans	2 (N+1 redundant)
Reversible Airflow Option	Yes
Typical/Max Power Draw <sup>2</sup>	367W/550W
Rack Units	1 U
Size (WxHxD)	17.3 x 1.7 x 18.6 inches (44.0 x 4.4 x 47.2 cm)
Weight	21.6 lbs (9.8 kg)
Fan Tray	FAN-7011M
Power Supplies	PWR-1011-AC or PWR-1011-DC
EOS Feature Licenses	Group 2
Minimum EOS	4.30.2

1. Not currently supported in EOS

2. Typical power draw depends on FPGA application configuration

## Power Supply Specifications

Power Supply	PWR-1011-AC	PWR-1011-DC
Input Voltage	100-200V AC	-48 to -60 VDC
Typical Input Current	12.0-6.0A	23A Max (-48V)
Input Frequency	50/60Hz	DC
Output Power	1000W	1000W
Input Connector	IEC 320-C13	IEC 60320 C14
Efficiency (Typical)	93% Platinum	94%

## Environmental Characteristics

Operating Temperature <sup>1</sup>	0 to 40°C (32 to 104°F)
Storage Temperature	-25 to 70°C (-13 to 158°F)
Relative Humidity	5 to 90%
Operating Altitude	0 to 10,000 ft, (0-3,000m)

## Standards Compliance

EMC	FCC Class A, ICES-003, EN 55032, EN IEC 61000-3-2:2019, EN 61000-3-3
Immunity	EN 55035 EN 300 386
Safety	EN 62368-1:2014 + A11:2017 IEC-62368-1:2014
Certifications	BSMI (Taiwan) CE (European Union) KCC (South Korea) NRTL (North America) RCM (Australia/New Zealand) UKCA (United Kingdom) VCCI (Japan)
European Union Directives	2014/53/EU Radio Equipment Directive 2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive 2012/19/EU WEEE Directive 2011/65/EU RoHS Directive 2015/863/EU Commission Delegated Directive
Further information	<a href="#">Product Certification Portal</a>

1. Certain airflow configurations or the use of higher power or reduced temperature range optics may reduce maximum operating temperature.

## Arista Optics and Cables

The 7132LB Series accepts a wide range of QSFP and SFP optics and cables. The QSFP28 ports of the 7132LB Series accept QSFP optics and cables configured at 100GE, 4x 25GE, 40GE and 4x 10GE speeds, while the SFP28 ports accept SFP optics and cables configured at 25GE and 10GE speeds. More information about Arista optics and cables can be found [here](#).

Arista's Enhanced Performance (E-Series) QSFP and SFP optical transceivers, such as the QSFP-100G-SR4-E, SFP-25G-SR-E and SFP-25G-LR-E enable 100G and 25GE operation without requiring FEC, eliminating the FEC delay usually present in 100GE and 25GE optical links. Apart from Arista's E-Series optical transceivers, 100GBASE-LR4 and certain copper cables, all 100GE and 25GE links require FEC, while all 10GE and lower data rates do not use FEC.

The table below summarizes the most commonly used optics and cables in the 7132LB platforms. For more details about Arista's pluggable optics and cables, refer to the Optics Modules and Cables Data sheet, the Arista Transceiver and Cable Guide, and Arista's Enhanced Performance Series Optics Q&A.

### Supported 100G QSFP Optics and Cables

Application / Interface Type	Supported Optics and Cables	Description and Reach
100GBASE-CR4	CAB-Q-Q-100G-xM	QSFP to QSFP Copper Cables: 1m to 5m
4x 25GBASE-CR	CAB-Q-4S-100G-xM	QSFP to 4x SFP Breakout Copper Cables: 1m to 5m QSFP port configured for 4x 25GE, SFP breakout ports configured for 25GE
	CAB-Q-Q-100G-xM	QSFP to QSFP Copper Cables: 1m to 5m QSFP ports configured for 4x 25GE
100GBASE-AOC	AOC-Q-Q-100G-xM	100G QSFP to QSFP Active Optical Cables: 1m to 30m
100GBASE-SR4-E	QSFP-100G-SR4-E (E-Series Transceiver for low latency)	30m OM3 / 50m OM4 Parallel MMF without FEC (for low latency), or 70m OM3 / 100m OM4 Parallel MMF with FEC
4x 25GBASE-SR-E	QSFP-100G-SR4-E (E-Series Transceiver for low latency)	QSFP-100G-SR4-E Transceiver configured as 4x 25GE 30m OM3 / 50m OM4 Parallel MMF without FEC (for low latency), or 70m OM3 / 100m OM4 Parallel MMF with FEC
100GBASE-SR4	QSFP-100G-SR4	70m OM3 / 100m OM4 Parallel MMF
4x 25GBASE-SR	QSFP-100G-SR4	QSFP-100G-SR4 Transceiver configured as 4x 25GE 70m OM3 / 100m OM4 Parallel MMF
100GBASE-SRBD / SWDM4	QSFP-100G-SRBD / SWDM4	70m OM3 / 100m OM4 duplexMMF
100GBASE-PSM4 / PLRL4	QSFP-100G-PSM4 / PLRL4	500m / 2km over Parallel MMF
4x 25GBASE-LR	QSFP-100G-PSM4 / PLRL4	QSFP-100G-PSM4 / PLRL4 Transceiver configured as 4x 25GE 500m / 2km over Parallel MMF
100GBASE-LR4	QSFP-100G-LR4	10km over duplex SMF without FEC
100GBASE-LRL4	QSFP-100G-LRL4	2km over duplex SMF
100GBASE-CWDM4 / XCWDM4	QSFP-100G-CWDM4 / XCWDM4	2km / 10km over duplex SMF
100GBASE-DR / FR / LR	QSFP-100G-DR / FR / LR	500m / 2km / 10km over duplex SMF

## Supported 40G QSFP Optics and Cables

Application / Interface Type	Supported Optics and Cables	Description and Reach
40GBASE-CR4	CAB-Q-Q-xM	QSFP to QSFP Copper Cables: 0.5m to 5m
4x 10GBASE-CR	CAB-Q-S-xM	QSFP to 4x SFP Breakout Copper Cables: 0.5m to 5m QSFP port configured for 4x 10GE SFP breakout ports configured for 10GE
	CAB-Q-Q-xM	QSFP to QSFP Copper Cables: 1m to 5m QSFP ports configured for 4x 10GE
40GBASE-AOC	AOC-Q-Q-40G-xM	100G QSFP to QSFP Active Optical Cables: 3m to 100m
40GBASE-SR4	QSFP-40G-SR4	100m OM3 / 150m OM4 Parallel MMF
4x 10GBASE-SR	QSFP-40G-SR4	QSFP-40G-SR4 Transceiver configured as 4x 105GE 100m OM3 / 150m OM4 Parallel MMF
40GBASE-SRBD	QSFP-40G-SRBD	100m OM3 / 150m OM4 duplex MMF
40GBASE-UNIV	QSFP-40G-UNIV	100m OM3 / 150m OM4 duplex MMF or 500m duplex SMF
40GBASE-PLR4 / PLRL4	QSFP-40G-PLR4 / PLRL4	10km / 1km over Parallel MMF
4x 10GBASE-LR	QSFP-40G-PLR4 / PLRL4	QSFP-40-PLR4 / PLRL4 Transceiver configured as 4x 10GE 10km / 1km over Parallel MMF
40GBASE-LR4 / LRL4	QSFP-40G-LR4 / LRL4	10km / 1km over duplex SMF

## Supported 25G SFP Optics and Cables

Application / Interface Type	Supported Optics and Cables	Description and Reach
25GBASE-CR	CAB-S-S-25G-xM	SFP to SFP Copper Cables: 1m to 5m
25GBASE-AOC	AOC-S-S-25G-xM	25G SFP to SFP Active Optical Cables: 3m to 30m
25GBASE-SR-E	SFP-25G-SR-E (E-Series Transceiver for low latency)	30m OM3 / 50m OM4 duplex MMF without FEC (for low latency), or 70m OM3 / 100m OM4 duplex MMF with FEC
25GBASE-SR	SFP-25G-SR / SFP-25G-MR-SR	70m OM3 / 100m OM4 duplex MMF
25GBASE-XSR	SFP-25G-MR-XSR	200m OM3 / 300 OM4 duplex MMF
25GBASE-LR-E	SFP-25G-LR-E (E-Series Transceiver for low latency)	2km duplex SMF without FEC (for low latency), or 10km duplex SMF with FEC
25GBASE-LR	SFP-25G-LR / SFP-25G-MR-LR	10km duplex SMF with FEC

## Supported 10G Optics and Cables

Application / Interface Type	Supported Optics and Cables	Description and Reach
10GBASE-CR	CAB-SFP-SFP-xM	SFP to SFP Copper Cables: 0.5m to 5m
10GBASE-AOC	AOC-S-S-10G-xM	10 SFP to SFP Active Optical Cables: 3m to 30m
10GBASE-SR	SFP-10G-SR	300m OM3 / 400m OM4 duplex MMF
10GBASE-SRL	SFP-10G-SRL	100m OM3 / 150m OM4 duplex MMF
10GBASE-LR / LRL	SFP-10G-LR / LRL	10km / 1km duplex SMF
10GBASE-T	SFP-10G-T	30m Cat6a copper cable

Product Number	Product Description
DCS-7132LB-48Y4C-F	Arista 7132 Series, with 48 SFP28, 4 QSFP28, VU9P-3 FPGA, front-to-rear air, 2xAC
DCS-7132LB-48Y4C-R	Arista 7132 Series, with 48 SFP28, 4 QSFP28, VU9P-3 FPGA, rear-to-front air, 2xAC
DCS-7132LB-48Y4C#	Arista 7132 Series, with 48 SFP28, 4 QSFP28, VU9P-3 FPGA, configurable fans & psu
LIC-FIX-2-E	Enhanced L3 License for Arista Group 2 Fixed switches, (BGP, OSPF, ISIS, PIM, NAT)
LIC-FIX-2-V	Virtualization license for Group 2 Arista Fixed switches (VMTracer and VXLAN)
LIC-FIX-2-V2	EOS Extensions, Security and Partner Integration license for Arista Group 2 Fixed switches
LIC-FIX-2-Z	Monitoring & Automation license for Arista Group 2 Fixed switches (ZTP, LANZ, TapAgg, OpenFlow)
LIC-FIX-2-FLX-L	FLX-Lite License for Arista Fixed switches Group 2 - Full Routing Up to 256K Routes, EVPN, VXLAN, SR, base MPLS LSR (no TE or link/node protection)
LIC-FIX-2-FLX	FLX License for Arista Fixed switches Group 2 - Full Routing Up to 2M Routes, >24K ACL, EVPN, VXLAN, SR, Adv MPLS LSR with TE or link/node protection

### Optional Components and Spares

PWR-1011-AC-RED	Arista PSU, 1RU, AC, 1000W, FORWARD, 73.5MM
PWR-1011-AC-RED#	Configurable Arista PSU, 1RU, AC, 1000W, FORWARD, 73.5MM
PWR-1011-AC-BLUE	Arista PSU, 1RU, AC, 1000W, REVERSE, 73.5MM
PWR-1011-AC-BLUE#	Configurable Arista PSU, 1RU, AC, 1000W, REVERSE, 73.5MM
PWR-1011-DC-RED	Arista PSU, 1RU, DC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-DC-RED#	Configurable Arista PSU, 1RU, DC/DC, 1000W, FORWARD, 73.5MM
PWR-1011-DC-BLUE	Arista PSU, 1RU, DC/DC, 1000W, REVERSE, 73.5MM
PWR-1011-DC-BLUE#	Configurable Arista PSU, 1RU, DC/DC, 1000W, REVERSE, 73.5MM
FAN-7011M-F	Spare fan module for Arista 7000 Series 1RU Enhanced Fan Speed (front-to-rear airflow)
FAN-7011M-R	Spare fan module for Arista 7000 Series 1RU Enhanced Fan Speed (rear-to-front airflow)
KIT-7101	Spare tool-free accessory kit (v3) for Arista switches. 4-post mount. (2 x C13-C14, 2m)

### Warranty

The Arista 7132LB series switches come with a one-year limited hardware warranty, which covers parts, repair, or replacement with a 10 business day turn-around after the unit is received.

### Service and Support

Support services including next business day and 4-hour advance hardware replacement are available. For service depot locations, please see: <http://www.arista.com/en/service>

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