

## Key Features

- ➔ First 10 GbE open switch for open networks leveraging hardware-agnostic operating system
- ➔ High-performance Layer 2 / Layer 3 10 GbE switches with industry-leading OpenFlow\* integration
- ➔ High-density 10 GbE fiber or 10GBASE-T copper aggregation
- ➔ Fully non-blocking fabric with ultra-low latency



## Overview

Pica8's purpose-built open switches are ideal for cloud or virtualized data centers that require flexibility and adaptability. Pica8™ open switches seamlessly integrate with today's data center applications on traditional network architectures, while allowing the exploration of new software defined networking (SDN) technologies, such as OpenFlow.

Pica8 white box switches run PicOS™, an open network operating system (OS) that runs standards-based Layer 2 / Layer 3 protocols with industry-leading OpenFlow 1.3 / Open vSwitch (OVS) 1.10 integration. OVS runs as a process within PicOS, and provides the OpenFlow interface for external programmability. PicOS utilizes proven high-performance hardware with a switching fabric capacity of 1.28 Tbps, and options for 10 GbE copper and fiber connectivity.

### Two Models to Choose

#### Pica8 P-3922 (top)

- Up to 64 x 10 GbE SFP+ ports leveraging the 48-port 10 GbE SFP+ base unit, with 4 x 40 GbE QSFP+ or 16 x 10 GbE QSFP+ to SFP+ uplinks
- High density aggregation or line-rate connectivity to the core

#### Pica8 P-3930 (bottom)

- Up to 64 x 10 GbE ports leveraging the 48-port 10GBASE-T base unit, with 4 x 40 GbE QSFP+ or 16 x 10 GbE QSFP+ to SFP+ uplinks
- High-density 100/1000/10GBASE-T copper aggregation with line-rate connectivity to the core

## Leverage Pica8's operating system – PicOS – for two powerful modes of operation

	Layer 2 / Layer 3 Mode	Open vSwitch (OVS) Mode
OPEN	<ul style="list-style-type: none"> <li>• Switching platform with Debian Linux on board and accessible</li> <li>• Programmable and customize by leveraging vast high-quality Linux tools</li> </ul>	<ul style="list-style-type: none"> <li>• Industry-leading OpenFlow 1.3 support through Open vSwitch (OvS) 1.10 integration</li> <li>• Leverage production-ready OVS switches for your CloudStack / OpenStack projects</li> </ul>
FLEXIBLE	<ul style="list-style-type: none"> <li>• High-performance Layer 2 / Layer 3 switching platform for both IPv4 and IPv6 networks, seamlessly integrating into existing architectures</li> <li>• Tune the fabric to meet your application needs, selectable store-and-forward or cut-through switching modes for ultra-low latency</li> </ul>	<ul style="list-style-type: none"> <li>• Interoperable with multiple Open Source OpenFlow controllers such as Ryu, Floodlight, NOX, and Trema</li> <li>• Leverage different controllers and reference architectures</li> </ul>
ADAPTIVE	<ul style="list-style-type: none"> <li>• PicOS a multiprocess OS, ensures each process has independent memory space, thread control, and interrupt handling for improved feature scaling</li> </ul>	<ul style="list-style-type: none"> <li>• Seamlessly add new protocols to PicOS, a multiprocess OS</li> <li>• Investment protection as your application needs change</li> </ul>

\* Only OpenFlow features available in hardware are supported, to ensure optimum performance

# PRODUCT REFERENCE GUIDE



	P-3922	P-3930
<b>Performance</b>		
Switch Fabric Capacity	1.28 Tbps	1.28 Tbps
Forwarding Capacity (Mpps)	960	960
Forwarding Options	Store-and-Forward / Cut-Through	Store-and-Forward / Cut-Through
Packet Buffer Memory (MB)	9	9
Latency	900 ns (64 Byte Frames)	900 ns (64 Byte Frames)
System Memory (GB)	2	2
SD/CF Memory (GB)	2	2
CPU	P2020	P2020
<b>Ports</b>		
48-Port Base Unit	1 GbE (SFP) or 10 GbE (SFP+)	100/1000/10GBASE-T
Uplink Options	16 x 10 GbE (QSFP+ to SFP+) or 4 x 40 GbE (QSFP+)	16 x 10 GbE (QSFP+ to SFP+) or 4 x 40 GbE (QSFP+)
SFP+ / QSFP+ Options	LRM, SR, LR / CR4, SR4, LR4	LRM, SR, LR / CR4, SR4, LR4
Console Port	1 x RJ45 Serial	1 x RJ45 Serial
Management Port	1 x 10/100/1000BASE-T	1 x 10/100/1000BASE-T
<b>Layer 2 / Layer 3 Features</b>		
Maximum MAC Addresses	128K	128K
Maximum VLANs	4,094	4,094
Link Aggregation (Groups/Ports)	24/8	24/8
Jumbo Frames (Bytes)	9,216	9,216
Maximum Routes	12,000	12,000
Spanning Tree	STP/RSTP/MSTP	STP/RSTP/MSTP
IPv4 Routing	RIP, OSPFv2/ECMP, Static	RIP, OSPFv2/ECMP, Static
IPv6 Routing	RIPng, OSPFv3, Static	RIPng, OSPFv3, Static
Multicast Routing	PIM-SM, IGMP, IGMP-Snooping	PIM-SM, IGMP, IGMP-Snooping
<b>OpenFlow Support</b>		
Open vSwitch	v1.10	v1.10
MPLS over OVS	Yes	Yes
GRE Tunneling	Yes	Yes
<b>Physical &amp; Environmental Specifications</b>		
Size (Inches)	1.75 (H) x 17.25 (L) x 18.75 (D)	1.73 (H) x 17.24 (L) x 15.84 (D)
Weight (lbs)	16.94	18.45
MTBF (Hours)	129,916	124,187
Air Flow	Front to Back / Back to Front	Front to Back / Back to Front
Hot-Swappable Redundant Power	Yes	Yes
Power Draw (Watts)	230	400
Input Voltage / Frequency	100 - 240 VAC / 50 - 60 Hz	
Operating Temperature	50 - 122 °F (10 - 50 °C)	
Operating Humidity	80% Maximum Relative Humidity	
LEDs	Port Status (Green), Activity Status (Blinking)	
<b>Regulatory Compliance</b>		
Emissions	FCC, CE, VCCI-A, CCC, KCC, BSMI	
Safety	UL, CE	
RoHS	Yes	

**Pica8, Inc.  
Corporate Headquarters**

1032 Elwell Court, Suite 105  
Palo Alto, California 94303, USA  
650-614-5838 | www.pica8.com

© Pica8, Inc., 2013. All rights reserved.  
Produced in the United States 12/13.

**Pica8 and PicOS are trademarks of Pica8, Inc.**

Pica8 and PicOS trademarks are intended and authorized for use only in countries and jurisdictions in which Pica8, Inc. has obtained the rights to use, market and advertise the brand. Pica8, Inc. shall not be liable to third parties for unauthorized use of this document or unauthorized use of its trademarks. References in this publication to Pica8, Inc. products or services do not imply that Pica8, Inc. intends to make these available in all countries in which it operates. Contact Pica8, Inc. for additional information.