The NETGEAR ProSafe Gigabit L2 Managed Switch, JGSM7224, allows for wire-speed Gigabit performance and a full set of Layer 2 management features, on a cost-effective platform. This new-generation, high-speed switch delivers maximum throughput where you need it – to high-performance workgroups at the edge of large networks, or as a backbone for Fast Ethernet switches and high-speed servers in growing networks. The non-blocking design offers full Gigabit throughput simultaneously to all 24 10/100/1000 ports to ensure reliable performance. Flexible fiber connectivity is enabled through two combination small form-factor pluggable (SFP) Gigabit interfaces.

Layer 2 Feature Set
Combining superior resiliency, enterprise-class security, and non-blocking performance, the JGSM7224 offers a full set of Layer 2 management features with unsurpassed affordability. Together with dynamic VLANs, voice-class prioritization, and IEEE® 802.1x port-based authentication, the JGSM7224 can be deployed as an access layer switch, or closer to the core of small and medium businesses’ growing networks.

Comprehensive Management
Simplify and reduce IT staff workload and mean time to repair with intuitive, GUI-based device configuration, and a powerful command-line interface (CLI). Secure management of the switches is available through Secure Sockets Layer (SSLv3) for the Web GUI and Secure Shell (SSH) for command-line sessions.

Outstanding Value
With its high-value price point, flexible design, and reduced maintenance requirements, NETGEAR ProSafe JGSM7224 yields a high return on investment, and is ideal for delivering highly reliable, converged voice, video, and data services over a single network infrastructure.
Target Applications

High-performance Access Layer

In desktop switching environments, wire-speed performance with full security/QoS control for all 10/100/1000 interfaces is critical. The 2 Gigabit Ethernet combo interfaces provide unprecedented flexibility, aggregating critical data to the core of your network.
### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>Physical Interfaces</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• 24 auto-sensing RJ45 10/100/1000 ports</td>
<td>• 24 auto-sensing RJ45 ports</td>
</tr>
<tr>
<td>• 2 shared SFP ports for Gigabit fiber uplinks (shared with the last 2 RJ45 ports)</td>
<td>• 2 shared SFP ports for Gigabit fiber uplinks (shared with the last 2 RJ45 ports)</td>
</tr>
<tr>
<td>• Serial RS-232 port for console</td>
<td>• Serial RS-232 port for console</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24 Gigabit ports</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Processor/Memory</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Processor: BCM53314S @ 200 MHz</td>
<td>• Processor: BCM53314S @ 200 MHz</td>
</tr>
<tr>
<td>• System memory: 64 MB (RAM)</td>
<td>• System memory: 64 MB (RAM)</td>
</tr>
<tr>
<td>• Packet buffer memory: 512 KB per switch</td>
<td>• Packet buffer memory: 512 KB per switch</td>
</tr>
<tr>
<td>• Code storage: 16 MB</td>
<td>• Code storage: 16 MB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Performance Summary</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Switching fabric: 48 Gbps</td>
<td>• Switching fabric: 48 Gbps</td>
</tr>
<tr>
<td>• Throughput: 36 Mpps</td>
<td>• Throughput: 36 Mpps</td>
</tr>
<tr>
<td>• Forwarding mode: Store-and-forward</td>
<td>• Forwarding mode: Store-and-forward</td>
</tr>
<tr>
<td>• Latency (64-byte frames, 1 Gbps): &lt;5μs</td>
<td>• Latency (64-byte frames, 1 Gbps): &lt;5μs</td>
</tr>
<tr>
<td>• Addressing: 48-bit MAC address</td>
<td>• Addressing: 48-bit MAC address</td>
</tr>
<tr>
<td>• Address database size: 8,000 MAC addresses</td>
<td>• Address database size: 8,000 MAC addresses</td>
</tr>
<tr>
<td>• Number of VLANs: 512 (IEEE 802.1Q) simultaneously out of 1–4,094 VLAN IDs</td>
<td>• Number of VLANs: 512 (IEEE 802.1Q) simultaneously out of 1–4,094 VLAN IDs</td>
</tr>
<tr>
<td>• Number of multicast groups filtered: 32</td>
<td>• Number of multicast groups filtered: 32</td>
</tr>
<tr>
<td>• Number of trunks: 8 trunks, 8-port per trunk</td>
<td>• Number of trunks: 8 trunks, 8-port per trunk</td>
</tr>
<tr>
<td>• Number of hardware queues for QoS: 4</td>
<td>• Number of hardware queues for QoS: 4</td>
</tr>
<tr>
<td>• Jumbo frame support: up to 9K packet size</td>
<td>• Jumbo frame support: up to 9K packet size</td>
</tr>
<tr>
<td>• Acoustic noise (ANSI-S10.12): 0 dB (fanless)</td>
<td>• Acoustic noise (ANSI-S10.12): 0 dB (fanless)</td>
</tr>
<tr>
<td>• Heat dissipation: AC max = 73.4Btu/hr; DC max =54.0 Btu/hr</td>
<td>• Heat dissipation: AC max = 73.4Btu/hr; DC max =54.0 Btu/hr</td>
</tr>
<tr>
<td>• Mean time between failures (MTBF): 280,607 hours (~32 years) @ 25° C ambient temperature</td>
<td>• Mean time between failures (MTBF): 280,607 hours (~32 years) @ 25° C ambient temperature</td>
</tr>
<tr>
<td>• Green features: Power saving when link down per port</td>
<td>• Green features: Power saving when link down per port</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L3 Services – DHCP</strong></th>
<th><strong>Server</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• DHCP server (1275 clients)</td>
<td>• DHCP server (1275 clients)</td>
</tr>
<tr>
<td>• DHCP L2 relay</td>
<td>• DHCP L2 relay</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L2 Services – Switching</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• MAC address table: 8,096</td>
<td>• MAC address table: 8,096</td>
</tr>
<tr>
<td>• ARP cache size: 4000</td>
<td>• ARP cache size: 4000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L2 Services – VLANs</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• IEEE® 802.1Q static VLAN (up to 512 VLANs) out of 1–4,094 VLAN IDs</td>
<td>• IEEE® 802.1Q static VLAN (up to 512 VLANs) out of 1–4,094 VLAN IDs</td>
</tr>
<tr>
<td>• Port-based VLAN</td>
<td>• Port-based VLAN</td>
</tr>
<tr>
<td>• MAC-based VLAN</td>
<td>• MAC-based VLAN</td>
</tr>
<tr>
<td>• IP subnet-based VLAN</td>
<td>• IP subnet-based VLAN</td>
</tr>
<tr>
<td>• Voice VLAN (based on IP phones OUIs)</td>
<td>• Voice VLAN (based on IP phones OUIs)</td>
</tr>
<tr>
<td>• Guest VLAN with IEEE 802.1x</td>
<td>• Guest VLAN with IEEE 802.1x</td>
</tr>
<tr>
<td>• Auto VLAN Assignment via RADIUS</td>
<td>• Auto VLAN Assignment via RADIUS</td>
</tr>
<tr>
<td>• IEEE 802.1ad Q-in-Q (Double-VLAN tagging)</td>
<td>• IEEE 802.1ad Q-in-Q (Double-VLAN tagging)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L2 Services – Availability</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• IEEE 802.3ad Link Aggregation (Static or LACP) up to 8 trunks per switch and up to 8 ports per trunk</td>
<td>• IEEE 802.3ad Link Aggregation (Static or LACP) up to 8 trunks per switch and up to 8 ports per trunk</td>
</tr>
<tr>
<td>• User selectable LAG hashing algorithm</td>
<td>• User selectable LAG hashing algorithm</td>
</tr>
<tr>
<td>• IEEE 802.1D Spanning Tree Protocol</td>
<td>• IEEE 802.1D Spanning Tree Protocol</td>
</tr>
<tr>
<td>• IEEE 802.1w Rapid Spanning Tree</td>
<td>• IEEE 802.1w Rapid Spanning Tree</td>
</tr>
<tr>
<td>• IEEE 802.1s Multiple Spanning Tree</td>
<td>• IEEE 802.1s Multiple Spanning Tree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L2 Services – Multicast</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• IGMP v1, v2, v3 snooping support</td>
<td>• IGMP v1, v2, v3 snooping support</td>
</tr>
<tr>
<td>• IGMP querier mode support</td>
<td>• IGMP querier mode support</td>
</tr>
<tr>
<td>• Static multicast filtering (32 multicast groups)</td>
<td>• Static multicast filtering (32 multicast groups)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>L2 Services – QoS</strong></th>
<th><strong>Front</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• IEEE 802.1p Class of Service (CoS)</td>
<td>• IEEE 802.1p Class of Service (CoS)</td>
</tr>
<tr>
<td>• Weighted round robin (WRR) queue technology</td>
<td>• Weighted round robin (WRR) queue technology</td>
</tr>
<tr>
<td>• Strict priority queue technology</td>
<td>• Strict priority queue technology</td>
</tr>
<tr>
<td>• Ingress rate limit in 64 Kbps increments</td>
<td>• Ingress rate limit in 64 Kbps increments</td>
</tr>
</tbody>
</table>
### L2/L3/L4 Services – Security
- Access control lists (ACL) L2/L3/L4: MAC, IP, TCP
- MAC-based source/destination ACL
- IP subnet-based source/destination ACL
- Protocol-based source/destination ACL
- ACL over VLAN
- 128 ACLs
- Network storm protection including broadcast multicast and unicast traffic
- DoS
- Protected ports
- MAC filtering
- Port security
- RADIUS (RFC 2865)
- IEEE 802.1x port access authentication (RADIUS)
- TACACS+

### IEEE Network Protocols
- IEEE 802.3 Ethernet
- IEEE 802.3i 10BASE-T
- IEEE 802.3u 100BASE-T
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX
- IEEE 802.3ad Trunking (LACP)
- IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED)
- IEEE 802.1D Spanning Tree (STP)
- IEEE 802.1x Multiple Spanning Tree (MSTP)
- IEEE 802.1w Rapid Spanning Tree (RSTP)
- IEEE 802.1q Quality of Service
- IEEE 802.1Q VLAN tagging
- IEEE 802.1ad Double VLAN tagging (QinQ)
- IEEE 802.1X Radius Network Access Control
- IEEE 802.3x flow control

### IETF RFC Standards – System Facilities
- RFC 768 UDP
- RFC 1350 TFTP
- RFC 791 IPv4
- RFC 792, RFC 2521, RFC 1191, RFC 1788 ICMP
- RFC 793, RFC896 TCP
- RFC 826 Ethernet ARP
- RFC 894 transmission of IP datagrams over Ethernet networks
- RFC 896 congestion control in IP/TCP networks
- RFC 951 BOOTP
- RFC 1321 message-digest algorithm
- RFC 2131 DHCP client/server
- RFC 2132 DHCP options & BOOTP vendor extensions
- RFC 4330 Simple Network Time Protocol (SNTP) version 4 for IPv4, IPv6 and OSI
- RFC 2138 RADIUS Client (both switch and management access)
- RFC 3164 The BSD Syslog Protocol

### IETF RFC Standards – Switching MIB
- RFC 1213 MIB-II
- RFC 4188 Bridge MIB
- RFC 1643 Ethernet-like MIB
- RFC 2233 The Interfaces Group MIB using SMI v2
- RFC 2674 VLAN MIB
- RFC 2618 RADIUS Authentication Client MIB
- RFC 2737 Entity MIB version 2
- RFC 4052 RMON2 Groups 1,2,3 & 9
- RFC 4188 Bridge MIB
- IEEE 802.1X MIB (IEEE 802.1-PAE-MIB 2004 Revision)
- IEEE 802.1AB – LLDP MIB
- ANSI/TIA 1057 – LLDP-MED MIB
- Private Enterprise MIBs supporting switching features

### IETF RFC Standards – QoS
- RFC 2474 definition of the Differentiated Services Field (DS Field) in the IPv4
- RFC 2475 an architecture for differentiated services
- RFC 2597 Assured Forwarding PHB Group
- RFC 3246 An Expedited Forwarding PHB (Per-Hop Behavior)
- Private MIBs for full configuration of ACL and CoS functionality
### IETF RFC Standards – Management
- RFC 854, RFC 855, RFC 856, RFC 858 telnet
- RFC 855 telnet option
- RFC 1155 SMI v1
- RFC 1155, 1157, 1212, 1213, 1215, 2089, 2578, 3411, 3412, 3413, 3414, 3415, 3416, 3584 SNMP v1, v2c, v3
- RFC 1212 concise MIB definitions
- RFC 1867 HTML/2.0 forms with file upload extensions
- RFC 1901 Community-based SNMP v2
- RFC 1908 Coexistence between SNMP v1 & SNMP v2
- RFC 2271 SNMP Framework MIB
- RFC 2295 Transparent Content Negotiation
- RFC 2576 Coexistence between SNMP v1, v2 and v3
- RFC 2578 SMI v2
- RFC 2579 Textual Conventions for SMI v2
- RFC 2580 Conformance statements for SMI v2
- RFC 3410 Introduction and Applicability Statements for Internet Standard Management Framework
- RFC 3411 An Architecture for Describing SNMP Management Frameworks
- RFC 3412 Message Processing & Dispatching
- RFC 3413 SNMP Applications
- RFC 3414 User-based Security Model
- RFC 3415 View-based Access Control Model
- RFC 3416 Version 2 of SNMP Protocol Operations
- RFC 3417 Transport Mappings
- RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
- **SSL 3.0 and TLS 1.0**
  - RFC 2246 The TLS Protocol, Version 1.0
  - RFC 2818 HTTP over TLS
  - RFC 3268 AES Ciphersuites for Transport Layer Security
- **SSH 1.5 and 2.0**
  - RFC 4253 SSH Transport Layer Protocol
  - RFC 4252 SSH Authentication Protocol
  - RFC 4254 SSH Connection Protocol
  - RFC 4251 SSH Protocol Architecture
  - RFC 4419 Diffie-Hellman Group Exchange for the SSH Transport Layer Protocol

### Management
- SNMP v1, v2c, v3 with multiple IP addresses
- Port mirroring support (many-to-one)
- Flow-based mirroring
- Syslog
- TFTP, HTTP, for Configuration files and firmware upgrades
- Runtime image download (TFTP)
- Web-based graphic user interface (GUI)
- Command Line interface (CLI)
- IPv6 Management
- SSLv3/TLSv1.0 Web security for the GUI
- Secure Shell (SSHv1, v2) for CLI
- Telnet sessions for management CPU (5 sessions)
- Configurable management VLAN
- Admin access control via RADIUS or TACACS+
- Secure Shell (SSHv1, v2) for CLI
- Telnet sessions for management CPU (5 sessions)
- Configurable management VLAN
- Admin access control via RADIUS or TACACS+

### LEDs
- Per port: Speed, link, activity
- Per device: Power

### Physical Specifications
- Dimensions (H x W x D): 43 x 440 x 205 mm (1.6 x 17.3 x 8 in)
- Weight: 2.7 kg (5.95 lb)

### Power Consumption
- 21.5W maximum 100–240V AC, 50–60 Hz universal input (all ports used)
- Automatic power saving per port when link down

### Environmental Specifications
**Operating:**
- Temperature: 32° to 122°F (0° to 50°C)
- Humidity: 90% maximum relative humidity, non-condensing
- Altitude: 10,000 ft (3,000 m) maximum

**Storage:**
- Temperature: – 4° to 158°F (–20° to 70°C)
- Humidity: 95% maximum relative humidity, non-condensing
- Altitude: 10,000 ft (3,000 m) maximum
### ProSafe® 24-port 10 Gigabit Stackable L2+ Managed Switch  
XSM7224S

<table>
<thead>
<tr>
<th>Electromagnetic Emissions and Immunity</th>
<th>• CCC</th>
</tr>
</thead>
</table>
| Safety, Electromagnetic Emissions and Immunity | • CB Report & Certificate per IEC 60950-1:2005  
• CCC Mark |
| Package Contents                              | • ProSafe® 24-port Gigabit L2 Managed Switch (JGSM7224)  
• Power cord  
• Rubber footpads for tabletop installation  
• Rubber caps for the SFP sockets  
• Rack-mounting kit  
• Null-modem serial cable (RS-232) with 9-pin connector  
• Resource CD |
| Warranty                                      | • ProSafe 5-year Warranty* |
| Optional Modules                              | • AGM731F 1000BASE-SX SFP GBIC  
• AGM732F 1000BASE-LX SFP GBIC |
| Ordering Information                         | Asia region: JGSM7224-100PRS |