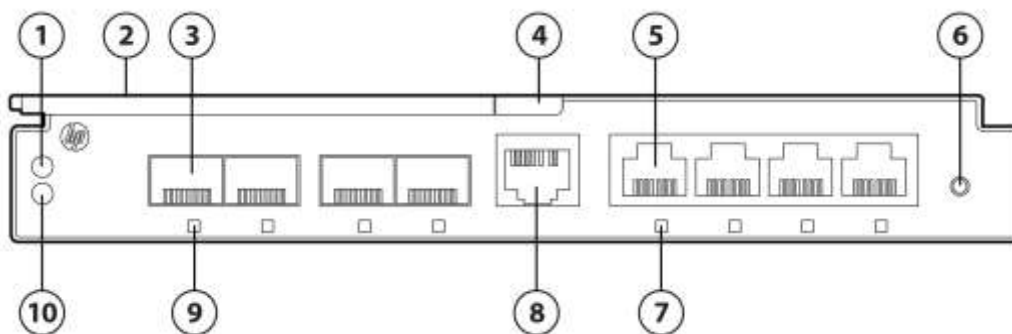


### Overview

### HP 6125G/XG Ethernet Blade Switch

The innovative features of HP Networking products are now available in a hybrid 1Gb/10Gb blade switch format. The HP 6125G/XG brings the resiliency of IRF (intelligent Resilient Networking) stacking and the stability of the Comware operating system to the c-Class BladeSystem. With sixteen 1Gb downlink (server) ports, a combination of 1Gb and 10Gb uplink ports, and a 10Gb cross-link port, the HP 6125G/XG reduces cost, while increasing datacenter efficiency and capability. Switches can be combined at the enclosure, rack or datacenter level into a single virtual switch, and managed through a single IP address. Comware OS provides a common level of features, service and security levels from edge to core. And all network elements can be managed through IMC (Intelligent Management Center) providing comprehensive single pane provisioning of the entire network. Truly versatile, the HP 6125G/XG supports IPv6, full layer 3 routing and distributed trunking. If you're looking for a switch that delivers excellent investment protection, flexibility, and scalability for mixed bandwidth applications, the 6125G/XG is the optimal choice for any data center.



**Figure 1 HP 6125G/XG Blade Switch**

- |   |  |
|---|--|
| 1. Unit ID (UID) LED                            | 6. Reset button                        |
| 2. Ejector lever                                | 7. 10/100/1000Base-T Ethernet port LED |
| 3. SFP+ port                                    | 8. Console port                        |
| 4. Release tab                                  | 9. SFP+ port LED                       |
| 5. 10/100/1000Base-T auto-sensing Ethernet port | 10. Health LED                         |

### Models

HP 6125G/XG Ethernet Blade Switch	658250-B21
HP 6125G/XG Ethernet Blade Switch with TAA	737226-B21

### Compatibility

#### HP ProLiant Servers

- HP ProLiant BL2x220c G7
- HP ProLiant BL2x220c G5
- HP ProLiant BL260c G5
- HP ProLiant BL280c G6
- HP ProLiant BL420c Gen8
- HP ProLiant BL460c Gen9
- HP ProLiant BL460c Gen8
- HP ProLiant BL460c G7
- HP ProLiant BL460c G6
- HP ProLiant BL460c G5
- HP ProLiant BL460c
- HP ProLiant BL465c Gen8
- HP ProLiant BL465c G7
- HP ProLiant BL465 G6
- HP ProLiant BL465 G5

### Overview

HP ProLiant BL465c  
HP ProLiant BL480c  
HP ProLiant BL490c G7  
HP ProLiant BL490c G6  
HP ProLiant BL495c G6  
HP ProLiant BL495c G5  
HP ProLiant BL660c Gen8  
HP ProLiant BL620c G7  
HP ProLiant BL680c G5  
HP ProLiant BL680c G7  
HP ProLiant BL685c G7  
HP ProLiant BL685 G6  
HP ProLiant BL685 G5  
HP ProLiant BL685c

**NOTE:** Some servers listed above may be discontinued.

### HP Integrity Servers

HP Integrity BL860c Server Blade  
HP Integrity BL860c i2 Server Blade  
HP Integrity BL860c i4 Server Blade  
HP Integrity BL870c Server Blade  
HP Integrity BL870c i2 Server Blade  
HP Integrity BL870c i4 Server Blade  
HP Integrity BL890c i2 Server Blade  
HP Integrity BL890c i4 Server Blade

**NOTE:** Some servers listed above may be discontinued.

### ProLiant BL c-Class Server Blade Enclosures

HP BladeSystem c3000 Enclosure  
HP BladeSystem c7000 Enclosure

### Standard Features

#### Standard Features

##### Performance

- Non blocking architecture
- Wire speed switching and IPv4/IPv6 routing on all ports
- Separate 10Gb Internal cross connect between switches
- Combine up to 10 switches into a single virtual switch
- RJ45 ports support 1Gb
- SFP+ ports support either 1Gb or 10Gb depending on module inserted
- Any SFP+ port can be used for IRF connections
- Mix any combination of HP 6125G and HP6125G/XG in a single IRF domain
- Store and Forward Switching
- Hardware-based wire-speed access control lists (ACLs)

##### Management

- Remote configuration and management through Web browser or CLI
- Secure Web-based management through HTTPS
- Standards based SNMP management via SNMPv1, v2c and v3
- OOBM via Onboard Administrator
- GUI Management via Intelligent Management Center
- RJ45 console port
- sFlow and RMON network monitoring
- Manager and operator privilege levels
- Command authorization via RADIUS
- Complete session logging for problem resolution
- LLDP Discovery protocol
- IPv6 management
- Dual flash images
- Multiple configuration files
- Syslog
- Network Time Protocol (NTP)

##### Management

- IEEE 802.1X user authentication
- MAC-based authentication with RADIUS server
- Access Control Lists (ACLs)
- Secure FTP
- STP Root Guard
- DHCP Protection from unauthorized DHCP servers
- IP Source Guard
- Dynamic ARP protection to prevent eavesdropping
- Guest VLAN
- Endpoint Admission Defense (EAD)
- RADIUS/TACACS+
- Secure management via SSHv2 and SNMPv3
- Unicast Reverse Path Forwarding (URPF)

##### Layer 2 Switching

- 32K MAC addresses
- 4094 VLANs
- IEEE 802.1ad QinQ VLANs
- Jumbo packet support
- GVRP VLAN Registration Protocol
- Port Aggregation
- Spanning Tree Protocol, PVST, MSTP, RSTP, STP Root Guard

### Standard Features

- Smart Link fast uplink failure recovery
- IP Multicast Snooping and data-driven IGMP
- Policy Based Routing

### Layer 3 Routing

- IPv4 routing protocols - static routes, RIP, OSPF and BGP
- IPv6 routing protocols - static routes, RIPng, OSPFv3 and BGP+
- IPv6 tunneling
- IP Multicast - PIM-SSM, PIM-DM, PIM-SM, IGMP for IPv4 and IPv6
- Equal-Cost Multipath (ECMP)
- Policy-based routing
- DHCP and DHCPv6 client
- VRRP

### Quality of Service (QoS)

- Advanced classifier-based QoS - classifies traffic using multiple match criteria based on Layer 2, 3 and 4 information; applies QoS policies such as priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- Traffic policing - supports Committed Access Rate (CAR) and line rate
- Powerful QoS feature - creates traffic classes based on access control lists (ACL), IEEE 802.1p precedence, IP, DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror or remark; supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), and weighted random early discard (WRED)
- Storm restraint - allows limitation of broadcast, multicast, and unknown unicast traffic rate to cut down on unwanted broadcast traffic on the network

### Resiliency and High Availability

- Intelligent Resilient Framework (IRF) - Creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 router; Switches do not have to be co-located and can be part of a disaster recovery system; Servers or switches can be attached using standard LACP for automatic load balancing and high availability; Simplifies network operation by eliminating Spanning Tree, ECMP and VRRP
- Device Link Detection Protocol (DLDP) - Monitors Link connectivity and shuts down ports at both ends if unidirectional traffic is detected
- Rapid Ring Protection Protocol (RRPP) - Connects multiple switches in a high-performance ring using standard Ethernet technology; traffic can be rerouted around the ring in less than 50 ms upon failure
- Smart Link - Allows 50 ms failover between links
- Virtual Router Redundancy Protocol (VRRP)

### Monitoring and Diagnostics

- OAM (802.3ah) - Detects data link layer problems in the "last mile"; monitors link status between two devices
- CFD (802.1ag) - Connectivity Fault Detection (CFD) provides L2 link OAM mechanism used for link connectivity detection and fault location
- Mirroring - Port mirroring enables traffic on a port to be simultaneously sent to a network analyzer for monitoring; Flow-based mirroring

### Security

- FIPS 140-2
- IPsec
- IKE (Internet Key Exchange)
- Self-signed certificate for HTTPS
- Disable password recovery

### Service and Support

#### Service and Support

##### HP Technology Services

When you buy HP BladeSystem Options for your HP BladeSystem, it is also good time to think about services. HP Technology Services offers you technical consultants and support expertise to solve your most complex infrastructure problems, giving you one call to make, fast answers, and global reach. We help keep your business running, boost availability, and avoid downtime.

##### Protect your business beyond warranty with HP Care Pack Services

HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business needs.

HP Foundation Care services offer scalable reactive support-packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. If you are running business critical environments, HP offers Proactive Care. This service helps you deliver high levels of system availability through proactive service management and advanced technical response.

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### Recommended HP Care Pack Services for your HP product

#### Recommended Services **3-Year HP 24x7 4 hour response, Proactive Care Service\***

This service gives you combined reactive and proactive support including rapid access to our Advanced Solution Center to manage and prevent problems and a Technical Support Specialist with a broad level of technical knowledge that will engage with additional technical expertise as needed from HP's vast global resources.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

#### **HP Installation of ProLiant Add On Options Service**

This easy-to-buy, easy-to-use HP Care Pack service helps ensure that your new HP hardware is installed smoothly, efficiently, and with minimal disruption of your IT and business operations

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### Related HP Care Pack Services to enhance your HP product experience

#### Related Services **3-Year HP 6 hour Call to Repair Response, Proactive Care\***

Combined reactive and proactive support for hardware and software helping optimize your systems and delivering high levels of availability through proactive service management and advanced technical response. Hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request. A Technical Account Manager, as your single point of contact, will own your call or issue end to end until resolved.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

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#### Additional Services

##### **HP Proactive Select Service**

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

**NOTE:** Additional HP Care Pack services can be found at: <http://h20558.www2.hp.com/portal/site/cpc>

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#### Insight Online/Insight Remote Support

HP Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HP solution. Learn more about Insight Remote Support <http://www.hp.com/go/insightrremotesupport> and Insight Online <http://h18013.www1.hp.com/products/servers/management/insight-online/index.html>

**NOTE:** Insight Remote Support is a prerequisite for HP Proactive Care referenced in Additional Services above.

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#### HP Support Center

Personalized online support portal with access to information, tools and experts to support HP

### Service and Support

business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

**NOTE:** HP Support Center Mobile App above is subject to local availability.

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#### Parts and materials

HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.

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#### Service Coverage

HP Care Pack services for the c7000 and c3000 enclosures cover the HP 6125G/XG Ethernet Blade Switch.

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#### For more information

To learn more on HP BladeSystem services, please contact your HP sales representative or HP Authorized ServiceONE Channel Partner. Or visit: [www.hp.com/services/bladesystem](http://www.hp.com/services/bladesystem)

#### For more information

To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant> or [www.hp.com/services/bladesystem](http://www.hp.com/services/bladesystem)

### Related Options

<b>SFP Options</b>	HP X125 1G SFP LC LH40 1310nm Transceiver	JD061A
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B
	HP BladeSystem c-Class Virtual Connect 1G SFP RJ-45 Transceiver	453154-B21
	HP BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver	453151-B21
<b>SFP+ Options</b>	HP X130 10G SFP+ LC SR Transceiver	JD092B
	HP X130 10G SFP+ LC LRM Transceiver	JD093B
	HP X130 10G SFP+ LC LR Transceiver	JD094B
<b>Direct Attach Cables</b>	HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C

**NOTE:** The transceivers and cables listed above have been qualified and certified to work with this product. Transceiver and DAC cables from any manufacturer will be accepted, but they will not be supported by HP.

<b>Service and Support Offerings</b>	<b>Hardware Services On-site Service</b>	
	HP 3 year 4 hour 24x7 c7000 Enclosure Proactive Care Service	U3C33E
	HP 3 year 6 hour Call To Repair 24x7 c7000 Enclosure Proactive Care Service	U3C36E
	<b>Installation Services</b>	
	HP Installation of ProLiant Add On/In Options Service	UH745E
	Additional HP Care Pack services can be found at:	
	<a href="http://h20558.www2.hp.com/portal/site/cpc">http://h20558.www2.hp.com/portal/site/cpc</a>	
	<b>NOTE:</b> For more HP BladeSystem information, customer/resellers can contact:	
	<a href="http://www.hp.com/services/bladessystemservices">http://www.hp.com/services/bladessystemservices</a>	

### Technical Specifications

<b>Shipping Dimensions</b>	<b>Length</b>	11.54 in (293 mm)	
	<b>Width</b>	14.57 in (370 mm)	
	<b>Height</b>	3.54 in (95 mm)	
<b>Shipping Weight</b>		1.9 kg (4.19 lbs)	
<b>Product Specifications Hardware</b>	<b>Performance</b>	44 Gbps uplink port bandwidth; 16 Gbps downlink (server) port bandwidth; 10Gbps cross-link bandwidth	
		Forwarding rate 1.5 million pps per Gigabit port, (64-byte packets) and 14.8 million pps per 10 Gig port	
		Non-blocking, full-wire speed for all connections Auto-MDI/MDIX, auto-negotiation and auto-sensing with full-duplex support.	
		<b>Forwarding Mode</b> Store and forward	
		<b>MAC Addresses</b> Supports 32K MAC addresses per switch in a BladeSystem Enclosure	
		<b>Forwarding Table Age Time</b> 10 to 1,000,000 seconds (default: 300 seconds) (Maximum age)	
		<b>VLAN IDs</b> 4094	
		<b>Jumbo Frame</b> 9220 Byte	
		<b>IGMP Groups</b> 1024	
		<b>Memory</b> 1 GB Main, 256MB flash and 3MB packet buffer	
	<b>Connectors and Cabling</b>	<b>Connector</b>	4 RJ-45 4 SFP+/SFP (1Gb/10Gb/IRF) 1 RJ45 Management
		<b>Cable Support</b>	FCC Class A ICES-003 Class A AS/NZS 3548 Class A VCCI Class A
		<b>Indicators</b>	Module health, amber/green Module locator (UID), blue 10/100/100Base-T port speed/link/activity, amber/green SFP port link/activity, green SFP+ port link/activity, green
<b>Dimensions</b>	<b>Length</b>	10.5 in (267.7 mm)	
	<b>Width</b>	7.5 in (192.79 mm)	
	<b>Height</b>	1.1 in (27.94 mm)	
<b>Weight</b>		1.32 kg (2.9 lbs)	
<b>Environmental Ranges</b>	<b>Temperature Range</b>	Operating 50° to 95° F (10° to 35° C)	
		Non-operating -40° to 158° F (-40° to 70° C)	
	Relative Humidity (non-condensing)	Operating 5% to 95%	
	<b>Power Specification</b>	<b>Power Requirements</b>	41W

### Standards Support

#### General protocols

IEEE 802.1ag Service Layer OAM  
 IEEE 802.1D MAC Bridges  
 IEEE 802.1p Priority  
 IEEE 802.1Q VLANs  
 IEEE 802.1s (MSTP)  
 IEEE 802.1v VLAN classification by Protocol and Port  
 IEEE 802.1w Rapid Reconfiguration of Spanning Tree



### Technical Specifications

IEEE 802.1X PAE  
IEEE 802.3ad Link Aggregation Control Protocol (LACP)  
IEEE 802.3ae 10-Gigabit Ethernet  
IEEE 802.3x Flow Control  
RFC 768 UDP  
RFC 792 ICMP  
RFC 793 TCP  
RFC 826 ARP  
RFC 854 TELNET  
RFC 925 Multi-LAN Address Resolution  
RFC 951 BOOTP  
RFC 1058 RIPv1  
RFC 1350 TFTP Protocol (revision 2)  
RFC 1519 CIDR  
RFC 1542 BOOTP Extensions  
RFC 2131 DHCP  
RFC 2453 RIPv2  
RFC 3768 VRRP  
RFC 4675 RADIUS VLAN & Priority  
802.1r - GARP Proprietary Attribute Registration Protocol (GPRP)

#### **IP Multicast**

RFC 2934 Protocol Independent Multicast MIB for IPv4  
RFC 3376 IGMPv3 (host joins only)  
RFC 3618 Multicast Source Discovery Protocol (MSDP)  
RFC 3973 Draft 2 PIM Dense Mode  
RFC 4601 PIM Sparse Mode

#### **IPv6**

RFC 4443 ICMPv6  
RFC 4541 IGMP & MLD Snooping Switch  
RFC 4861 IPv6 Neighbor Discovery  
RFC 4862 IPv6 Stateless Address Auto-configuration

#### **MIBs**

IEEE 8021-PAE-MIB  
IEEE 8021-CFM-MIB  
IEEE 8023-LAG-MIB  
RFC 1213 MIB II  
RFC 1493 Bridge MIB  
RFC 1657 BGP-4 MIB  
RFC 1724 RIPv2 MIB  
RFC 1850 OSPFv2 MIB  
RFC 2011 SNMPv2 MIB for IP  
RFC 2013 SNMPv2 MIB for UDP  
RFC 2096 IP Forwarding Table MIB  
RFC 2233 Interface MIB  
RFC 2273 SNMP-NOTIFICATION-MIB  
RFC 2452 IPV6-TCP-MIB  
RFC 2454 IPV6-UDP-MIB  
RFC 2465 IPv6 MIB  
RFC 2466 ICMPv6 MIB  
RFC 2571 SNMP Framework MIB  
RFC 2572 SNMP-MPD MIB  
RFC 2573 SNMP-Notification MIB

### Technical Specifications

RFC 2618 RADIUS Client MIB  
 RFC 2620 RADIUS Accounting MIB  
 RFC 2665 Ethernet-Like-MIB  
 RFC 2674 802.1p and IEEE 802.1Q Bridge MIB  
 RFC 2688 MAU-MIB  
 RFC 2787 VRRP MIB  
 RFC 2819 RMON MIB  
 RFC 2925 Ping MIB  
 RFC 2933 IGMP MIB  
 RFC 3414 SNMP-User based-SM MIB  
 RFC 3415 SNMP-View based-ACM MIB  
 RFC 3418 MIB for SNMPv3  
 RFC 3636 IEEE 802.3 MAU MIB  
 RFC 3826 AES for SNMP's USM MIB  
 RFC 4133 Entity MIB (Version 3)  
 RFC 4878 Ethernet OAM MIB  
 LLDP-EXT-DOT1-MIB  
 LLDP-EXT-DOT3-MIB  
 LLDP-MIB

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**Safety and Compliance**  
**Safety Certifications**

Complies with UL 60950-1, CAN/CSA C22.2 No. 60950-1 and EN 60950-1. UL certified.  
 CE Marking  
 RoHS 6/6 compliant

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**Electromagnetic**  
**Emissions Certifications**  
**FCC Part 15 Class A**

FCC Part 15 Class A  
 EN 55022: 1998 (CISPR22)  
 EN 55024: 1998 (CISPR24)  
 VCCI Class A  
 AS/NZS 3548 Class A CE  
 CNS 13438 Class A MIC  
 MIC

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**Environment-friendly**  
**Products and Approach**

**End-of-life Management and Recycling**

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

### Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change:</b>
15-Nov-2014	From version 7 to 8	Changed	Compatibility section was updated.
21-Oct-2014	From version 6 to 7	Changed	Service and Support, Service Coverage were revised
18-Apr-2014	From Version 5 to 6	Changed	Related Services was revised.
30-Sep-2013	From Version 4 to 5	Changed	Changes made in the Overview and Related Options sections only.
28-Jun-2013	From Version 3 to 4	Changed	Changes made in the Related Options section only.
15-Mar-2013	From Version 2 to 3	Changed	Changes made throughout the Standard Features Section- Added Security information  Changes made in the Related Options Section- Added new part numbers and descriptions as well as deleted part numbers and descriptions
25-Sep-2012	From Version 1 to 2	Changed	Change made throughout the QuickSpecs.

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