



**FDX2460**

# 10 Gigabit Ethernet Aggregation Switch

One Box - Multiple Tricks

shaping tomorrow with you

**FUJITSU**



## Solving Your Problems

Choosing the right Ethernet Aggregator these days can be arduous and confusing. All of them appear to offer the latest IEEE standards, unassailable bandwidths and unbeatable scalability; but none can offer the ultra compactness, impressive versatility, temperature hardened ruggedness, carrier-class reliability at a price tag to help your bottom line like Fujitsu's FDX2460.

Conjuring up a multitude of features and benefits, the FDX2460 represents great value for money when compared to its rivals, whilst giving you the flexibility to expand its capabilities as your business grows.

# Innovation By Design

The FDX2460 is a 10 Gigabit, Carrier-Class, Synchronous, Ethernet Aggregation, Layer 2 Switch. It features; industry leading switching capacity and port density, in a small form factor that supports the delivery of business Ethernet, broadband data and internet access in a cost-effective platform.

We know how much cabinet space is at a premium, so even with all its robust technology packed inside, the FDX2460 is ultra-compact, at a spacing-saving depth of 200 mm. It can be mounted either horizontally or vertically, and its low power consumption will save you money, as well as minimising your environmental impact at the same time. In addition, it is so quiet you will hardly know that it is there!

Temperature hardened, the FDX2460 is built for all seasons. It is equally at home located within environmentally-controlled office locations, ambient conditions in Multiple Dwelling Units (MDUs), or exposed to extreme temperatures in a street cabinet. Its ruggedness makes the FDX2460 the ideal choice for all your deployments.

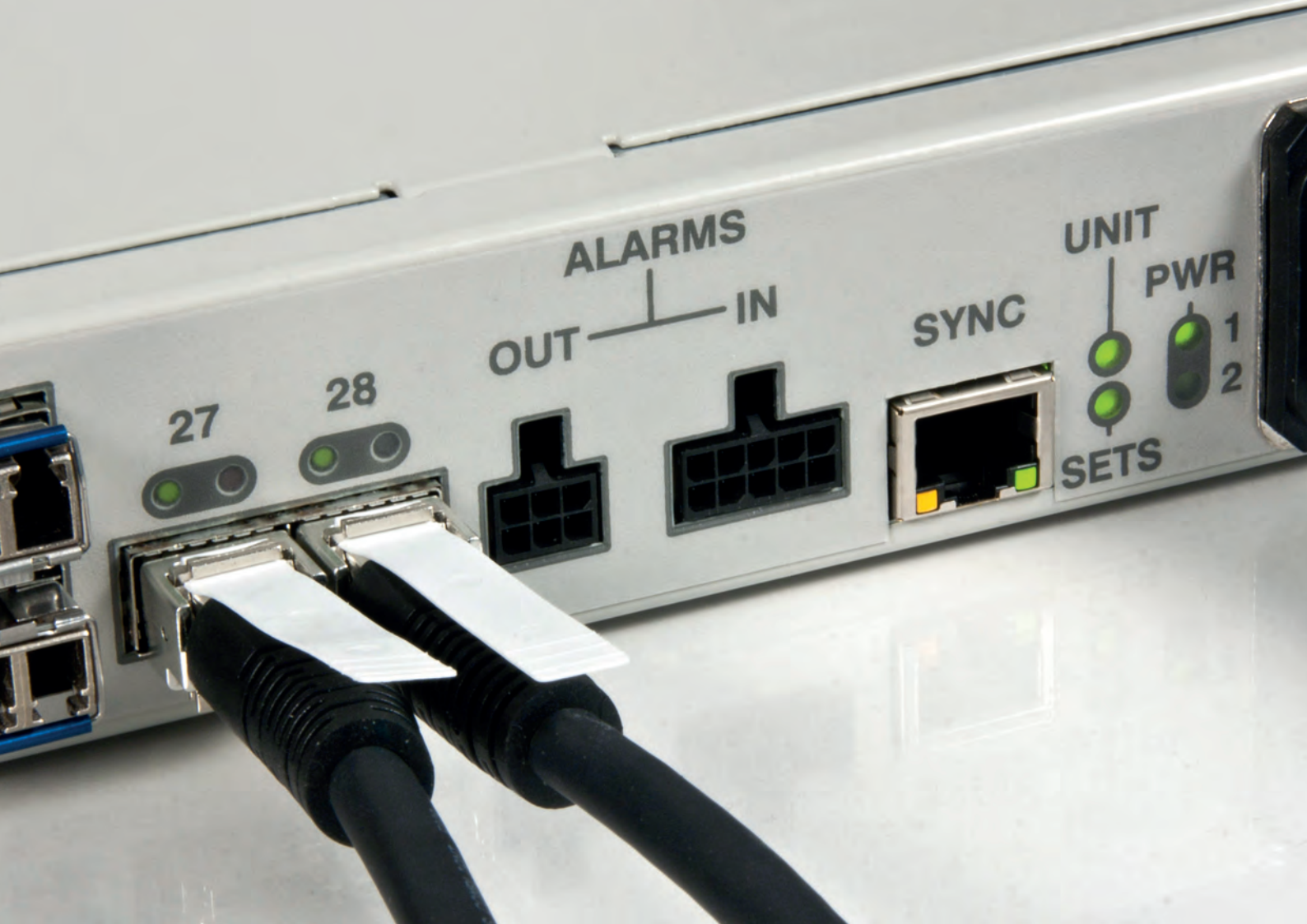
Core to the features supported by the FDX2460 is its flexibility when it comes to using the interface ports. With four 10 GE XFP/SFP+ ports you can choose whether to offer protected services, link aggregation or stack multiple switches; why not use all three. Then, there are 24 GE/FE SFP ports for client interfaces. All of the ports support wire speed and non-blocking switching.

As well as providing multiple port options, the FDX2460 also supports multiple levels of resilience. Unit protection can be facilitated using the stacking ports in the standard active/standby configuration. Link Aggregation (IEEE 802.1AX) can be used, in either load sharing or 1:1 protection configurations, and also VLAN protection (ITU-T G.8031/8032) can be implemented. In addition, the traditional Spanning Tree Protocols (RSTP, MSTP and PVSTP+) are also supported.

Two of the critical building blocks of the Next Generation Networks are Synchronous Ethernet (SyncE) and Precision Time Protocol (PTP), usually supported by expensive Hubs or Routers only. Fujitsu understands its relevance and importance to forward thinking IT managers, so both SyncE and PTP are natively supported by the FDX2460.

Setting-up and managing the FDX2460 is easily achieved via a CLI or SNMPv3. In these risk averse days, we realise how security conscious you have to be, so the FDX2460 supports secure management communications using SSH and SFTP, and secure authentication via RADIUS and TACAS+.

Ethernet networks face the demand for high Quality of Service, especially as VoIP and IP-TV applications require service differentiation, which needs to be offered by QoS enabled Ethernet switches. The FDX2460 implements carrier-class, MEF compliant mechanisms that enable the delivery of a wide range of traffic types and rates, over a single access infrastructure without degradations.



## Bespoke Solutions

Fujitsu provide a range of products, services and solutions to optimise asset retention, to help you maximise your investment.

We pride ourselves on our agility, willingness to listen to our customers and continual innovation. It is within the Fujitsu mindset to consistently demonstrate the ability to respond to changing conditions, and customer interactions as they occur; enabling your company to capitalise on opportunities, drive greater efficiencies and reduce risk.

By combining our wealth of experience with our unrivalled technical expertise, Fujitsu continues to design proven products, such as the FDX2460, that improve customer satisfaction, deliver on promises and drive business efficiency. Fujitsu are responsive to customers' demands, so that we supply genuine products to the market place.

We realise product investment is a long-term commitment, that needs to be delivered risk-free. We also share your ambitions of increasing competitiveness and creating sustainable growth. The FDX2460 will enable you to deliver your promises for years to come, with an inherent capacity to cope with today's requirements and tomorrow's demands. Its versatility and ultra compact design lends itself, in particular, to a variety of business applications. For example, the FDX2460 enables more profitable delivery for a wide range of Ethernet services, such as:

- Business connectivity services
- Layer 2 access to IP services
- Mobile backhaul services
- Consumer and enterprise triple play backhaul services
- Public sector network services

### Key Benefits

- **Ultra-compact** (horizontal or vertical position) – saving you space within your revenue sapping infrastructure
- **Outstanding energy efficiency** – saving your fuel bill with very low power consumption
- **Scalable** – saving you upfront costs, as the ports can be deployed individually as your business grows
- **Temperature hardened ruggedness** – saving you revenue, as the same box can be used in benign office locations or extreme climatic environments
- **Versatile, reliable and resilient** – saving your budget as a carrier class unit with value added features



# 10 GE Switches

## Comparisons at a Glance

The FDX2460 provides superior reliability, proven performance and comprehensive features, when compared to its rivals; all of which help maximise your return on your investment.

	Alcatel Lucent 7210 SAS-E (7210 SAS-M)	Cisco ME 3800X-24FS	Fujitsu FDX2460	Huawei/3Com 5500-EI (SFP)	Zyxel XGS-4728F
<b>Network Interfaces</b>					
Ports 10/100/1000 RJ-45 / 1Gbps Transceiver	24	-	-	-	24 + 24
1Gbps SFP Transceiver	-	24	24	24 + 4	-
10Gbps SFP+ Transceiver			2		
10Gbps XFP Transceiver	2	2	2	2	2
<b>Synchronisation Support</b>					
Synch Ethernet		✓	✓		
PTP Slave			✓		
<b>Ethernet Bridging</b>					
Ethernet Services at the UNI (MEF 9) Traffic Management (MEF 14)	✓	✓	✓	✓	✓
MEF Certification	✓	✓	✓	✓	✓
MAC Address Table Size	16K	256K	16K	8K	16K
VLAN Tagging IEEE 802.1Q	✓	✓	✓	✓	✓
Provider Bridging (IEEE 802.1ad)	✓	✓	✓		
C-VLAN Translation		✓	✓		
<b>Traffic Management and QoS</b>					
Priority Queues	8	-	8	8	8
Traffic Classification (IEEE 802.1p)	✓	✓	✓	✓	✓
Broadcast Storm Control	✓	✓	✓	✓	✓
Rate Limiting and Ingress Policing	✓	✓	✓	✓	✓
Egress Shaping	✓	✓	✓	✓	✓
Bandwidth Meters (CIR/CBS)		✓	✓		
Bandwidth Meters (PIR/PBS)		✓	✓		
Diffserv support		✓	✓	✓	
<b>Network Protection and Rapid Restoration</b>					
Link Aggregation with LACP (IEEE 802.3ad)	✓	✓	✓	✓	✓
Spanning tree (MSTP/RSTP/STP IEEE 802.1D)	✓	✓	✓	✓	✓
Ethernet Linear Protection Scheme (ITU G.80311)			✓		
Ethernet Ring Protection Scheme (ITU G.8032)			✓		
<b>Performance Management and Control Plane</b>					
Optical Performance Monitoring		✓	✓		
Ethernet Performance Monitoring (RMON)	✓	✓	✓	✓	✓
Ethernet in the First Mile (EFM 802.3ah)	✓	✓	✓		
Connectivity Fault Management (CFM - IEEE 802.1ag)	✓	✓	✓	✓	✓
Fault Monitoring (ITU-T Y.1731)	✓	-	✓		
Ethernet Local Management Interface (MEF 16 E-LMI)		✓	✓		

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<b>Multicast Support</b>					
IGMP Snooping / Proxy / Filter	✓	✓	✓	✓	✓
IGMP Fast Leave / Join		✓ Fast Leave	✓		
Cross VLAN Multicast	✓	✓	✓	✓	✓
<b>Security</b>					
Access Control List	✓	✓	✓	✓	✓
AAA/RADIUS Support	✓	✓	✓	✓	✓
Network Access Control (IEEE 802.1x)	✓	-	✓	✓	✓
Local Port Mirroring	✓	-	✓	✓	✓
DHCP Snooping		-	✓	✓	✓
IP SourceGuard		-	✓		
SSH	✓	✓	✓	✓	✓
<b>Device Management</b>					
Craft Console (RJ-45-RS-232)	✓	✓	✓	✓	✓
Out of Band Management (RJ-45 - 10/100/1000 Ethernet)	✓	✓	✓	✓	✓
In Band Management VLAN	✓	✓	✓	✓	✓
Command Line Interface	✓	✓	✓	✓	✓
SNMPV1/V2c	✓	✓	✓	✓	✓
SNMPv3	✓	✓	✓	✓	✓
Network Manager Integration	✓	✓	✓	✓	✓
<b>Hardware Profile and Operating Environment</b>					
Dimensions (H x W x D - mm)	67 x 436 x 253	43.7 x 445 x 516	41 x 448.5 x 200	43.6 x 440 x 300	44.5 x 438 x 310
AC or DC Powered	Both	Both	Both	Both	Both
Maximum Power Consumption	60 W	176 W	70 W	58 W	100 W
Operating Temperature	-40 to +45 °C	-5 to +60 °C	-40 to +65 °C	0 to +45 °C	0 to +45 °C

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