

## SYSTIMAX® GigaSPEED® X10D FTP Q&A

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### Q. Why are SYSTIMAX Solutions - a long time proponent of UTP technology - introducing a FTP cabling offering?

A. SYSTIMAX Solutions will continue to be a leading proponent of UTP technology, and recommends UTP solutions for the vast majority of customer environments and markets. Because the performance of UTP is not dependent on grounding and bonding requirements that may be different in different countries, UTP is a true globally portable solution and technology.

In a mature cabling market like EMEA, there are regions and customer environments where preferences for other cabling technologies have been entrenched for decades. As the market leader in structured cabling solutions, SYSTIMAX Solutions has decided to introduce a FTP solution to address some of these preferences. By leveraging its undoubted leadership in cable and connector design, and its thorough understanding of system-level effects, SYSTIMAX Solutions is introducing a FTP solution that addresses the performance challenges that 10G Ethernet and standards developments bring to FTP solutions.

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### Q. Why now?

With the development of new cabling standards that apply to both UTP and FTP cabling solutions, that set new levels for cabling performance, the GigaSPEED X10D FTP solution has been designed to meet the stringent requirements of the new proposed TIA Category 6A and ISO/IEC Class E<sub>A</sub> specifications (being developed to fully support 10Gbps requirements to 100 m). The SYSTIMAX GigaSPEED X10D UTP solution has met these requirements since it was launched in December 2004.

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### Q. How does the SYSTIMAX GigaSPEED® X10D FTP offering compare to other FTP solutions in the marketplace?

A. The new SYSTIMAX GigaSPEED X10D FTP Solution, designed by the scientists and engineers at SYSTIMAX Labs, is a Copper Foiled Twisted Pair (FTP) cabling solution capable of meeting the proposed TIA Category 6A and ISO/IEC Class E<sub>A</sub> cabling specifications. Up until now and at the time of this development, we believe there are no FTP solutions that match this performance with equivalent cable and connector designs.

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### Q. In terms of key electrical parameters, is the specification the new GigaSPEED X10D FTP solution superior to that of the GigaSPEED X10D UTP solution?

A. Both the GigaSPEED X10D UTP and FTP solutions fully meet the requirements of the new Category 6A and Class E<sub>A</sub> specifications. The GigaSPEED X10D UTP specification has superior margin of performance on parameters such as insertion loss, near and far end crosstalk.

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### Q. What is the cabling specification in the 10GBASE-T standard?

A. The IEEE 802.3an Task Force incorporated the following specifications:

Support for Category 6A/Class EA (ISO/IEC 11801:2002 Edition 2.1) as a cabling objective for a 100 meter channel. New specifications will be published in TIA/EIA-568-B.2 Addendum 10. This specification applies to UTP, FTP and STP cabling.

Support for current Category 6/Class E (ISO/IEC 11801:2002 Edition 2.0) as a cabling objective for channel lengths that depend upon installed performance. Specifications are being published in TIA/EIA-TSB-155 and a Technical Report issued by ISO/IEC, that apply to both legacy UTP and FTP Category 6 installations.

Dropped support for Category 5e/Class D as a cabling objective after study concluded that Category 5e would only support impractically short distances.

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**Q. Does the introduction of GigaSPEED X10D FTP solution imply that both UTP and FTP are capable of supporting 10GBASE-T?**

**A.** Yes, provided the performance of the UTP and FTP solutions meet the relevant standards. The introduction of the GigaSPEED X10D FTP solution is designed to offer those customers with a strong preference for FTP solutions, a solution fully compliant to the proposed new TIA Category 6A and ISO/IEC Class E<sub>A</sub> standards. The GigaSPEED X10D UTP solution already meets these requirements, while being easier to install and deploy. Compliance to these new specifications is not guaranteed with legacy Category 6 UTP or FTP solutions on the market.

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**Q. Where will the GigaSPEED X10D FTP Solution be used?**

**A.** The GigaSPEED X10D FTP solution has been developed for customers with strong preference for FTP solutions, either based on requirements due to harsh electromagnetic environments or due to internal company specifications. In the majority of customer environments the GigaSPEED X10D UTP solution is the recommended solution due to ease of installation and deployment.

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**Q. Will the 20-year SYSTIMAX Extended Product Warranty and Applications Assurance apply to the GigaSPEED X10D FTP cabling solution?**

**A.** Yes, the GigaSPEED X10D FTP Solution will be included in the SYSTIMAX SCS Extended Product Warranty and Applications Assurance Program.

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**Q. Is the GigaSPEED X10D FTP Solution a Category 6 shielded solution?**

**A.** Yes, the GigaSPEED X10D Solution consists of FTP, 4-pair 100 ohm cables and connecting hardware that meets the requirements of the existing Category 6/Class E cabling standards. However, the GigaSPEED X10D FTP solution has also been designed to meet the more stringent requirements of the new proposed TIA Category 6A and ISO/IEC Class E<sub>A</sub> specifications (being developed to fully support 10Gbps requirements).

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**Q. Will the GigaSPEED X10D UTP and FTP Solutions co-exist in the market?**

**A.** Yes, the UTP solution will remain the recommended solution due to its performance, ease of installation and the global market preference. However where the engineering tradition for FTP is common place GigaSPEED X10D FTP Solution will no doubt find particular favor. But even in UTP based markets clients may have preferences such as in industrial or manufacturing locations, where the GigaSPEED X10D FTP solution will offer these customers the option of a fully compliant ISO/IEC Class E<sub>A</sub> solution. The need for preparing for future requirements, flexibility and environment will be determined on an individual needs basis. SYSTIMAX Solutions™ will continue to provide a complete range of advanced solutions to meet the diverse needs of our customers.

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**Q. Is SYSTIMAX Solutions introducing a Category 5e and Category 6 FTP Solution?**

**A.** No. SYSTIMAX Solutions currently has no plans to introduce lower performance FTP solutions. Our strategy is to focus on the delivery of high performance structured cabling solutions for customers' investment protection and technological longevity. SYSTIMAX Structured Connectivity Solutions is recognized worldwide for its relentless drive to provide the world's most robust, responsive and reliable network infrastructures. We're proud to continue that legacy with this latest innovation from SYSTIMAX Labs.

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**Q. Where will these products be manufactured?**

**A.** SYSTIMAX Solutions operates a global manufacturing operation, with facilities on every major continent around the world. This enables us to deliver products of the same design to the same high performance and levels of quality around the world. The new GigaSPEED X10D FTP solution will be manufactured at our production facilities in the US and Ireland. In the future, they may also be manufactured at other facilities depending upon demand.

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**Q. Will special installation techniques and training be required to install GigaSPEED X10D FTP cabling solutions?**

**A.** Not from a cable pair termination standpoint, the GigaSPEED X10D FTP Solution will use the same installation techniques that are used for the GigaSPEED X10D UTP Solution. However termination of the cable shield to the connecting hardware, plus grounding/earthing and bonding requirements will need to be taken into account in the design and installation of the cabling solution and the building in which it is installed. Techniques that are required will be included in the SYSTIMAX SCS Design and Installation Guidelines.

**Q. Do the 15-meter rule and other design rules such as minimum cord lengths apply?**

**A.** Yes. As part of a complete end-to-end solution, design and installation guidelines are a fundamental part of delivering the solution. The GigaSPEED X10D FTP Solution is accompanied by full design guidelines, including different installation configurations and their related cable length, connector spacing in the channel and patch cord length guidelines.

**Q. Do you plan to introduce a STP (Category 7/Class F) cabling offering in the future?**

**A.** SYSTIMAX Solutions have no current plans to introduce a STP cabling offering

**Q: Why should a customer choose a Category 6A/Class E<sub>A</sub> system instead of a Category 7/Class F system?**

**A:** Class E<sub>A</sub> offers performance that exceeds the minimum requirements for 10GBASE-T with RJ45 connecting hardware that is fully compatible with existing RJ45 connectors, cords and equipment jacks. Class F requires the user to choose between two connector types: the "preferred" connector in the standard is a switchable connector with 12 pins that requires a different plug to achieve Category 7 performance, and the alternative choice is a non-RJ45 connector that does not accept RJ45 plugs. Additionally, Category 7 cables are STP cables constructed with individually shielded pairs and an overall shield, resulting in even longer termination times. Given the recognized ability of Class E<sub>A</sub> to support applications from voice and low speed data to 10G with true RJ45 interfaces and easier to install cables, Class E<sub>A</sub> is a better choice for new installations.

**Q. When will products be available?**

**A.** Global product availability is expected to be 4th Quarter of calendar year 2006, with initial product availability on a limited basis. During the limited availability period, orders will be allocated based on approved pre-bid project opportunities. Stocking orders will be accepted once general availability is announced.

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