AMERICAN ACCESS™ TECHNOLOGIES, INC.
Solutions To Open Office Architecture℠

ANSWERS TO FREQUENTLY ASKED QUESTIONS

Q: Exactly what is "Zone wiring?
A: Zone wiring is a method of distributing wiring to workstations within a limited area. The zone can be any size, but a typical zone would be the area between four building columns. In an office environment, the zone might contain 6 to 8 offices or workstations. This method employs home-run “feeder”, or “backbone” cables routed from the wiring closet to an intermediate distribution point within the zone, where they interconnect to individual cable runs that fan out to each workstation outlet.

Q: Is zone wiring a "standards-compliant" solution? What specification covers zone wiring?
A: Zone wiring is a standards-compliant solution. It is covered by ANSI/TIA/EIA Specification 568A. TIA 568A has always allowed for a connection between the wiring closet and the end user, originally referred to as a transition point (TP). In response to consumer requests for more flexibility, TIA has expanded this TP concept in a newly released Telecommunications Systems Bulletin. TSB75 is a supplement to TIA 568A that provides expanded guidelines for horizontal cabling. It specifies optional practices for open office environments, for any horizontal telecommunications cabling recognized in TIA 568A. It specifies optional connection topologies that are easily changed when portions of the horizontal cabling and pathways supported by office furniture or movable partitions are frequently reconfigured.

Q: What are the benefits of specifying zone wiring?
A: Because zone wiring systems usually incorporate modular components and plug-in connectors, they can reduce installation time when compared to traditional installation methods. More importantly, zone wiring offers more flexibility to reconfigure offices to suit frequently changing organizational requirements, with less business disruption and lost time. Reducing disruption and downtime are major cost benefits. If a zone wiring system configuration needs to be changed, the wiring must be changed only from the affected access point back as far as the Zone Distribution Cabinet, and not all the way back to the wiring closet. TSB75 includes this description of the benefits of the expanded guidelines: "An interconnection in the horizontal cabling allows open office spaces to be reconfigured frequently without disturbing horizontal cable runs."

Q: Does TSB75 replace TIA 568A?
A: No. TSB75 is a supplement to TIA 568A. Specifically, the text of TSB75 states: "It is consistent with the minimum requirements of these standards and does not introduce new cabling components, nor does it modify link performance standards. The base generic cabling practices described in TIA-568-A are supplemented, not replaced. While these practices are described in terms of offices, their use in other similar situations is not replaced."

Q: How is zone wiring different from existing structured cabling schemes?
A: The original guidelines of the TIA 568A standard recommend direct, uninterrupted-run cabling from workstation outlets on a floor to a single wiring closet. TSB75 expands the cabling options available to designers and end users. It specifies additional connection schemes and topologies that are easily changed. While the original structured cabling concept emphasized permanence, zone distribution is better suited for systems that change frequently. It provides a way to keep most of the cabling permanent and undisturbed while making it easier to move the rest. Outlets can be relocated within a zone to accommodate the new office layout, but the cables to those outlets must be rerouted only from the zone distribution point. The feeder cabling from the wiring closet to the zone distribution point remains the same, and the office area in between is not disrupted.

Q: Is "zone wiring" the same as "modular wiring"? A: No. You could build a "zone wiring" system using conventional hard-wired techniques, but it is far more economical and flexible to use a modular approach that incorporates standard plug-in connectors and offers significant savings in installed costs and in the cost of moves, adds, and changes.

Q: Where can I use zone wiring?
A: Zone wiring can be used in a wide range of applications. While it is most often associated with commercial open-office environments, it can also be used effectively in fixed offices, call and data centers, and high tech, high churn office environments.

Q: How can I design a zone wiring system for a commercial building?
A: Computer-aided drafting (CAD) and design can create a highly modular, flexible design based on your engineering drawings. The system is entirely factory-built, assembled, tested, and labelled.

Q: What components are required to implement a modular zone wiring system for voice and data?
A: The system includes communications home-run cabling, Zone Cabling Termination Cabinets, communications extender cables, and the end-user interface.

Q: What is the "end-user interface"?
A: The end-user interface is an access floor module, a wall or raceway plate, or office module. It usually contains multiple connectors for a variety of telecommunications devices (computers, telephones, modems).

Q: What is a Zone Cabling Termination Cabinet?
A: The Zone Cabling Termination Cabinet (ZCTC) is equivalent to a "consolidation point," or "multi-user telecommunications outlet assembly," as detailed in TSB75. It provides connectivity closer to the end user, and simplifies moves, adds, and changes. The Zone Cabling Termination Cabinet typically has ports to service the "zone" for all voice and data requirements. Connectivity options include Category 3 through Category 5 and above, UTP/STP, or fiber optics. The ZCTC also supports the “Distributed Hub” zone cabling design, which incorporates the use of a horizontal Fiber Optic “backbone” to the Active Zone Cabinet. Here, the media is converted to copper and routed to the end-user interface.

Q: What are extender cables?
A: Extender cables are used to connect the desktop devices to the zone distribution box. The exact configuration of the cable varies based on end-user requirements. They are generally RJ45 or SC at the Zone Cabling Termination Cabinet and factory-terminated on a 110 style or SC connector at the faceplate.

Q: What if the office layout changes?
A: With conventional hard-wired systems, a change in office layout means that wires must be pulled out and replaced from the workstation all the way back to the wiring closet. With a zone wiring system, the only wiring that changes is the segment from the zone distribution box to the workstation. With a well-designed modular system, this can usually be done by unplugging the connections, moving the outlet box, and plugging it in again. Most important, the wiring from the zone box to the wiring closet is undisturbed.

Q: How do zone wiring systems address future expansion?
A: The systems are typically designed to meet customer-defined requirements. We strongly suggest that the initial design of any system should include at least the minimum of one voice line and one data line, as recommended in TIA 568-A. We also suggest including a minimum growth factor of 25 per cent in the number of current-carrying conductors available, and in the ports available in the zone cabinets.

Q: Where can I find more information about Zone Cabling?
A: Contact American Access Technologies by calling (800) 285-2070 or visit our website at www.aatk.com