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EXAMINING THE TERMINATION METHODS FOR THE CLARITY SNAP™ PRE-TERMINATED CABLING SYSTEM

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POSITION PAPER

Ortronics® Clarity SNAP™ pre-terminated cabling system features a bifurcated (two-piece) termination method. In this position paper, we will explore how this termination method relates to the TIA standards.

In its definitions for modular connecting hardware, the TIA states that connecting hardware will facilitate the mechanical termination of horizontal cable. The Clarity SNAP connection does, indeed, facilitate the termination of cable. For modular interfaces, connecting hardware also needs to provide a modular connection (T568A or B wired modular jack) to allow connection with the modular plug (T568A or B wired 8-position RJ45 type) end of a patch cord for the purpose of connecting to equipment or cross-connect administration. The SNAP connection also facilitates this function.

Clarity SNAP technology separates the mechanical termination of cable into two parts. With the SNAP system, the termination of cable is not complete until the orange “SNAP” cable side of the termination is attached to the orange “SNAP” (rear) side of the panel or workstation connection. A SNAP cable end will only connect with a SNAP connector end. Neither can be used independently to connect directly into a T568A or B modular interface that the TIA calls out for administration of cabling or connection of equipment with patch cords.

Both ends of the SNAP termination are color coded orange to highlight that they are only intended to be attached together and are not themselves a T568A or B-wired 8-conductor connection. When connected to SNAP patch panels, SNAP cable assemblies facilitate the termination of the horizontal cable to the orange side of the panel. Cabling administration is done using patch cords on the other side (black RJ45 side) of the panel.

In the TIA/EIA-568B standard, connecting hardware is defined as a device providing mechanical cable terminations. When used in a patch panel, connecting hardware facilitates the termination of the horizontal cable on one side and cabling administration using patch cords on the other side. In a cross-connection, a connection scheme is provided between cabling runs, subsystems and equipment using patch cords or jumpers that attach to connecting hardware on each end.

Under these definitions, a Clarity SNAP patch panel or workstation port terminated with a Clarity SNAP cable assembly represents a single connection, as you would have with a

standard field-terminated port. The SNAP bifurcated approach to termination fully supports the 4-conductor channel budget (the maximum) allowed by the 568B standard.

When used in a cross-connection, Clarity SNAP patch panels (terminated with SNAP cable assemblies) provide a connection scheme between horizontal cabling runs, subsystems and equipment using patch cords or jumpers.

An additional question might be the impact of the SNAP design (using bifurcated termination) on installed performance. The cables used in SNAP horizontal assemblies are solid conductor constructions of Berk-Tek LANmark-350 for Category 5e, LANmark-1000 or LANmark-2000 for Category 6, and LANmark-10G2 for Category 6A. Each of these exceeds the horizontal cable requirement listed in TIA/EIA-568-B.2 Section 4 to support horizontal cable distances up to 90 meters. The combined SNAP cable end and adapter exceed the balance twisted pair connecting hardware requirements listed in TIA/EIA-568-B.2-1 Section 5 and TIA/EIA-568-B.2-10. Combining the SNAP cable assemblies with SNAP panels/adapters provides above the standards permanent link performance

Clarity SNAP solutions provide the additional benefit of improving pair balance through the connection. Improving pair balance enhances the cabling system’s ability to minimize the radiation of the signal-out side of the pair and also to resist interference from other internal pairs or from noise sources outside the cabling. Four SNAP connections can reside within a compliant channel configuration and pass channel testing with margin.

In conclusion, the Clarity SNAP termination method is in full compliance with the TIA/EIA-568B standard. The bifurcated termination provides a single connection when the cable assembly is connected to the back of the patch panel or workstation port. The Clarity SNAP system meets the definitions for connecting hardware as outlined by the 568B standard, and provides the specified performance levels. In addition, Clarity SNAP provides the additional benefits of a factory-terminated system as well as the enhanced performance of Clarity connectivity technology.