

ACCELERATING CAT 8 CABLE ADOPTION

Advanced circuit board technology enables patented RJ-45 plug helps to ensure Category 8 Ethernet cabling performance of up to 2,000 MHz.

Category 8 Ethernet cable will play a major role in meeting today's burgeoning needs for high-speed communications, whether in the data center, voice, video or other high bandwidth applications that run on copper cable for distances up to 30 meters.

To ensure that Category 8 adopters will effectively reach data speeds of up to 40 Gb/s – four times the speeds of many of today's users - OCC (Optical Cable Corporation) is introducing a new RJ-45 plug with integral circuit board technology that provides advanced control of crosstalk, return loss, and other impediments, ensuring consistent performance at higher frequencies up to 2000 MHz.



Prior to the introduction of this product cable engineers viewed the challenge of transmitting data at rates of up to four times faster over a standard RJ-45 connector as a major concern.

"Essentially, the new plug contains technology that provides advanced control of plug performance," says Derrick Stikeleather, OCC Copper Connectivity Manager and Member of the TIA Engineering Subcommittee TR-42.7. "In a conventional category style plug, the plug wires must be arranged in specific positions, leading to variations in performance. But when a circuit board is used, it basically eliminates the possibility of plug wire variations. It also means that electrical properties transition from a cable to a terminal in a more controlled fashion."

Stikeleather adds that the new, proprietary technology utilizes a higher performance type of circuit board material than what is contained in a standard connector. "Without this, achieving quality data transmission rates of 40 Gb/s would not be possible," he explains.

The new plug, which was recently granted a patent for circuit board layout and the advanced materials used in its construction, is ideal for direct-attach, high-speed links and data center server connections.

Stikeleather also said the plug provides consistent and reliable terminations that are guaranteed to meet or exceed the recently approved Category 8 standard when paired with compliant Category 8 cable. The new RJ-45 plug model is fully backward compatible with existing RJ-45 infrastructure used by a majority of Ethernet connection ports, including Cat 6A, Cat 6 and Cat 5e cabling. It is field installable, and should be familiar to many cable installers.

The new RJ-45 plug is also compatible with OCC's family of ruggedized RJ-45 connectors, a family of receptacles, plugs, and back shells that enables users to extend their Ethernet platforms into harsh industrial and military operating environments.

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