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(54) Title: POWER OVER ETHERNET FOR 10GBASE-T ETHERNET

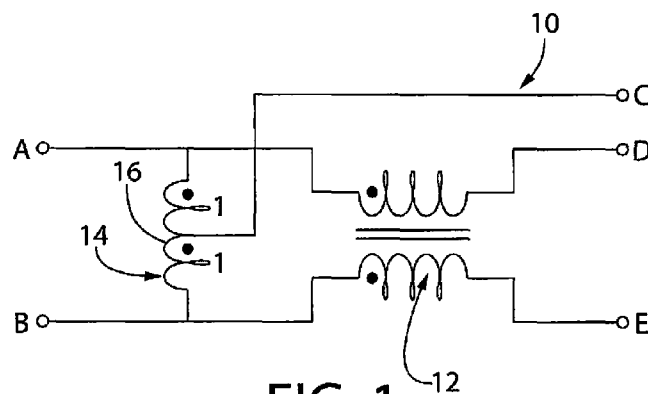


FIG. 1

(57) Abstract: A power over Ethernet (PoE) interface for 10GBase-T Ethernet includes at least one communication channel Ethernet interface including an autotransformer having a center tap for coupling direct current (DC) power. A combination of the geometry of the toroid core of the autotransformer and in some embodiments of a common mode choke, as well as the wire twisting, the wire distribution and the wire routing allow maximizing bandwidth up to or greater than 500 MHz for 10GBase-T performance by increasing the coupling and reducing capacitance across the wires, and results in return and insertion losses and OCL that meet anticipated standards.

