

Laser Drilling as an Alternative for Via & Microvia Drilling

Much like actual cities where streets and roads connect buildings together, ICs on a board are connected to each other with copper traces. And just like any metropolitan city, urban expansion tends to move vertically instead of horizontally, but instead of multi-story buildings, we get multilayer boards.

Vias are copper-plated holes spanning through the different layers of a given board or panel. They are the entrance locations to the subway stations, if you will. Having those multilayer boards has enabled electronic design to minimize the size of boards immensely without compromising on the complexity.

The holes for component leads and contact points are drilled into the board using “via drilling”. This type of drilling was traditionally done using a drilling machine, but more and more manufacturers are turning to laser machines.

Prior to automated computer software, the board was made using point-to-point wiring and a drill press, which was not only tedious to design and wire but led to a lot of short circuits and wire junction failures. With the advent of automated laser drilling machines, the thousands of holes that are in each board, are drilled at a rapid rate without the need for point-to-point wiring.

Vias can go through all layers of a certain board, or they can be between certain layers only and not through the entire stack up (blind vias). Since the signals move horizontally through the copper traces and vertically throughout the different layers through vias, you can think of vias as the Mario Bros tunnel entrances.

www.a-laser.com

[Laser Drilling Services | Best Alternative to Mechanical Drilling \(a-laser.com\)](http://www.a-laser.com)