ADDITIVE MANUFACTURING

Multilayered 3D-Printed Electronic Circuits

SUMMARY

The University of Texas at El Paso seeks a partner for licensing a method for creating VIA and PAD in 3D printed circuitry.

TECHNOLOGY

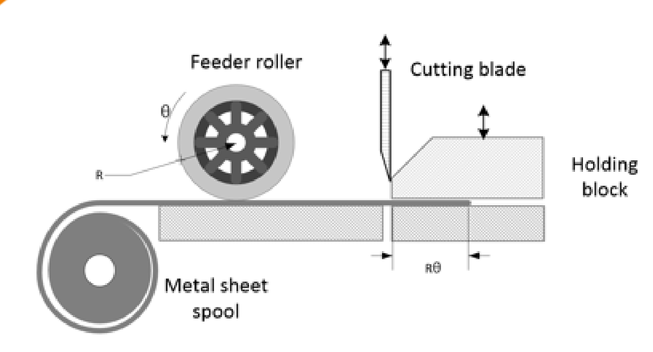
The 3D-printed circuit board resolves the difficulties of fabricating a vertical interconnection access and placing a pad on a mid-build 3D printed multi-layered electronic circuit. 3D printers enable the production of electronic circuits by directly adding conductive ink or metal wires as interconnect between components. For the 3D printed circuit to attain the same functionality and interconnect complexity as a traditional circuit board, however, the 3D printed circuit must have a multilayered structure to avoid collisions and improve routability. A multilayered electronic circuit is composed of not only uniplanar conductive connection, but also a VIA (Vertical Interconnection Access) among two or more layers. Also, many electronic devices are made for surface mounting, so a pad – flush to the surface - must be provided on which the components are mounted.

ADVANTAGES

- Easily creates a pad for mounting electronics.
- Produces a vertical interconnection access for improved multilayered functionality.
- Pin insertion during printing to enclose vertical interconnection access within board.

APPLICATION

- Automotive
- Aerospace
- Consumer Electronics
- 3D Printed Electronics



Cutting process for the pin used as a VIA or PAD.

INVENTORS

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PATENT STATUS

Patent Pending

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