

Eliminate soldering PC/104 connectors by using pressfit-style connectors

By David Goodman

Until recently, all long tail PC/104 connectors required a through hole solder application. While the few through hole components may be hand or wave soldered, this is extremely difficult and time-consuming for the 104 gold-plated connector pins. Solder pre-form donuts or solder and flux bearing clips allow for improvements in the soldering process by eliminating the hand soldering operation. They do, however, still require a high temperature IR or hand solder process and close visual inspection. The only other option for applying a long tail stack through connector is with compliant pin technology.

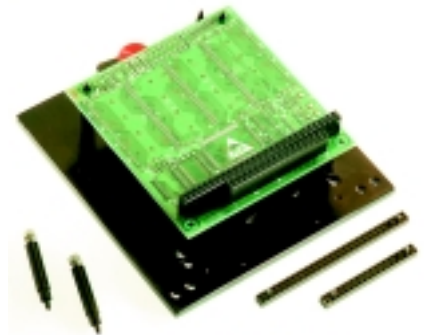
Adopted by the telecom industry many years ago, pressfit technology has proven itself to be a cost-effective alternative to soldering connectors to a board. The compliant pins on the connector are designed to deform during the "press-in" process, resulting in an extremely tight and reliable connection to the PCB (see Figure 1). Extensive laboratory testing and years of field operation have proven pressfit connector reliability in demanding environments. Pressfit connector technology using compliant press-in zones on every pin has revolutionized the way board manufacturers mate connectors to PCBs of all kinds. It is the simplicity of apply-

ing the connector to the board, and the superior mechanical holding ability, which makes pressfit connectors a cost-effective solution to soldering.

The pressfit advantage:

- Proven reliability in environmental testing where temperature changes, shock, and vibration weaken solder joints
- Constant and defined impedance across all positions (excellent high frequency properties)
- Compensation for plated through hole irregularities
- No thermal stresses on the PCB
- No chance of fumes, gases, flux residue or solvents penetrating the solder joint
- No risk of cold solder joints
- No risk of shorts as a result of solder bridging
- No risk of solder interference on long tail connectors
- Fast and reliable application of the connector to the board with simple insertion tools
- Serviceable and replaceable single contacts and whole connectors

PC/104 connectors are now available in pressfit versions in long and short tail. This allows for fast and simple insertion of the connectors into the finished boards, without any risk of uneven solder flow or contamination to the gold tails of the connectors. Fast and simple insertion of the connector into the through hole is accomplished by means of a flat rock tool and a simple bottom support fixture mounted on a hand press. The entire press-in process takes less than five seconds, with all positions maintaining equal resistance across the hole. Another added benefit of pressfit connectors is the abil-



ity to rework the board by pressing the connector in a reverse process, allowing a replacement connector to be inserted.

The innovative pressfit-style connector is a revolutionary concept in the PC/104 market. Ω



David Goodman is the marketing manager for ept inc. and continues to be the resident expert on pressfit insertion techniques. He has been the pressfit insertion and

tooling engineer for ept inc. for the past three years. One of Dave's primary functions is specifying tooling and equipment to perform quality pressfit insertions while optimizing production through-put. Field work includes performing press installations, insertion demonstrations, and training for new pressfit customers. Dave's goal for the ept team is to reduce the through hole soldering methods for electronic connectors and components by assisting customers with identifying pressfit applications as a time- and cost-saving solution.

For more information on pressfit connectors, contact Dave or the sales office at:

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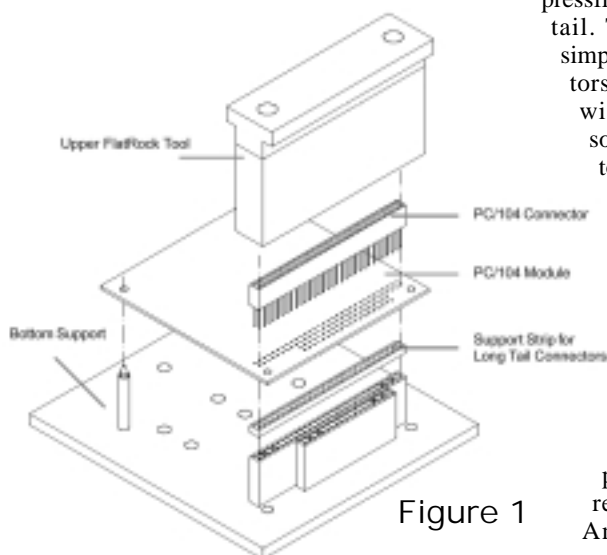


Figure 1