

INTERCONNECTIONS

ZIERICK MANUFACTURING CORPORATION

SPRING 2000

Zierick Marks 80th Anniversary

A HERITAGE OF CONTRIBUTIONS TO INDUSTRY

In 1919, Zierick was founded to provide electrical metal stamping for a young but burgeoning radio industry. The company immediately became the local source when parts were needed for radio repairs. The company's output was "build to print" at first, but quickly grew into a standard product line with capabilities like plating, tapping, and riveting added.

By the time World War II began, Zierick had stamped all sorts of items, even sleigh bells! The war, of course, both accelerated and focused industry, and by the end of it the Zierick catalog listed rivet terminals, lugs, clips, splices, and many other products for every sector of the electrical and electronics industry. . . including early circuit boards.

By the late 1970's, customer needs changed Zierick's direction — motivating the company to create an R&D department and to increase its engineering staff from one to six. That's when Zierick began to introduce innovative designs that enhance



Zierick 1949

connection integrity, following the development of hardware and connectors with the introduction of automated assembly tools for terminals assembly. In the ensuing decades Zierick has contributed a wide range of interconnection solutions to applications throughout industry.

Highlights

A case in point is the solution Zierick provided General Motors at the beginning of the 1990's. The application was automotive suspension level control and the product in use at the time was a conventional insulation displacement connector (IDC). Drawbacks to this design included 1) creep, or sizing, which is the reduction of the wire diameter due to environmental conditions, 2) stress relaxation, the reduction in force over time with constant deflection, and 3) movement between conductor and contact. Furthermore, conventional IDCs were limited to one wire gauge, and further limited to one time use.

Zierick's Torsion-Lok™ IDC solved all of these problems by using U-shaped torsion beams that maintain pressure on the wire *without* taking a permanent set. They replaced the cylindrical avionics type connector system and *saved GM \$6.3 million per year on 900,000 units.*

Innovation

Another breakthrough came in response to a need to stack several dozen circuit boards, with each parallel board communicating at high frequencies with the oth-



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ers. The application was the Cray C-90 supercomputer. The only board-to-board connectors available for this kind of application were compliance-fit pins, but conventional pins could not handle the 25% variance in through-hole diameter attendant on this application.

Zierick's solution was the Pro-Wave™ system comprising a wave socket, a contact pin, and a plated through-hole. The socket consists of a cone-shaped, self-adjusting, funnel section and a pair of progressive wave spring contacts. The contact portion of the socket is shaped like a series of waves with progressively increasing amplitude. This feature creates several inner and outer contact points.

Not only was Zierick's design chosen over those of such companies as Molex, AMP,

Continued on page 3

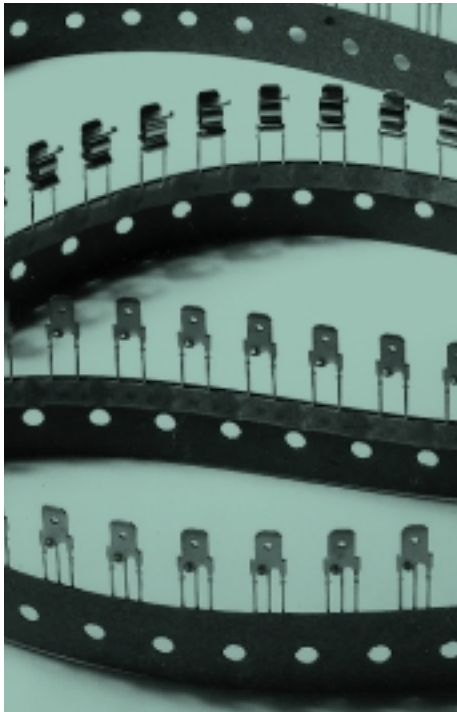


Zierick 1969

End-taped PCB (Ammo-pack) Terminals for Radial Insertion

To further broaden its range of terminal packaging options, Zierick offers 'radial-leaded' PCB terminals for use with radial insertion equipment.

Zierick taped terminals are packaged for use with Panasonic, Universal, and other radial insertion systems. They are interchangeable with many loose piece terminals and include quick disconnects, test points, fuse clips, grounding lugs, board terminals, and lead receivers.



And speaking of problems solved, our quick disconnects with patented Stable-Lok™ mounting design address PCB retention by doubling terminal strength against board fracture and therefore minimizing the chance of mounting leg breakage. The Stable-Lok™ concept shifts pivot points to outer areas for a stabilizing resistive torque. Integral "domed" stabilizers eliminate fixturing while contributing to secure placement in the board.

Stable-Lok™ terminals easily replace conventional terminals resulting in little or no board redesign. Custom terminals, a Zierick specialty, can be designed to meet unique requirements.



CAT 35: Revised and On The Web

CAT 35 Interconnection Hardware has been updated to include new products added to our complete line of items—including a full range of terminals, quick disconnects, lockwashers; solder, jumper, eyelet, and screw terminals; fuse and spring clips, brackets and clamps. The free catalog contains schematic drawings with complete specifications, tolerances, and ordering information for all products. The new catalog is a companion piece to Zierick's *CAT 36* which details the company's complete line of connectors for surface mount and through hole applications, as well as high performance assembly equipment. Call us for your free copy of either catalog or see them when you visit www.zierick.com.

Zierick Upgrades Lockwasher Terminal Product Line

Bronze standard parts will be offered at brass prices.

Zierick Manufacturing Corp. is upgrading its lockwasher terminal product line to include only Zierick's CDA 42500 bronze parts and the military-standard version with heavy Mil Std. Sn/Cu plating. The bronze lockwashers offer superior lockwasher retention properties. In consolidating this product line, Zierick is able to offer superior phosphor bronze parts at prices comparable to those of brass parts. Each of these part numbers can be referenced in the Zierick Catalog or on Zierick's website at www.zierick.com.



SMT Pins & Headers

Zierick is proud to introduce PCB pins and headers for surface mounting. These new components use the reflow process to improve solder joint strength for use in a wide range of PCB applications.

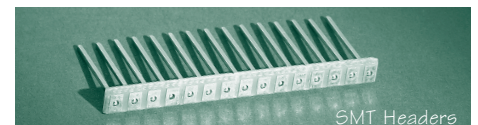
Enhanced capillary action of the solder paste during reflow draws the pin or header down tightly to the PCB, making a connection that exhibits 50% higher retention

force than that of conventional designs. This capillary action also pulls the pin or header into proper position on the solder pad — pins



stay where placed; headers reflow into position. Improved co-planarity can be expected.

Further, in the case of headers, because the component base is made of the same material as the PCB, there are no thermally induced stresses on the solder joint. This feature assures long term reliability.



Pins are available in square or round designs in a variety of sizes from 0.025" to 0.080" with tin/lead or gold finish. Headers are 0.025" square pin strips and available in multiple formats.

Samples of pins and headers along with a video CD that shows the capillary action during reflow is available without charge.



80th Anniversary *Continued from cover...*

and Berg, but the Pro-Wave™ won awards for both design and metal forming.

Expanding the Scope of SMT

The first is still the best, referring to Zierick's Surf-Shooter SMT™, the system that finally assured both accuracy and cost-effectiveness in automating assembly of odd-form parts. The feed/shear/present system handles continuous strip connectors. Connector post reflow location is assured by a combination of terminal design and controlled solder paste volume. Internal holes or slots at the base of the terminal promote a capillary action that minimizes float during reflow and draws the part down onto its pre-reflow position with a high degree of accuracy, even if the part were placed off center.

And because the Surf-Shooter SMT™ system operates with virtually any standard flexible placement system, equipment

investment is low and ROI extremely fast. In the years since introduction of the Surf-Shooter SMT™, Zierick has continued to design SMT terminals which take advantage of the Surf-Shooter SMT™ feeder system. They include connectors, pins, posts, headers, jumpers, IDCs, fuse clips, test points, quick disconnects, and receptacles.

The Next 80 Years

Who can look even ten years into the future? But you can be sure of two things: 1) the technology of today will be completely outmoded, and 2) Zierick will have a leading role in the interconnection technology of tomorrow.



Zierick 1999

Better than ever... www.zierick.com

Zierick has completely redesigned its website to make easier for customers and browsers to find exactly the information they need quickly and painlessly. By adding a site map, we have enabled visitors to see, from one page, each level on the site and the information contained on that level. For even faster navigation to the required information, we've added an advanced search engine which will immediately go to whatever item entered either by name or part number.

Information Rich

Once the item of interest has been found, the visitor has complete specifications, tolerances, photos, schematics, and ordering information ready to download and print out.

Our site includes Zierick's complete library, including the newly published Cat 35. You will also find our comprehensive Cat 36: 100 pages of surface mount and through hole interconnection and assembly solutions, including the Surf-Shooter SMT™ and new Model 9700 Semi-Automatic Terminal Insertion System. These are just two of Zierick's line of assembly systems for low, medium and high volume applications. Our web library also includes data sheets, featured articles, press releases, newsletters, and case histories.

Effortless Updates

If you would like to receive the latest data automatically by email, simply go to **www.zierick.com/update** and register. You'll receive notification of new products and services as they become available.



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Please fax your completed form to (914) 666-0216.

Access the Zierick Reference Library

Please check literature you would like to receive.

- Catalog 36, Surface Mount & Through Hole Interconnection & Assembly Solutions
- Catalog 35, Interconnection Hardware *Just released!*
- Through Hole & Surface Mount Interconnection Capabilities
- Through Hole Assembly Solutions, Assembly equipment to Meet All Your Terminal Insertion Requirements
- Surface Mount Technology
- Video* Zierick Manufacturing Assembly Equipment
- Video* Model 9501 Operation and Maintenance
- Visit Zierick on the web
www.zierick.com
E-mail to: sales@zierickhq.com
- Header reflow movie and headers/pins samples

CAT 35
Interconnection
Hardware NEW!

CAT 36
Electronic
Connectors
& Assembly
Equipment

Capabilities
Brochure

Through Hole
Assembly
Equipment

Videos



Zierick is continually updating its database, and we're asking for your help. Please fill out the form below and fax it back to (914) 666-0216. Your cooperation will help us serve you more efficiently.

Name _____

Company _____

Title _____

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Phone _____ Fax _____

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I would like to receive Zierick newsletters and news releases via e-mail: Yes No

VOL. 2, ISSUE 3

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Postmaster: Address Correction Requested

