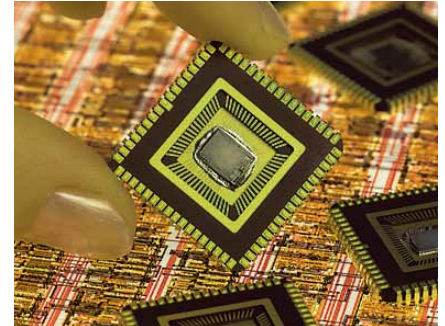
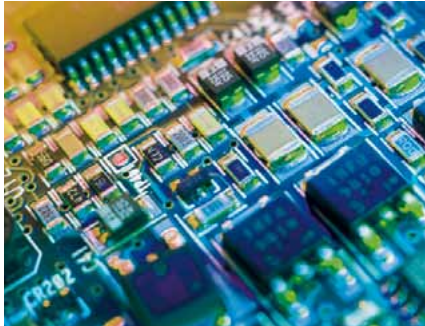


VIERLING Production – Overview

VIERLING



Your partner for electronic manufacturing services

Would your company like to reduce costs and focus on its core areas of expertise? Are you looking for a supplier that can manufacture electronic modules, devices and systems at a reasonable price while still adhering to very high quality standards? **VIERLING Production represents a good choice regardless of the quantity you need or how extensive your outsourcing requirements are.**

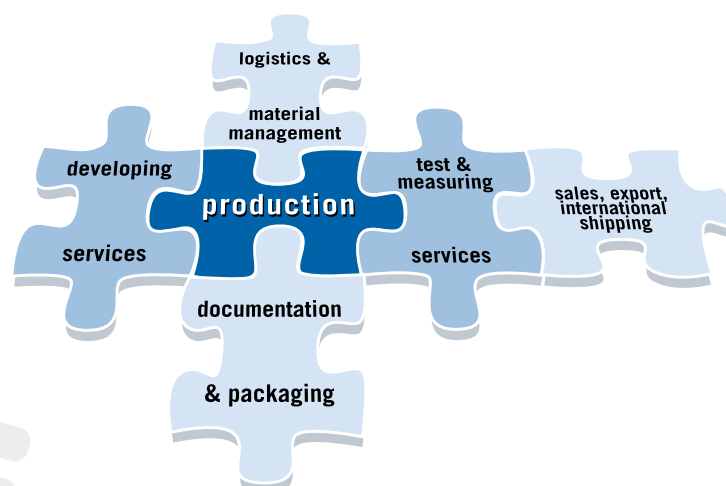
As a full-service provider, VIERLING Production offers everything you need, including **development, logistics, production, testing, technical documentation, packaging, shipping, export**

and **sales support**. You simply decide what solution you need, whether it's a complete package or individual components. You will be assigned a fixed contact person inside our central project management department.

VIERLING Production's clients include major corporations in the automotive, IT and telecommunications industries, mid-sized companies in a variety of sectors as well as a number of innovative engineering firms. We have the flexibility needed to meet your requirements. You can choose modular service components according to your needs.

A single supplier for everything from planning through production:

- Professional project management with dedicated project manager
- Better efficiency through compact structures
- Fast production of prototypes
- Fast, flexible handling of change orders (during the entire production process)





It's your choice

Production

With its state-of-the-art production facilities, VIERLING Production is capable of manufacturing any lot size you need for series items as well as for prototypes and complicated individual items. We are known for our speed and affordable price. We produce and assemble electronic modules, devices and systems.

Using high-speed, precision pick & place machines, our surface mount technology (SMT) lines are capable of installing surface mounted devices (SMDs) to size 0201, fine-pitch ICs to 0.3 mm as well as BGAs with great accuracy. We solder single- and double-sided modules using reflow technology. For conventional placement work, we use

laser-guided, programmable, CAD-compatible placement tables (inline operation with a wave soldering system). For particularly challenging modules and backplanes, we deploy a vapor-phase soldering machine. For a no-clean soldering process using nitrogen and for automatic partial soldering, we have a special reflow kiln, wave soldering systems and selective soldering robots.

Our quality management system is certified in compliance with DIN EN ISO 9001: 2000 to ensure production according to the highest standards. To help protect the environment, we use recyclable materials and packaging combined with low-emission manufacturing techniques. We are able to solder unleaded and leaded as well.

From prototype through series production

- Solder paste printing (fully automatic / semiautomatic)
- SMD placement 0201
- Convection reflow soldering
- Vapor-phase soldering
- Infrared reflow soldering
- Selective soldering
- Offline component setup
- Manual offline placement programming
- Mixed assembly (SMD/discrete)
- Pressfit technology
- Device and system assembly
- Testing
- Automatic optical inspection
- In-circuit tests
- Flying Probe tests
- Boundary Scan tests



VIERLING Production uses modern SMT lines



Complete devices including packaging and technical documentation, figure above: measurement tool for optimal fitting of glasses with progressive lenses by Rupp + Hubrach

A complete package or individual components



Development

When required, VIERLING Production can handle the complete hardware design process and develop complex software to go with your hardware. You just define the requirements and we will deliver customized solutions. VIERLING Production will provide support during the analysis and system conception process, including preparation of functional specifications, feasibility studies, rapid prototypes and proofs of concept. Together with our engineering partners we are able to meet the requirements of nearly all industries.

Logistics & material management

You can also count on us for logistics and material management, including complete planning and administration of your order, scheduling, purchasing as well as production planning and management.

Test & measurement

VIERLING Production uses run-in and system tests along with a variety of tests and measurements to ensure the functionality and maximum quality of your products. You can depend on our expert employees and modern facilities.

VIERLING Production provides a custom-developed test and measurement plan including automatic optical inspection (AOI)

for surface mounted devices (SMD) and through hole technology (THT), in-circuit tests (ICT) for components and connections, flying probe tests, extended and boundary scans for programming, connections and components, functional testing for software, hardware, protocols and interfaces as well as a wiring test.

Documentation & packaging

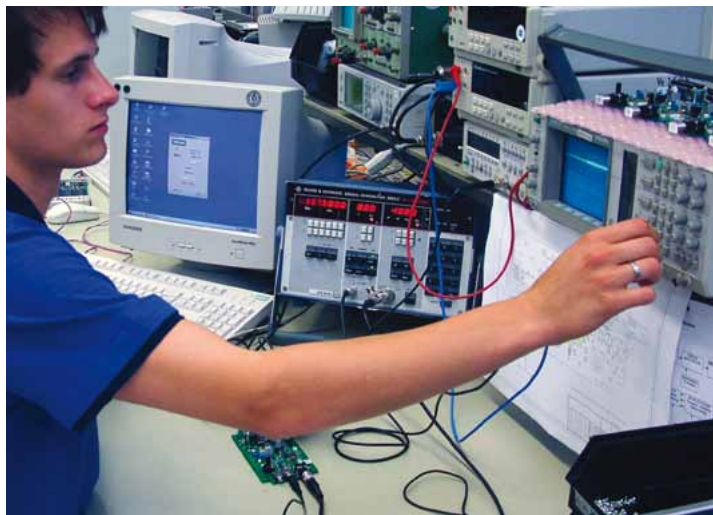
Upon request, we can deliver complete devices and systems including the operating manual and packaging. We have a trusted network of printers and packaging sources along with internal specialists for graphics and technical documentation.

Shipping & export

You can count on on-time delivery of your modules, devices and systems, whether you are in Germany or elsewhere. We handle the shipping, freight management and export administration.

Development services from a single source

- Development of electronic circuits, complete devices and systems
- PCB design using Mentor Graphics and Protel
- Development of active and passive PCI cards, processor modules, ETX baseboards
- Backplane design
- Design plus verification in compliance with CE mark
- EMC and product safety
- Manufacturing optimization
- CAD data for integrated production
- Test plan development



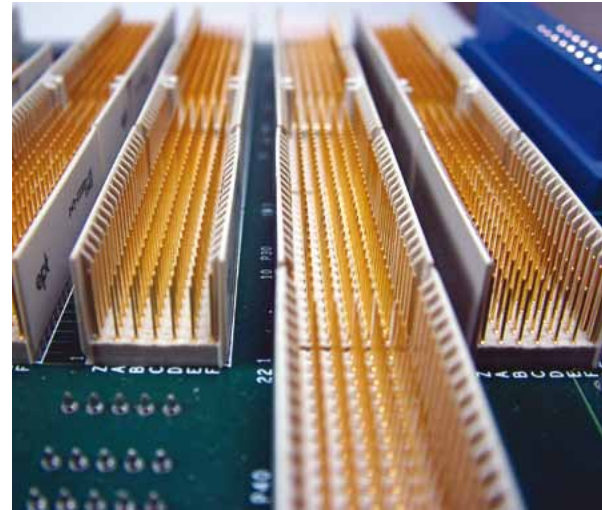


Specialized expertise

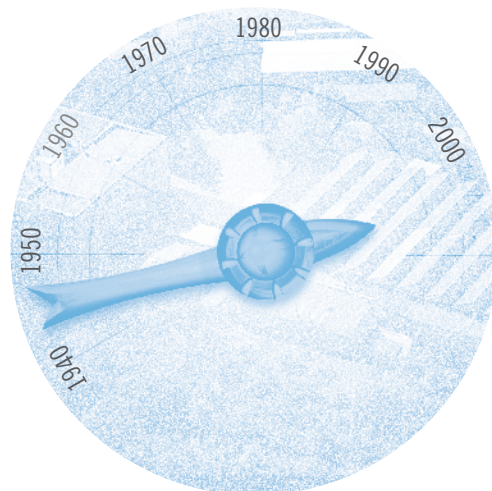
Backplane manufacturing

VIERLING Production has years of experience in manufacturing and testing of backplanes with pressfit technology. We can process and test 32-layer boards with a maximum size of 450 x 800 mm and up to 64,000 test points.

Upon request, VIERLING Production can deliver complete backplane systems with individually configured racks. Our clients simply choose the features they want and receive a customized system.



- 19" housing in the form of a plug-in module or desktop unit
- Housing with 3 - 11 HUs in all widths
- Ventilators in all power classes
- Fully EMC-shielded (if required)
- Backplanes with 2 - 63 slots
- Complete, fully functional wiring (upon request) with your logo



1941 Company founded

1998 Supplier for the automotive industry

1999 VIERLING Production became independent GmbH

2002 Introduction of automatic optical inspection (AOI) system

2005 Production of more than 800,000 modules and devices

2006 Introduction of flying probe test system

2007 Installation of a new solder line

VIERLING

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