

**Project Note**

# POS System Based on Pre-Engineered Modules (PEM)

The customer optimizes its POS-Systems with a modular concept. Zühlke developed an electronic module containing all system interface - based on Pre-Engineered Modules (PEM) and offers great flexibility for future needs.

**Task**

The encased POS system in this project is one Comsys had already developed and sold. The PC components were purchased on the world market and wired conventionally. The task assigned to our team was to develop an electronic module containing all system interfaces in order to simplify assembly and optimize the use of space.

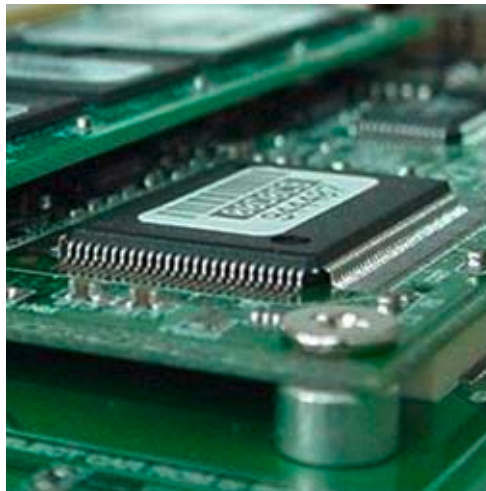
**Implementation**

In light of the small quantity of units to be produced, our engineering team decided at the outset to develop just the main board themselves and to purchase a pre-engineered CPU module complying with the ETX standard.

ETX standard:

- Standardized form factor
- Standardized interfaces
- Manufacturer-independent

After defining the requirements, our team mounted the customised main board which had been built to client specification. It contained the peripheral electronic components for the display, touch panel, and all external connections. The design was based on modular component circuits for the various interfaces so any future changes can be made quickly. In other words, these changes do not require any modification of the actual core of the computer. The Zühlke team built the devices to the pilot-lot stage, tested them and made any necessary modifications. Our engineers also produced all necessary production documents.



**COMSYS AG**  
COMPUTER SYSTEMS



**Technical Data**

CPU: VIA Eden  
800MHz

Interfaces: RS232,  
PS/2, USB, Ethernet  
Cardbus, Parallel

Touch Screen Display:  
12.1" TFT SVGA

Operating system:  
Windows

Temperature range:  
0 - 45°C

**Customer benefits**

- Short development time ensured by a modular hardware and software concept
- Greater flexibility for the customer in meeting its current and future needs
- Simple to adapt to a changed environment (CPU speed, memory, operating system, etc.)
- Complete one-stop-shop development of the main board, from design to production

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