

Point of Sales Terminal Reference Design

The POS terminal reference design is DOS compatible and uses a standard PC-like BIOS. It features several products and technologies:

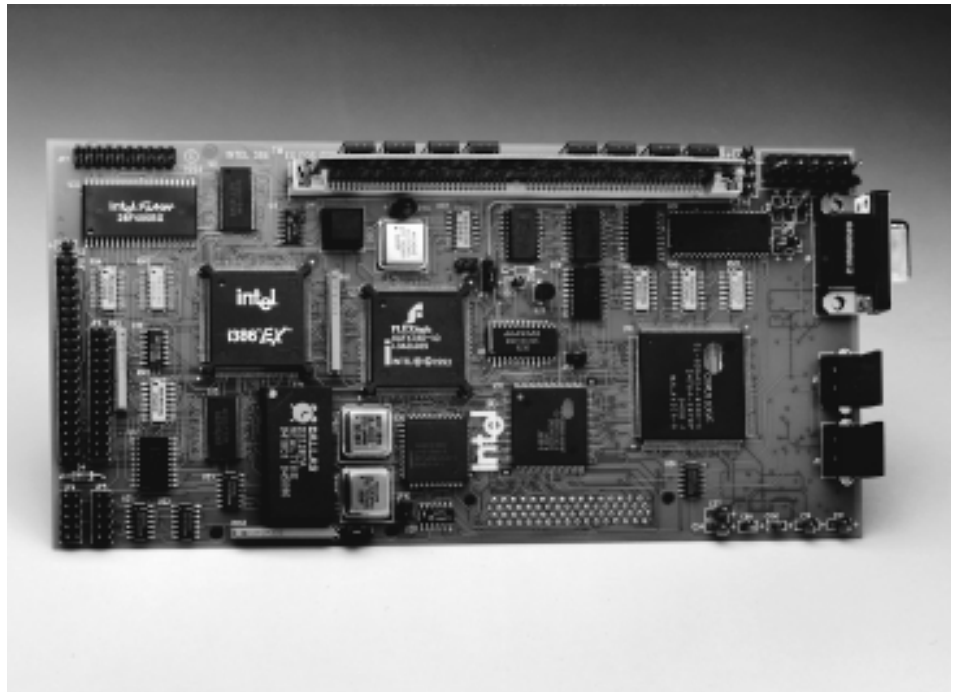
- Embedded Intel386™ EX Processor
- Intel 4-Mb Boot Block Flash Memory
- Complex PLD
- PCMCIA Slot

The POS terminal has the following features:

- Pipelined, Zero Wait State, Page Mode
- Non-pipelined, One Wait State, Page Mode
- 1-, 4-, 16-MB DRAM SIMM
- SVGA Local Bus Graphics Controller
- RTC With Extended Battery Backed RAM
- PS/2 Style Keyboard and Mouse Interface
- IDE Hard Disk Interface
- PCMCIA 2.0 (SingleSlot)
- 2 Asynchronous Serial Ports (COM1 and COM2)
- Parallel Printer Port (LPT)

The POS, or Point of Sales Terminal Reference Design was developed as a working system to enable shorter design cycles by providing a proven platform as a starting point. The POS terminal was designed by Intel and highlights the features of the embedded Intel386 EX processor and Intel boot block Flash memory. The POS terminal is available as a reference design kit which contains all necessary technical documentation; the design can be used “as is” or as a building block to enhance a specific solution.

POS terminals are typically characterized by a PC-like platform with a ruggedized housing that is more suitable for retail and service environments ranging from clothing boutiques to fast food restaurants. A POS terminal may also include a keyboard or an LCD/CRT touchscreen that is



more conducive for efficient transaction entry, battery backup, and an expanded number of serial ports for the various peripherals such as barcode scanners, magnetic card readers, digital scales, and coin changers. Clearly, the POS terminal hardware architecture is driven by a standardized low-cost PC-like platform; as the terminal costs continue to decrease and valuable features are provided in software/firmware, they will begin to displace simple electronic cash registers (ECR). In general, POS software have increasingly standardized on a PC-like environment with operating systems such as DOS, UNIX, or other RTOS; these applications can readily be developed on any PC systems with off-the-shelf tools. The Intel386 processor architecture is an ideal low-cost solution that provides sufficient computing power for such POS terminals.

In summary, the POS Terminal Reference Design was developed as a working system to enable shorter design cycles by providing a proven platform as a starting

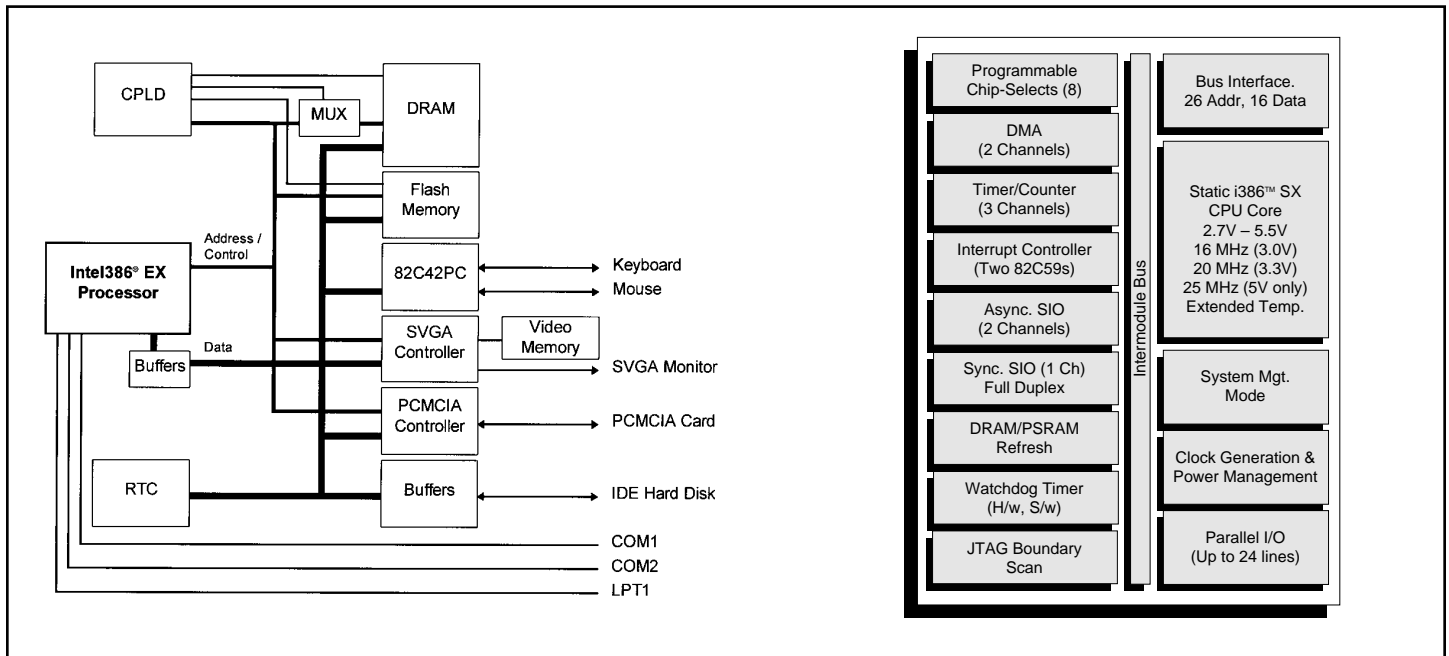
point. The design, centered around the Intel386 EX processor, can be used “as is” or as a building block to enhance a specific solution.

CONTACT:

Local Intel Sales Office

WWW: <http://www.intel.com/embedded/>





POS Block Diagram

Intel386™ Processor Block Diagram

Reference Design Kit

The POS Terminal Reference Design Kit includes the following items:

- Application Note (details implementation, operation, and schematics)
- Floppy Disk (contains OrCAD schematics, PCB board layout, PLD code, and parts list)
- Intel386 EX Processor Datasheet
- Intel 4-Mb Boot Block Flash Memory Datasheet

Intel386 EX Processor

The embedded Intel386 EX processor is a highly integrated, 32-bit, fully static CPU optimized for embedded control applications. With a 16-bit external data bus, a 26-bit external address bus, and Intel's System Management Mode (SMM), the Intel386 EX processor brings the vast software library of the Intel architecture to embedded systems. It provides the performance benefits of 32-bit programming with the cost savings associated with 16-bit hardware systems.

The Intel386 EX processor integrates many peripheral blocks in a single chip, as shown below.

Ordering Information

To order the POS Terminal Reference Design Kit call 1 (800) 548-4725 and request order number 272586 or contact your local Intel sales office. In Europe and other international locations, please contact your local Intel sales office or distributor.