## The salient point: ATA IO is cheap.

- ATA IO can be implemented within small, cost-effective CPLDs.
- ATA IO makes it possible to use low-cost commercial grade motherboards (like MiniTX or NanoITX) instead of industrial grade PC modules (like PC/104), which are considerably more expensive.
- ATA IO hardware is simple, hence easily to develop.
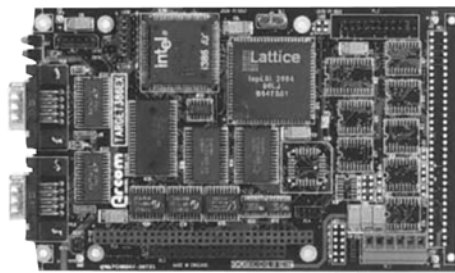- The hardware/software API is straightforward (a small register file accessible by IO instructions).
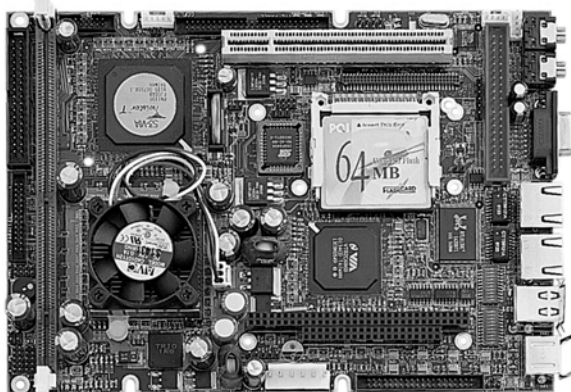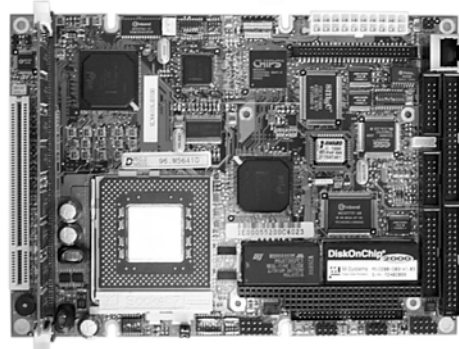
Conventional industrial PCs in 19" racks.
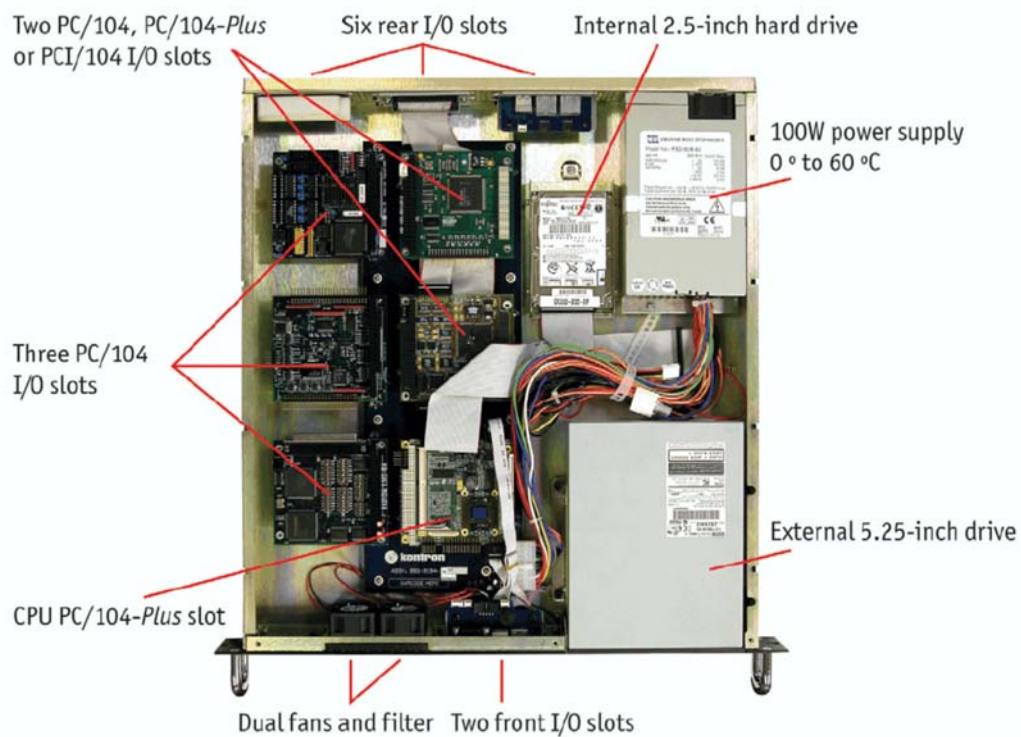
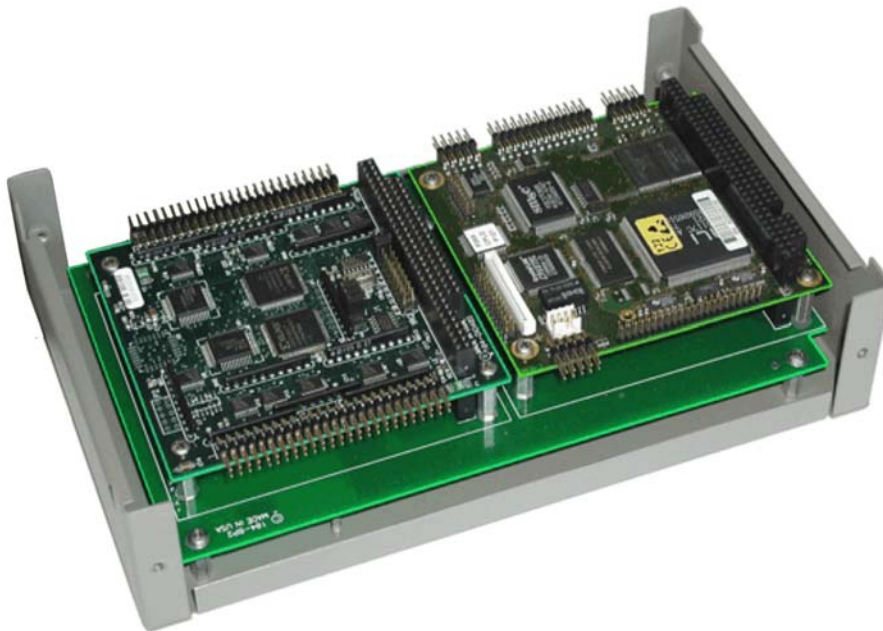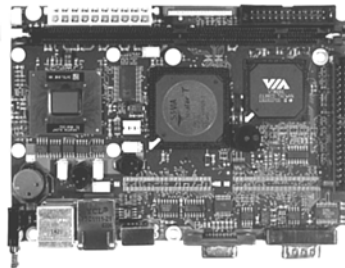**An Industrial PC based on a MiniITX motherboard and ATA IO circuitry.**
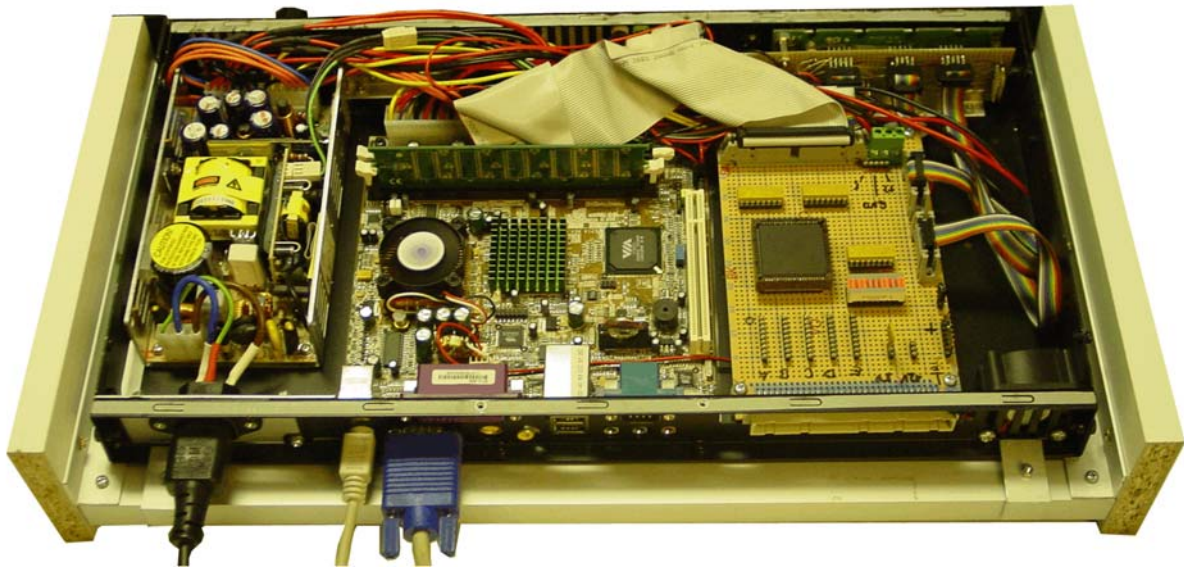
Conventional small form factor PCs for embedded applications.
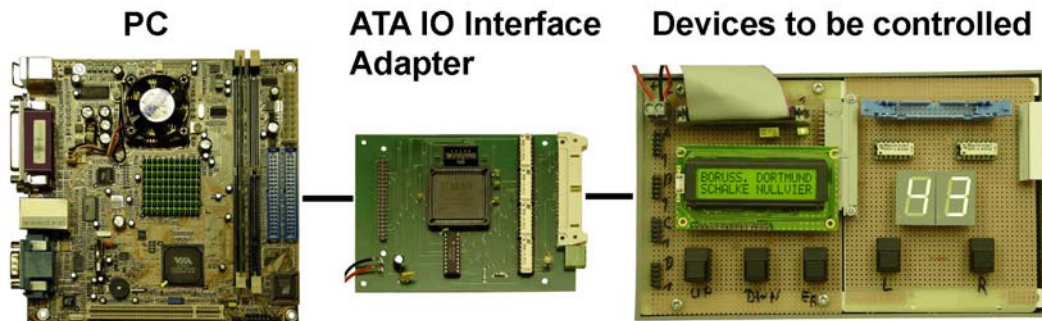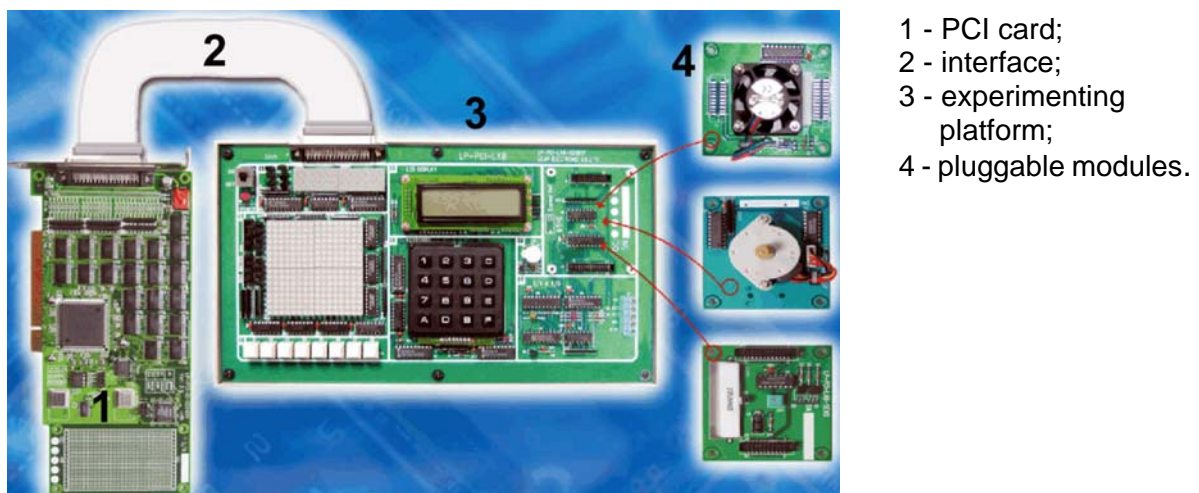

5¼"

3½"

Such small PCs are quite expensive. ATA IO makes it possible to use cost-effective motherboards like MiniITX or NanoITX.
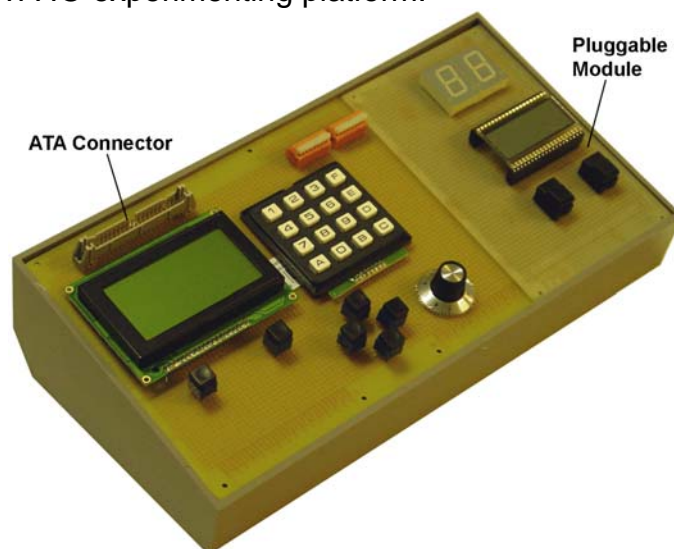

An important application area: teaching and experimenting.

A commercially available development system (Leap Electronics).

1 - PCI card;
2 - interface;
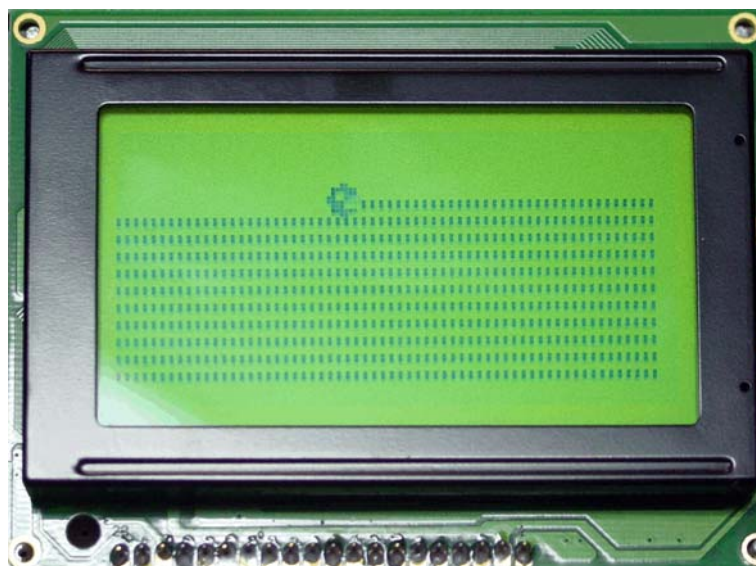3 - experimenting
    platform;
4 - pluggable modules.

A mockup of an ATA IO experimenting platform.

In Action: Another ATA IO experimenting platform.

Pac-man eating up symbols. A students exercise . . .

This ATA IO adapter replaces a removable hard disk. This way every bread and butter PC could be turned into an embedded systems development platform.