FEATURES

- Wide range of ETX CPUs available – fanless up to 1.66 GHz Intel Core Duo
- Small size only 120mm by 125mm (4.72" by 4.92")
- Full PC/104-Plus I/O expansion
- Four rear-mounted USB 2.0 ports
- VGA, PS/2 mouse and keyboard
- Two COM ports (One selectable RS-232/422/485 and one RS-232 only)
- 10/100 Ethernet LAN
- Flat panel, IDE and Compact Flash support
- Standard 1/8"(3.5mm) audio with Line In, Line Out, and MIC

FUNCTIONAL DESCRIPTION

The NANO I/O Server is one of the smallest embedded motherboard systems and is designed to support the ACCES I/O line of USB and PC/104-based I/O modules along with the high performance benefits of ETX. Featuring a motherboard/baseboard only 120mm across, the NANO right-angle mounted connectors include VGA, RS-232/422/485, four USB 2.0 ports, standard audio, PS/2 mouse and keyboard, and Ethernet. ACCES I/O's experience in providing OEMs with custom ETX baseboards is highlighted by this dense baseboard design.

The NANO I/O Server is unique due to the capability of utilizing any embedded ETX CPU board that meets the ETX standard for its processing, while providing PC/104 I/O module expansion. Whether the application requires a high-end 1.8GHz Intel Pentium M, a fanless mid-range 800MHz Celeron M, or a very low wattage AMD LX800 processor, ACCES I/O can provide a system solution to match a specific requirement. Although smaller than the EPIC embedded boards, the NANO still supports PC/104-Plus I/O modules in an upward stack. In addition to the rear motherboard I/O, the NANO has supplemental onboard I/O connectors for flat-panel support, IDE, Compact Flash, and an extra RS-232 serial port. Power can be provided to the NANO through a 12-pin micro-fit power connector with a cable adapter connected to any ATX power supply. For an external DC powered system, a PC/104 or internal DC-DC power supply from ACCES I/O can be mounted inside an enclosure.

The NANO I/O Server is the perfect product for users ranging from high-volume OEMs to small, simple evaluation/prototype systems. By combining the benefits of both the ETX and PC/104 standards, a more cost effective time to market is achieved no matter what the quantity. Large quantity OEMs can use the wide range of COTS PC/104 and ETX products for simple and easy prototyping and evaluation purposes. For embedded developers designing systems which may require smaller quantities, the NANO I/O Server is still the perfect solution. Now your next embedded system can include all the benefits of this combo motherboard. These benefits include the capability to easily choose and upgrade your ETX CPU and the high availability of COTS PC/104 modules. Your next system can have the best of both worlds. Once again, time to market is dramatically reduced and future upgrades are as easy as choosing a new ETX CPU and/or PC/104 module.
Specifications

Motherboard Rear Mounted Connectors

Sound
Three vertical 1/8" (3.5mm) audio jacks
Blue - Line In
Green - Line Out
Pink - MIC

USB
Four USB 2.0 connectors

VGA
Standard DB15 female

Serial
COM1 DB9 male RS-232/422/485 (jumper selection)

Keyboard
PS/2 round 6-pin type

Mouse
PS/2 round 6-pin type

LAN
RJ45 10/100 Mbit Ethernet

LED
Green board power indicator

Top Mounted Board Connectors and Devices

Power
Molex 12-pin micro-fit (6 inch ATX cable adaptor included)

PC/104-Plus I/O Expansion
Standard PC/104 ISA bus stack up connector
Standard PCI-104 PCI bus stack up connector

Flat Panel
40-pin JILI connector LVDS or LCD option (depending on ETX module)

Fan Power
3-pin 12VDC powered

Serial
COM2 RS-232 10 pin IDC header

IDE
44-pin 2.5 inch laptop drive type

Compact Flash
Standard CF2 50-pin side mount with ejector housing

Reset
2-pin header

Power switch
2-pin header

CMOS backup
Removable lithium disk battery holder

Buzzer
Round board mounted

Bottom Mounted Board Connectors

ETX
Four standard ETX specified Hirose connectors

Environmental

Operating temperature range
0 to 70°C (-20 to 85°C optional)

Storage temperature range
-50 to +120°C

Humidity
Up to 95 % non-condensing

Base board dimensions
120mm by 125mm

Power Consumption

Required (Baseboard only) +5 Volts @<100mA

Maximum system input power availability per voltage
5V @20A  12V @ 5A
3.3V@5A  -12V @ 5A

Ordering Guide

ETX-NANO-104 Baseboard (includes 6 inch ATX power adaptor cable)