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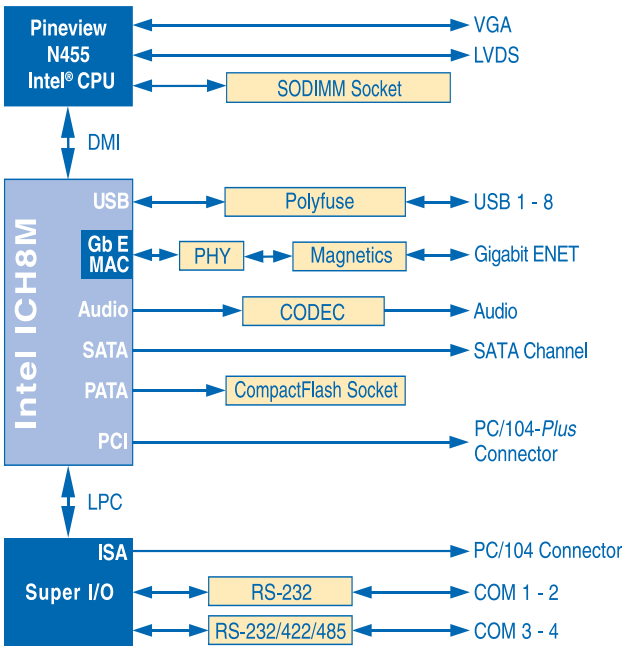
WinSystems®
An Employee-Owned Company

PPM-C393-S

1.66GHz Intel® Atom™ N455 SBC with PC/104 and PC/104-*Plus* Expansion

Features

- PC/104-*Plus* compatible SBC with single core 1.66GHz Intel® Atom™ N455 processor
- Up to 2GB of DDR3 SODIMM system memory
- One 10/100/1000 Mbps Ethernet channel
- Supports simultaneous LVDS and CRT video
- CompactFlash socket
- One SATA 2.0 channel
- Full-featured I/O includes:
  - Eight USB 2.0 ports
  - Four serial ports: two RS-232/422/485 and two RS-232
  - One Gigabit Ethernet channel
  - Stereo audio
  - Watchdog timer, RTC, status LEDs, and buzzer
- PC/104-*Plus* expansion (PC/104 and PCI-104)
- -40°C to +85°C operation with heat sink
- Runs Linux, Windows®, and other x86-compatible operating systems



PPM-C393-S Block Diagram



Product Description

WinSystems' PPM-C393-S is a Single Board Computer (SBC) with PC/104-*Plus* expansion that uses Intel's Atom N455 single core 1.66GHz processor paired with the ICH8M I/O controller hub.

This SBC is a full-featured unit with onboard I/O that supports CRT/LVDS video simultaneously, a Gigabit Ethernet port, eight USB 2.0 ports, two serial RS-232/422/485 COM channels, two serial RS-232 COM channels, audio, and a watchdog timer. Plus it has PC/104 and PC/104-*Plus* connectors for additional I/O expansion.

The PPM-C393-S is well suited for directly upgrading existing PC/104-based designs with Intel's Atom processor family. The single core processor provides improved performance and extended temperature operation with an optional onboard heat sink.

It supports Linux, Windows, and other x86-compatible real-time operating systems. Drivers are available from the WinSystems' website.

PPM-C393-S: PC/104 and PC/104-*Plus* Expandable N455 SBC

Technical Specifications

Processor
Intel Atom N455 single core @ 1.66GHz

Memory
512KB of L2 cache
SODIMM memory socket for up to 2GB of DDR3

Network Interface
One Intel ICH8M and 82567V (PHY) Gigabit Ethernet port with Wake-on-LAN (WOL)

Display
VGA supports up to SXGA 1400 x 1050 @ 60Hz
LVDS supports 18-bit single channel up to 1366 x 768 or 1280 x 800

Storage
SATA 2.0 channel
CompactFlash Type II socket

On board I/O
Eight USB 2.0 ports with polyfuse protection
Two 16C550-compatible RS-232/422/485 serial channels with speeds up to 115.2kbps
Two 16C550-compatible RS-232 serial channels with speeds up to 115.2kbps
Audio transducer for beep tones
Status LEDs for SATA activity, 3.3VSB, and one software controlled
Stereo audio output, mic, and line input
Realtime clock with optional battery back up
Watchdog timer adjustable from 1 second to 255 minutes

Expansion Bus Connectors
PC/104 and PC/104-*Plus*

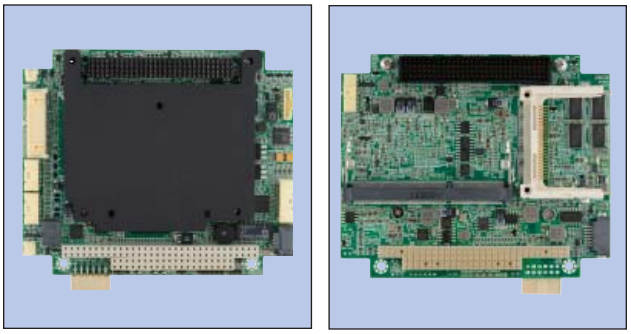
Power

	Typical	Maximum	Standby (S3)
5V @	2.5A	<3A	<300mA

Software
Phoenix BIOS
Compatible with Linux, Windows, and most x86 operating systems as well as DOS

Environmental
Operational from -40° to +85°C with heat sink
Non-condensing relative humidity 5% to 95%
Random Vibration Testing MIL-STD-202G, Method 214A, Condition D, 0.1g/Hz (11.95g rms), 20 minutes per axis, 3 axis
Mechanical Shock Testing MIL-STD-202G, Method 213B, Condition A, 50g half-sine, 11ms duration per axis, 3 axis
RoHS compliant

Mechanical
Dimensions 4.6 x 3.8 inches (116 x 96mm)
Weight 7.42 oz (211 gm), without optional heat sink RoHS
PC Board thickness 0.078"



Front and Back Picture of PPM-C393-S1-0-0

Ordering Information

(See website for complete ordering information and accessories.)

PPM-C393-S1-0-0	1.66GHz N455 PC/104-*Plus* SBC with heat spreader
PPM-C393-S1-0-0-ST	Stackthrough version
PPM-C393-S1-0-1	1.66GHz N455 PC/104-*Plus* SBC with heat sink
PPM-C393-S1-0-1-ST	Stackthrough version

Cables

CBL-SET-393-1	PPM-C393-S cable and accessories set, includes:
ADP-IO-USB-002	Dual 8-pin, 2mm to four USB ports
BAT-LTC-E-36-16-2	External 3.6V 1650 mAH battery with plug-in connector
CBL-ENET1-302-12	ENET 2x5 cable to RJ-45 female jack
CBL-PWR-700-18	Power ATX, 18-inch, unterminated
CBL-SER4-002-12	Serial cable with four DB9 connectors
CBL-USB4-002-12	Four USB ports with two, 8-pin, 2mm connectors
CBL-VGA-002-12	Video cable with DB15 connector

Optional Batteries

BAT-LTC-E-36-16-2	External 3.6V, 1650 mAH
BAT-LTC-E-36-27-2	External 3.6V, 2700 mAH

CompactFlash

CF-DC-A-xG-I	1 - 16GB High Speed CF cards
CFLASH-G-xxx-I	128MB - 8GB CF cards

(Please visit www.industrialcompactflash.com) for details.)

Riser Boards

RISER-PCM-1	PCB with PC/104 connector
RISER-PCM-0	PCB without PC/104 connector
RISER-PPM-1	PCB with PCI-104 connector
RISER-PPM-0	PCB without PCI-104 connector

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