

### Features

- Compact 12.1-inch AM TFT Flat Panel Display
  - 1024 x 768 resolution with LED backlight
  - Contrast ratio is 700:1 (typical)
  - Wide viewing angles
  - Quick-response resistive touchscreen included
- Includes PC-compatible Atom Single Board Computer
  - Fanless single core 1.66GHz Intel Atom N455 or dual core 1.8GHz D525
  - 2x Gigabit Ethernet ports
  - Wireless networking supported with MiniPCI socket
  - 4x RS-232/422/485 COM and 8x USB ports
  - 48-DIO, LPT, keyboard, mouse, HD audio
  - 2x SATA channels and CompactFlash socket
  - PC/104 and PC/104-Plus expansion connectors
- Runs Linux, Windows® XP, and Windows® 7
- Rugged and reliable aluminum construction
- Easy to mount, open-frame design
- Gasket material supplied for better fit into user's application enclosure
- Operating temperature: -30°C to +70°C

### Product Description

WinSystems' PPC3-12 Panel PC is a compact, open frame display subsystem that includes a 12.1-inch flat panel, PC-compatible Single Board Computer with dual Ethernet ports integrated into an open-frame enclosure less than three inches thick. An integrated touchscreen is included and other input devices can be added, such as PS/2 or USB keyboard and mouse.

The combination of embedded PC functionality with industrial-grade construction makes the unit ideal for medical, transportation, kiosks, industrial automation and control applications with tight system integration and minimal space requirements. The Panel PC is also perfect for wired or wireless networking applications.

The Panel PC supports operating systems such as Linux, Windows XP, and Windows 7, plus real-time kernels compatible with the x86 architecture.



### Functional Capability

**Flat Panel Display** - A high-luminance, wide-viewing angle, 12.1-inch diagonal color TFT with replaceable LED backlight is the foundation of the Panel PC. It supports XGA 1024 x 768 pixels that can display 16.2M (8-bit RGB) or 262,144 (6-bit RGB) colors.

This flat panel display is ideal for factory automation use because of its high luminance of 500 cd/m<sup>2</sup> (typical). It uses long-life LEDs as edge lights which are replaceable by the user. The display supports a viewing angle of ±80° (typical) for both horizontal and vertical. This wide viewing angle permits easy panel placement with maximum operator viewing flexibility. Also, its contrast ratio is 700:1 thus ensuring color fidelity and superior gray scaling.

**Single Board Computer (SBC)** - WinSystems offers a single core and dual core version of the SBC to serve as the computing and display engine for the Panel PC. Both SBCs are based on the Intel® Atom™ processor family plus a full set of I/O interfaces including two Gigabit Ethernet ports, VGA and dual channel LVDS flat panel video, a miniPCI connector to support wireless networking modules, eight USB 2.0 ports, four serial COM ports, 48 lines of digital I/O, audio, LPT and a PS/2 port for keyboard and mouse. The board has PC/104 and PC/104-Plus connectors for support of additional off-the-shelf or user-designed specialty I/O modules.

**Chassis** - The chassis plate is made of heavy duty aluminum alloy. The rigid plate serves as a base to hold the SBC, I/O connector plate, power terminal strip, and touchscreen controller. It is designed to rigidly hold the LCD yet not twist or stress the panel or cables.

# PPC3-12: 12.1-inch AM TFT Panel with Touchscreen

## Technical Specifications

### Display

Type	12.1-inch diagonal Color AM TFT
Resolution	1024 x 768
Brightness	500 cd/m <sup>2</sup> (typical)
Contrast Ratio	700:1 (typical)
Max Colors	262K (6-bit) /16.2M (8-bit)
Viewing Angle	±80° (typical), horizontal and vertical
Backlight MTBF	50,000 hours

### Single Board Computer

CPU Type	Intel® single core 1.6GHz N455 or dual core 1.8GHz D525 CPU
Chipset	Intel ICH8M I/O Hub
Video	Simultaneous LVDS and VGA
Memory	2GB DDR3 SO-DIMM
CompactFlash	Socket supports Type I and II
SATA	2x SATA 2.0 channels
Ethernet	2x Gigabit ports
USB Ports	8x USB 2.0 ports
Serial I/O	4x RS-232/422/485 COM ports
Digital I/O	48 I/O lines, TTL compatible
Keyboard	USB or PS/2 supported
Audio	High definition audio (7.1)
I/O Expansion	MiniPCI connector PC/104 and PC/104-Plus connectors
Battery	1600 mA hour 3.6 volt LTC chemistry
Storage	2.5-inch SATA drive optional

### Touchscreen

Type	5-wire resistive
Resolution	4096 x 4096

### Environmental

Operational Temp. -30° to +70° C

### Mechanical

Dimensions	12.25 x 8.60 x 2.25 inches (WxHxD)
Weight	4.1 lbs (1.8 kg) with HDD
Mounting	Panel cut out

### Power

Power Requirements +5V, varies  
+12V, 0.75A typical

### Technical Support

WinSystems can provide electronic CAD drawings to help you begin your design. We offer free support to speed your initial design cycle into production.

### Custom Configurations

Should your application need a special configuration, please contact our Applications Engineers to discuss your requirements. We look forward to working with you.

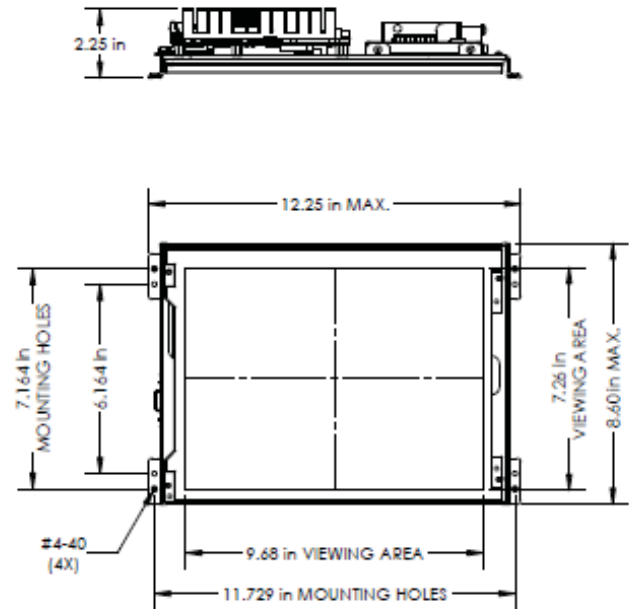
## Ordering Information

PPC3-12-0-384-D2	12.1-inch Panel PC with dual core 1.8GHz D525 SBC
PPC3-12-1-384-D2	12.1-inch Panel PC with dual core 1.8GHz D525 SBC and hard disk
PPC3-12-0-384-S2	12.1-inch Panel PC with single core 1.6GHz N455 SBC
PPC3-12-1-384-S2	12.1-inch Panel PC with single core 1.6GHz N455 SBC and hard disk

### Accessories

PPM-DC-ATX	10-50VDC input DC/DC power supply with ATX power management support
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**Mounting Information** - The PPC3-12 is designed to be rear mounted to a panel or placed in an instrument as a system component. Four through holes plus four captured #4-40 press fit nuts are in the chassis for mounting flexibility. The PPC3-12's mounting outline follows.



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