

PANEL 12

12" All-in-One Solution for Industrial Applications

General Description

The silent, space-saving PANEL12 is specifically designed as front end interface for rugged, secure sensitive environments where reliability and quality are major issues. The PANEL12 expands MPLs Panel PC family of compact, easy-to-integrate and multifunctional All-in-One solutions. The product is specifically designed and built for none standard environments. It combines a 12.1" display with excellent optical specifications, a touch screen and a complete low power CPU based single board computer (PIP). All this comes within the footprint of a 12" LCD monitor and saves space on your working place.

The PANEL12 can be mounted over a standard VESA75 on a swivel arm, an adjustable desktop stand or on the wall. The user has the choice between a chromated and externally powder coated aluminum or a full stainless steel housing. The product offers a full (all around) protection of up to IP65 / NEMA4. On the back either through IP65 protected cable openings or behind a cover plate (IP54) various PC interfaces are available for the user. Like all other MPL products the PANEL12 comes without a fan or air vents, is very flexible and expandable for all customer needs and requirements.

Applications

The robust and all around IP65 protected PANEL12 is the perfect solution as man machine / front end interface for harsh applications like in traffic, transportation, maritime or for clean environments like in medicine, food industry. Further as space saving, IP54 protected, fanless and noiseless system the PANEL12 is an excellent solution for desktop applications in telecommunication, kiosk information systems and Internet access points where a quality product is an issue.



Various PANEL12 solutions in aluminum and stainless steel

The PANEL12 features

- Space saving, integrated, All-in-One solution
- Silent, fanless design
- Up to IP65 protected all around
- Stainless steel or aluminum housing
- Functions as desktop or wall-mountable system
- Choice of wide processor range (5x86 up to Intel Core Duo)
- With an integrated hard disk or solid-state flash drive
- Optionally easy operation, navigation over touch screen
- Optionally extended temperature solution available
- Choice of various operating systems



PANEL12 with adjustable stand




Technical Data PANEL12

Electrical

Processor	Scalable CPU range up to Intel Core Duo	See table CPU versions
BIOS	Flash EEPROM, easy updateable	MPL engineered BIOS (General Software)
Memory	SO-DIMM module and/or on-board soldered RAM	See table CPU versions
E-IDE	Internal connected to HDD or solid-state flash drive	

Interfaces

Mouse	PS/2	6-pin mini DIN	 IP65 cable openings
Keyboard	PS/2	6-pin mini DIN	
Ethernet	1 x Fast or Gigabit (see table CPU versions)	RJ45	
USB	1 x USB 2.0	Type A, bootable	
Power	12 VDC input	8-pin DIN 45326	
Others	Serial, LPT, Firewire, CAN, ...	on request	


Optical

Display Size	SVGA (800 x 600 pixel)	XGA (1024 x 768 pixel)
Display Size	12.1 inch diagonal	12.1 inch diagonal
Type	Active TFT LCD	Active TFT LCD
Brightness	450 cd/m ²	150 cd/m ²
Contrast Ratio	300:1	400:1
Viewing Angle hor.	70/70 (left/right)	80/80 (left/right)
Viewing Angle ver.	50/60 (up/down)	80/80 (up/down)
Color depth	262 k	262 k

Touch (Option)

Type	Resistive 8-wire touch screen	Others on request
Surface	hard coating, antiglare treatment	
Controller Resolution	1024 x 1024	
Controller Interface	standard over PS2 (optional RS232 or USB)	Touch and Mouse simultaneously possible!

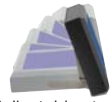
Mechanical

Surface	Stainless steel (S) or aluminum (A)	 VESA mounting
Protection class	Up to IP65 / NEMA4 all around	
Case color	Brushed stainless steel or aluminum RAL7035 (optionally other color)	
Mounting Options	75 mm VESA mount, four M4 bolts on back	
Dimensions	336 x 266 x 70 mm (L x H x W)	
Weight	Aluminum 4.6 kg and stainless steel 6.0 kg	

Physical

Power Supply	External 12 VDC Power Supply needed / external Power Supply (100-240 VAC) can be provided
Power Consumption	Display & Inverter 10W, add CPU Power consumption according table CPU versions
Temperature Range	Aluminum: 0°C up to +40°C, extended temperature on request Stainless steel: 0°C up to +35°C, extended temperature on request
Humidity	10% - 90% non condensing

Various

Options	SDRAM module, size according table CPU versions	 Adjustable stand
	IDE-Flash or HDD	
	Add-on functionality over internal PC/104 or PC/104-Plus module	
	Adjustable stand in stainless steel	

Operating Systems

Microsoft® Windows® XP Professional
Microsoft® Windows® XP Embedded
Microsoft® Windows® 2000
Microsoft® Windows® CE .NET
Linux

Professional engineering, support and consulting through MPL engineers on HW and SW. The PANEL12 is fully developed, designed and produced by MPL AG in Switzerland.

CPU Versions

CPU	PIP7	PIP8	PIP9	PIP10	PIP11	PIP20
Processor	low power Celeron M	low power Celeron M	low power Celeron M	low power Pentium M	low power Pentium M	low power Intel Core Duo
CPU speed	600 MHz	1.0 GHz	1.0 GHz	up to 1.4 GHz	up to 1.8 GHz	up to 1.67 GHz
Level 2 cache	512 KB	512 kB	512 kB	2 MB	2 MB	2 MB
Chip Set	855 GME	855 GME	855 GME	855 GME	855 GME	945 GME
Memory	up to 1GB	up to 1GB	up to 1.5GB	up to 1.5GB	up to 1.5GB	up to 3GB
PATA/SATA	2/0	2/0	2/2	2/2	2/2	1/2
Keyboard	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2
Mouse	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2	1 x PS/2
Serial lines	up to 4	up to 4	up to 4	up to 4	up to 4	up to 4
Parallel port	1	1	1	1	1	1
USB 2.0	3	3	3	3	3	6
CAN Bus 2.0	1*	1*	1*	1*	1*	1*
Ethernet	1 x Fast	1 x Fast	1 x Gigabit	1 x Gigabit	1 x Gigabit	2 x Gigabit
Firewire	over PC/104-Plus	over PC/104-Plus	3 x up to 800MB/s	3 x up to 800MB/s	3 x up to 800MB/s	1 x up to 800MB/s
Power Consumption	typically 16 Watts	typically 16 Watts	typically 18 Watts	typically 20 Watts	typically 26 Watts	typically 28 Watts
Expansion	over on-board PC/104 & PC/104-Plus or optional over PCI and PMC expansion					

* optional add-on module

About MPL and MPL Products

MPL AG was founded in 1985. During our history MPL has become the industry technology leader for low power, rugged, embedded and extended temperature designs for harsh industrial and military/aerospace environments. MPL develops and manufactures highly integrated Industrial PCs, embedded CPU boards and systems for long term reliability and availability.

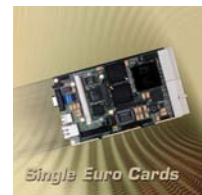
High-Tech • Made in Switzerland
MPL stands for state-of-the-art micro-processor based solutions. We provide a complete service from conception and design through manufacturing and test. This includes long life cycle support for our high quality electronic modules and devices.

The Rugged Solution Provider
Our success is based on unique solutions – designed for rugged and sensitive environments such as: medical, maritime, aerospace, food industry, defense and industrial applications with high reliability requirements.

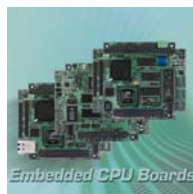
Packaged Industrial PCs
Fanless solutions with Intel CPUs up to Intel Core Duo. Numerous internal add-ons and expansion possibilities via PC/104, PC/104-Plus, PMC and PCI. Various EMI & RFI optimized housings.



Single Euro Cards
3U single Eurocards with Intel and Motorola CPUs (cPCI and G-96 Bus). Various peripheral cards and complete systems.



Embedded CPU Boards
Single Board Computers with Intel, PowerPC and ARM CPUs in various form factors (PC/104, PC/104-Plus and others).



PC/104 Peripherals
Reliable and rugged PC/104 and PC/104-Plus peripheral solutions (e.g. Serial, PCCard, Ethernet, Switch) and IDE based storage solutions.



Custom and OEM Solutions
Development of customized boards and semi custom solutions based on standard products. Inhouse broad technology know-how, short development time and total support over product life time.



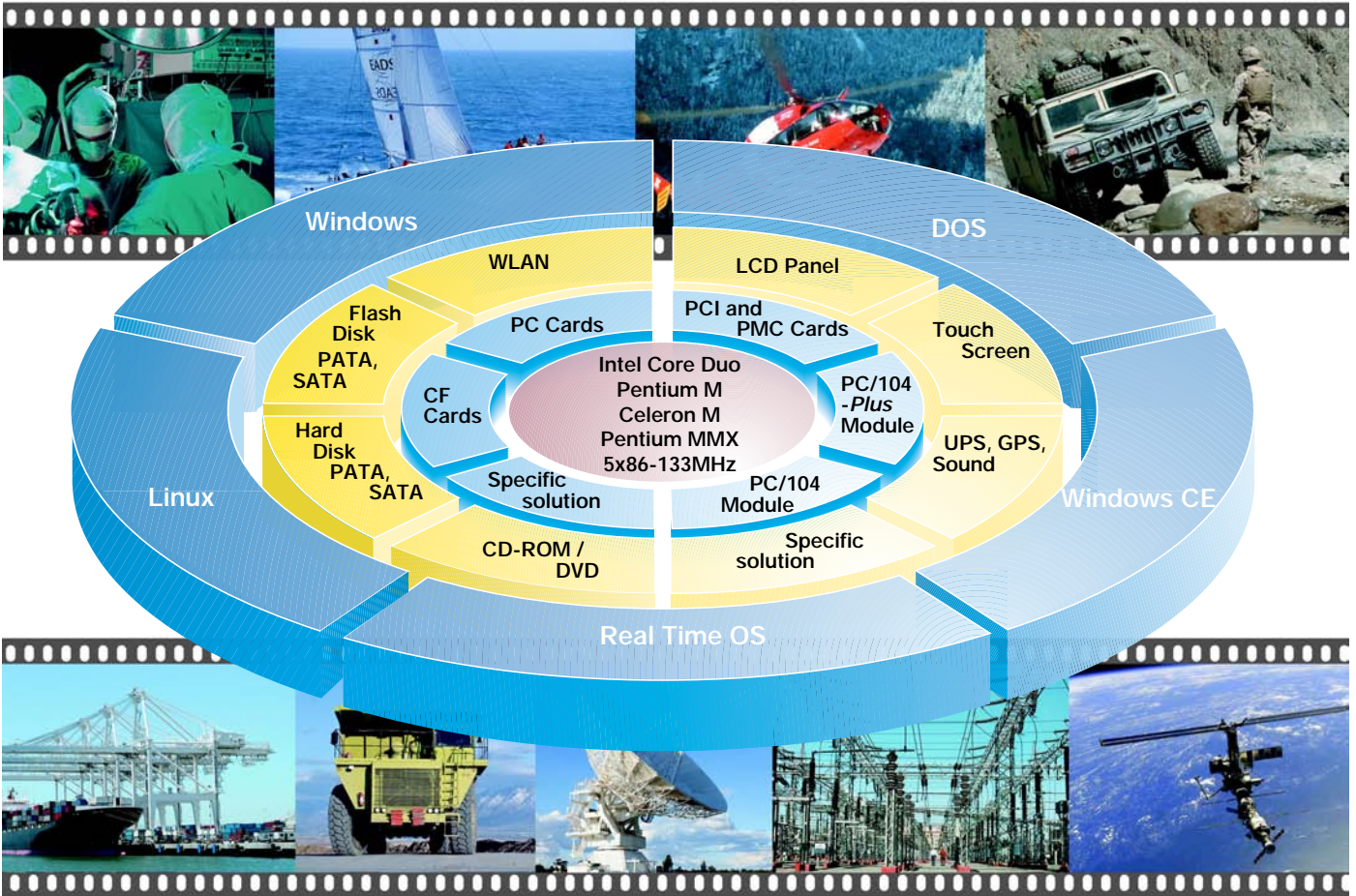
PCMCIA Readers/Writers
PCMCIA read-/write devices with SCSI or serial interface.



Software solutions
Linux, Windows, DOS, Windows CE, RealTime OS and others. Driver for various operating systems.

MPL AG is an ISO certified company

The unique rugged Industrial PC Concept



The PIP concept fits your custom specific solution!



PIP5 with 6.4" XGA display and touch



PIP9 in a stainless steel housing with 17" SXGA display



PIP8 with 12" XGA display and touch, IP65 all around, fanless, noiseless



PIP7 with 2 standard PCI slots inside



OEM-PIP with lockable PC-Card slot



OEM-PIP assembled with up to 4 additional PC/104 cards