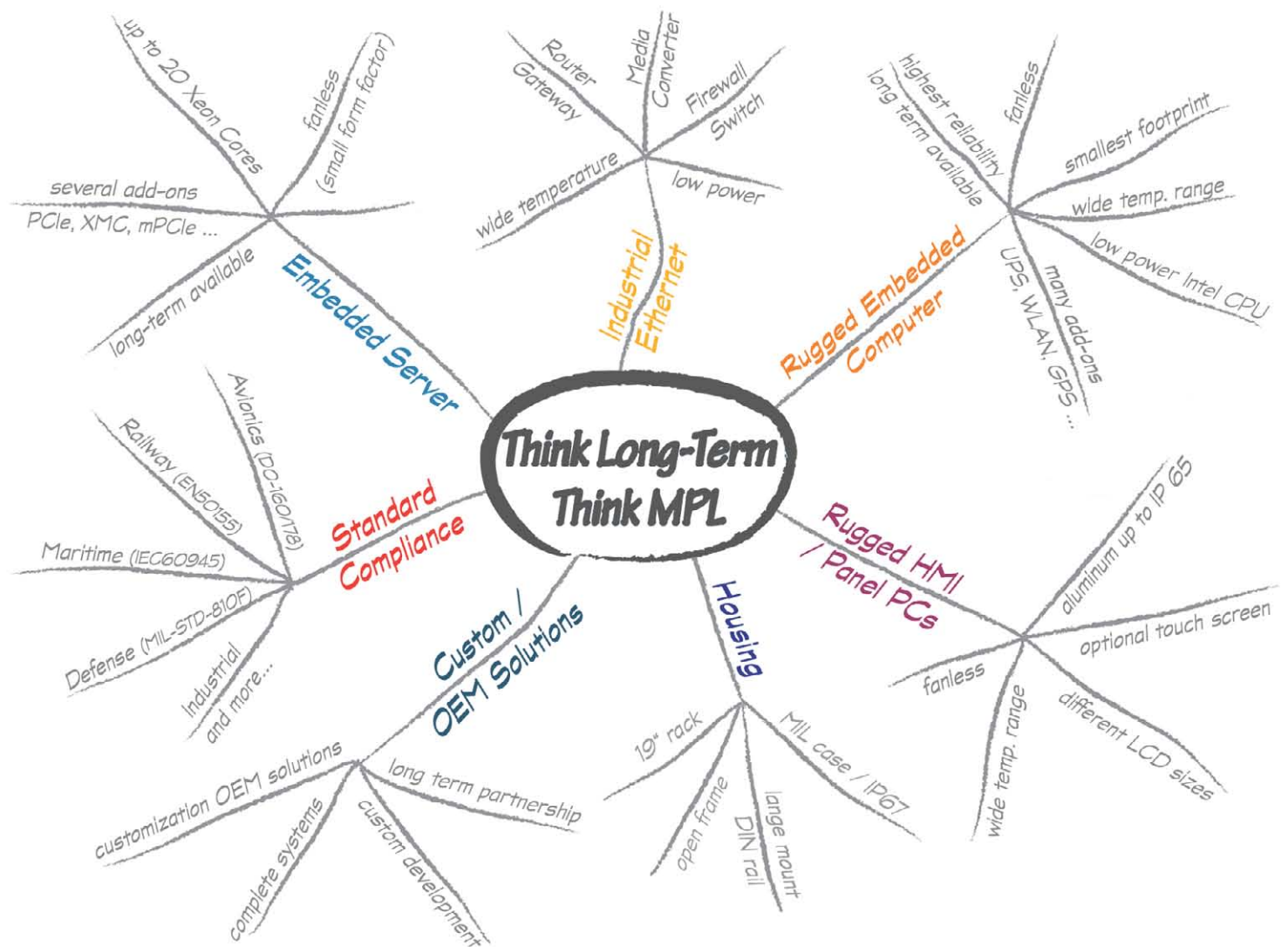




MPL Product Guide



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**Worldwide more than 1000
companies use MPL products
on a daily basis.**

**Maintaining a close customer
partnership is our goal for
successful collaboration.**

**We support and monitor our
products for full life-cycle
management.**

MPL – The Company You Can Trust!

Continuity

Since 1985, MPL has been the industry leader in developing and manufacturing rugged, fanless electronics, and embedded systems for customers demanding best quality. MPL's commitment to design, high reliability, low power consumption, extended temperature, and longevity products are the cornerstones of our success.

Reliable Partnership

MPL offers its customers and business partners a long-term, cooperative engagement. Our financial strength and independence is important to sustain MPL's growth and future.

Innovation

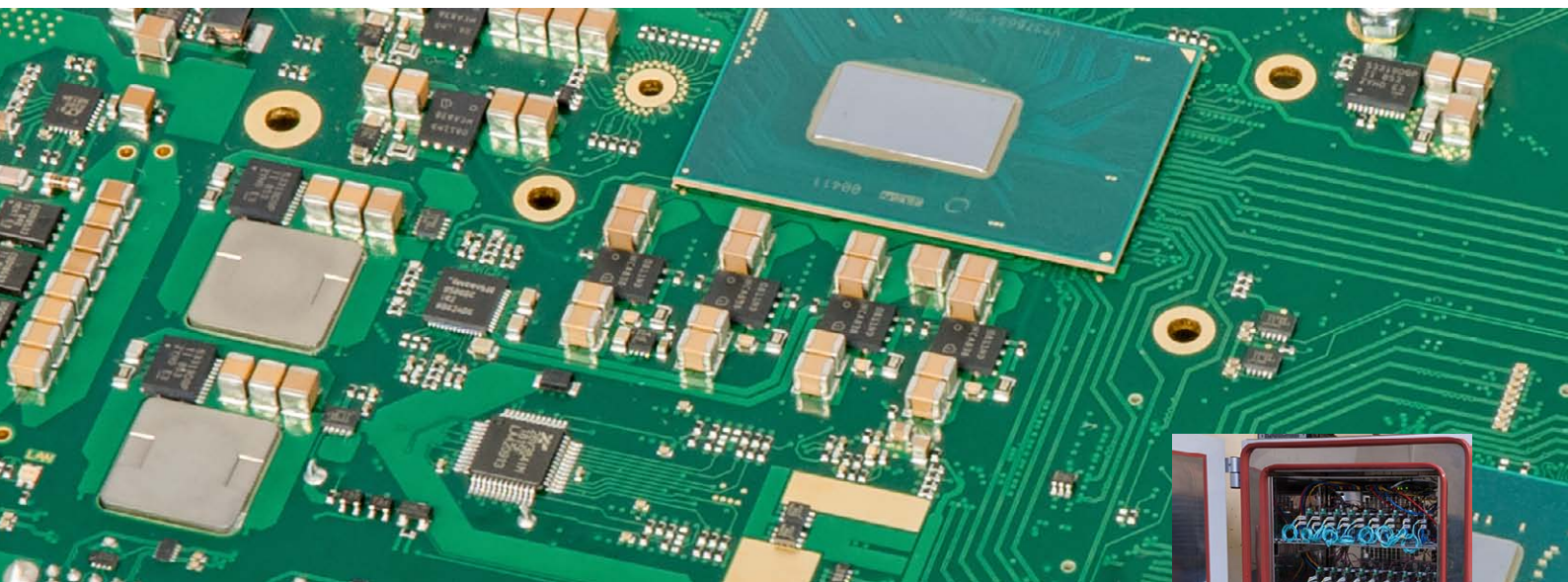
MPL products differ clearly from any other products on the market. Most other products are cost optimized but neglect the quality, life cycle management, low power consumption, and MTBF optimization found in each MPL product. MPL maintains special agreements and relationships with the major chip suppliers who offer MPL early access to the latest technology developments.

Closeness

Our distributors are near you! To serve our customers the best: we maintain a global distributor network which will handle your local pre and post sales support.

MPLcare

MPLcare is a system which is maintained by design engineers, management, and the MPL administration team. MPLcare is provided to each customer free of charge. Technical support questions are answered within 24 hours by the product design engineering team.



Our low power Designs – increase MTBF

We only design products and solutions that have the lowest possible power consumption in the industry. It generates less heat, less stress, and therefore a higher MTBF value and better reliability rate is the result.

Unparalleled Quality

MPL products are designed from inception to insure high reliability when operating in rugged and tough environments. A further development focus is to produce a consistent, stable, long-term available product, which will lower your TCO (Total Cost of Ownership).

Extended Temperature Range (-40°C up to +75/85°C)

Each standard MPL product withstands environment temperatures of -20°C to +60°C. Products with the extended temperature option receive additional specific product tests and test cycles in our environmental chambers.

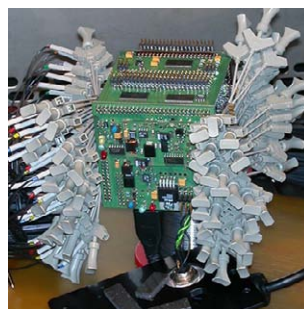
Long-term available Solutions

Our main target is long-term availability, as this is a major cost reduction factor for the customer. Whenever possible, MPL uses products out of the embedded road map from various suppliers. MPL maintains end-of-life stock to ensure longevity of supply and repair.

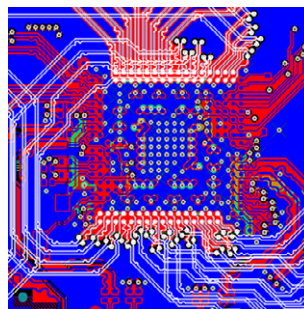
High Ruggedization

MPL products are specifically designed to withstand harsh environmental operations. In numerous applications MPL standard and custom products prove their ability to withstand extreme temperatures, thermal cycling stress, high shock, and vibration conditions.

Think Long-Term – Think MPL



Measuring test setup for design verification



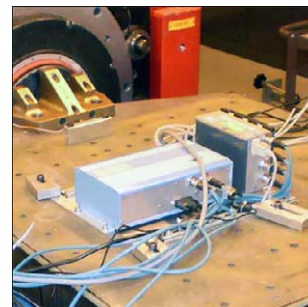
Layout verification of multilayer PCB



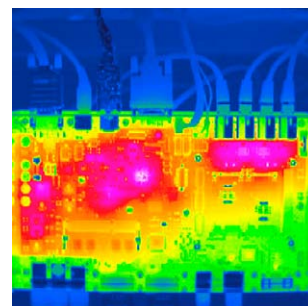
MPL parts stock



MPL climate chamber test environment



PIP during shock and vibration test



Thermal analysis of PIP

Industries & Certifications

IEC 60945 certified Firewall



All MPL products are designed to meet or exceed the most common standards. This includes maritime certification (IEC 60945), railways certifications (EN50155), defense certifications (MIL-STD-810), EMI, UL, CE, FCC, etc...

For applications where certification is required, many MPL products have been certified in various tests including: marine, railways, and defense certifications. If your choice is not listed, talk to us about it. We will be happy to do the testing according to your needs and requirements.

Wide Temperature Computers from -40°C up to +85°C

MPL's Embedded Computers have been designed to operate in a environment temperature range from -40°C up to +75/85°C. The special rugged design of the products, combined with the best industrial grade components, offer high reliability and long-term performance.

Each product sold with the extended temperature option, receives an additional test cycle. Testing 5°C below and 5°C above the specified temperature in our environmental chambers, verifies and insures the capability of the products under extended temperature. This quality assurance ensures the system's reliability in extreme operating environments.

Embedded Systems designed for Maritime Applications

All MPL Embedded Computers meet or even exceed the **IEC 60945** maritime standard and are the ideal choice for longevity offshore applications. Several of our solutions already are IEC 60945 certified. If your choice is not listed, talk to us about it. We will be happy to do the testing according to your needs and requirements. The systems are also tested to withstand environmental disturbances, like vibration, shock, and extreme temperature.



IP67 rugged embedded computer
for the use in extreme environments

Embedded Systems designed for Railway Applications

MPL's Railway Computers are **EN50155** certified and all units undergo severe environmental testing to ensure reliable performance under a variety of power supply conditions, such as voltage variations, power interruptions, and supply changeover. The systems are also tested to withstand environmental disturbances, like vibration, shock, and extreme temperature.

Embedded Systems for Military & Aerospace Application

MPL's Embedded Computers have been designed to withstand harsh environments and extreme temperature conditions to meet the various standards, including **MIL-STD-810**. The special design rules and rugged design, combined with the best industrial-grade components, offer high reliability and long-term performance.

Also, several MPL products have been used in space, despite the products not specifically designed for it. The first product was launched into space May 1995. Since then we regularly have been supplying products for specific space applications.

Various Certifications

Most products are already tested and certified for different applications. For test results, please contact MPL AG.



PIP Embedded Industrial Computers



Why buy an MPL embedded computer? MPL embedded computers are based on common PC technology without the known limitations of normal PC platforms.

MPL computers have long life-cycle management, they are ruggedized by design, they have extended temperature capabilities and they are based on more than 37 years of MPL embedded design experience. MPL embedded computers represent the most unique and clever designs in the industry.

Specialties

- Low power consumption → less stress & higher MTBF
- Fanless operation under all conditions
- Customized and/or locked BIOS versions
- Operation temperature -40°C up to +75°C / +85°C
- Long-term availability guarantee, (Typically 10+ years, 20+ years repair support)
- Easy expansion, e.g. PMC, XMC, PC/104 or PCIe modules
- Designed for rugged & tough environments

Standards

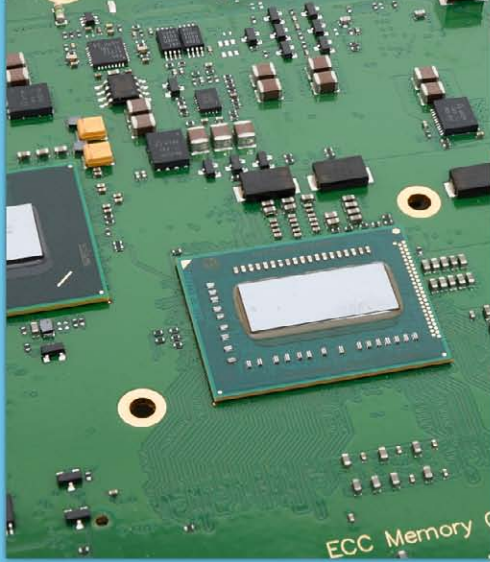
The MPL embedded computers are deployed in many applications as listed below. For many of these applications, MPL products have been certified in various tests including: maritime certification (IEC 60945), railways certification (EN50155), defense certifications (MIL-STD-810), EMI certification, UL, CE, FCC just to name a few. In each case, MPL embedded computers have successfully passed all required tests.

Application Areas

MPL embedded computers have been successfully in operation for years in application areas such as

- | | |
|-----------------|--------------------|
| – Automotive | – Avionics & Space |
| – Communication | – Defense |
| – Maritime | – Railways |
| – Traffic | – Industrie |

as well as in other areas where reliable long-term available computers are needed.



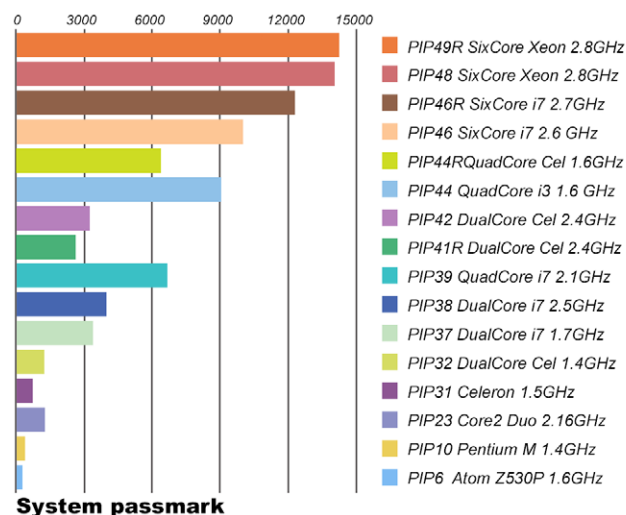
Customized PIP Solution

MPL Embedded Computer Characteristics

Since 1998 the MPL Embedded Computer Family (PIP) has been offering:

- Same foot print / same size
- All connectors remain over the years on the same side
- Graphics, Ethernet, USB on board
- 4 serial lines on board
- Wide input voltage range
- Various internal expansion buses
- Use of standard connectors
- Fanless design, even in extended temperature range

We constantly invest in new and innovative technologies for our products. Our close partnerships with the world leaders in chip technologies guarantee state-of-the-art hardware and software solutions with long-term availability.



System passmark



2015
PIP39 - i7 Quad Core Solution



2019
PIP40 Family 8th/9th Generation i7



2013/14
PIP30 Family Celeron & i7 Core



2011
PIP6-11 - Intel Atom Solution



2008
PIP20 - Core Duo Product Family



2005
PIP10 - Pentium/Celeron M Family



2001
PIP8 - Pentium III Solution



1999
PIP6 - Pentium MMX CPU



1998 - First introduction of the PIP Concept, PIP5 - 5x86 CPU

PIP Expansion Options



The modularity of MPL products are unique and make the product a perfect fit for basically any function and application.

MPL embedded expansion modules are designed and produced to withstand the high quality expectation in MPL embedded computers. These optional products are tested inside the complete system with all relevant drivers. For highest flexibility, most options are offered in different versions for the best possible fit.

The advantage of the MPL expansion products is in the variety of options to meet the various requirements of different applications (Industry, Defense, Railways, Medicine...). MPL expansion products are designed to meet both, the specific customer function, as well as maintaining operations in extended temperature and shock/vibration environments.

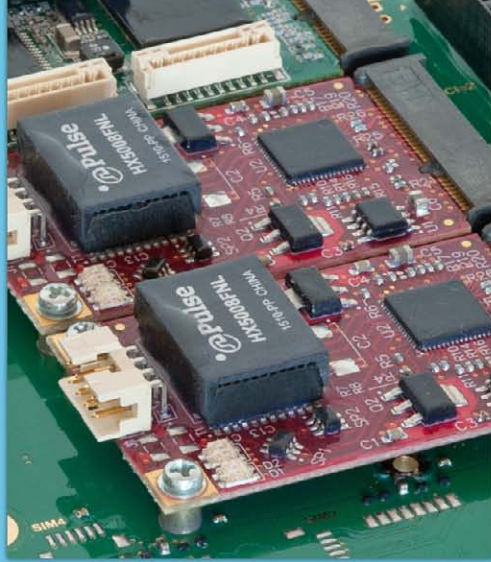
The list of expansion modules is constantly increasing, due to the various requirements of our customers. If you have a need, but are not able to find the solution, please talk to MPL. We are open to develop and create your custom option to meet your specific application needs.

Special Features

- Up to 64GB ECC DDR4 memory (extended temperature)
- Specific interface for vehicle operation
- Space for mSATA/m.2 and/or SATA 2.5" disks
- Up to 6 slots mPCIe expansion
- Extended temperature option (-40°C to +85°C)
- Coated and bonded versions
- Marine certified versions (IEC 60945)
- Railway certified versions (EN50155)
- Defense certified versions (MIL-STD-810)

Applications Areas

MPL embedded expansion options have been in use for many years across a wide array of applications and markets. Like our embedded computers, MPL expansion options maintain the same demand for long-term availability and ruggedness.



Universal 3U 19" rack solution with PIP39
used as passenger information server

A selection of available expansion options

Power options

SM BATT	UPS 0°C to 60°C / -40 to 75°C (smart battery)
PIPVIN	9-36V/18-72V/43-160V input
REDPI	Redundant power input

Mass storage options

HSRAID	Hot swap RAID expansion
SATA-REMOVE	External mass storage access

Expansion options

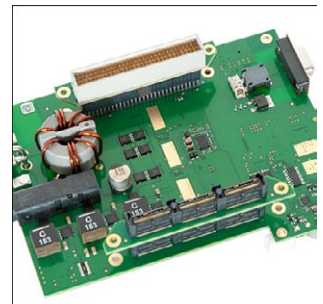
PIPPCIE	PCIe x16 slot expansion
PIPPMC	PMC expansion
PIPXMC	XMC/PMC expansion
FINE	mPCIe expansion (GPS, WLAN, CAN,)
GRIP	MXM/GPGPU graphic exp. with mPCIe slots
ICC	Customized interconnect board

Networking options

UNIGET	Gigabit Ethernet controller with PoE+
MAGBES	5-port managed Gbit switch
μMAGBES	10-port managed Gbit switch
MAXBES	10-port managed switch with 2x 10Gbit SFP+
TX2FX	Fiber optical converter / unmanaged switch
μTX2FX	Media converter (copper to fiber)
UNIGET	10Gbit Ethernet controller board
uEPI	PoE for PIP
IEBY	LAN bypass solution
PIP4x-LAN-x	LAN expansion, up to 4 ports

Various add-on

DP2DVI	Dual Display expansion
SERIF	RS232/422/485 module
HDSound	Sound module Power options



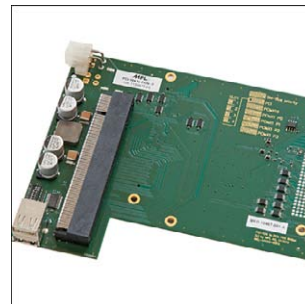
PIPXMC Expansion for standard
PMC modules



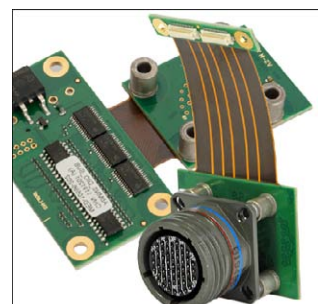
BOLERO Integrated UPS



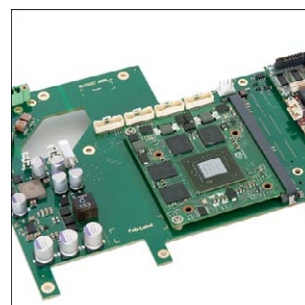
Integrated hot swap capable RAID1
solution



PCIe x16 adapter

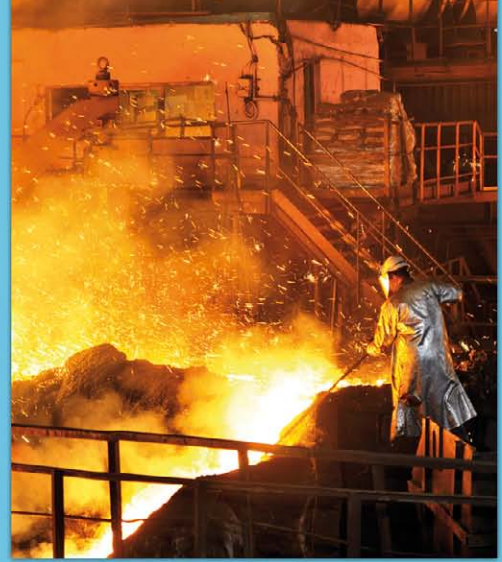


Rigid-Flex for save connections



GRIP MXM graphic expansion

PIP Housing Options



MPL offers various rugged and flexible housing options for its embedded computers to give customers the best possible solution for their specific application. All housings can be adapted according to the customer requirements.

The customer can choose between:

- Use of MPL's standard industrial proven rugged housing, either with DIN-rail, or flange mount option. Various heights are offered to create the most compact system according to your I/O requirements. OEM versions are readily available with customer logo and colors.
- For the harshest environments use our fully IP67 protected military or outdoor housing. Feel free to select the required interface and external connectors (standard, M12, MIL38999, or headers) according to your requirements and standards. The housings can be adapted according to the customer requirements.
- Design your own housing/chassis and integrate our reliable MPL embedded computer board, which is delivered on an aluminum cooling plate that offers the best conductive cooling concept.

Quality / Finish

All housings are chromated to provide best EMI protection. Each chassis is external powder coated to provide a more industrial and long lasting exterior finish.

Colors

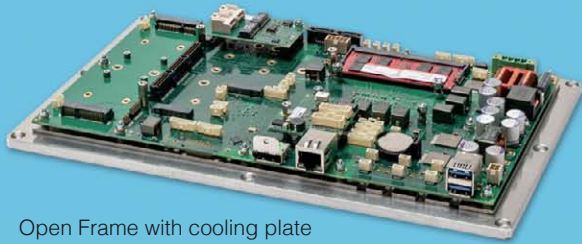
MPL offers as the standard color for the PIP housing

- MPL blue (RAL 5024)
- Anthracite gray (RAL 7016)

In case of special needs any RAL color can be used for your OEM case. The MIL Outdoor housing comes in mat black (RAL 9005) but other RAL colors are possible as well.



Rugged 19" 2U housing



Open Frame with cooling plate



Standard housing in 62, 83, 120mm heights

PIP Standard Housings

Version	Footprint	Height
Standard DIN-Rail	270 x 162mm	62 / 83 / 120mm
Standard Flange	290 x 162mm	62 / 83 / 120mm

Case characteristics: robust, rugged aluminum, internally chromated, externally powder coated.

Version	Footprint	Height
MIL / Outdoor	324 x 220mm	min. 66mm

Case characteristics: for harshest environment, up to IP67 protected, connectors according requirement.

Version	Footprint	Height
Open Frame	288/242 x 178mm	min. 33mm

Case characteristics: mounted on cooling plate with passive cooling concept, adaptable to customer case. Cooling plate can be adjusted to your needs.

19" Rack Solution

MPL also offers 1U, 2U, and 3U 19" slot solutions. The beauty of this unique solution is the modularity and expansion capability with the add-on MPL offers, like:

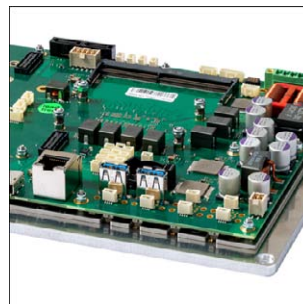
- Hot swappable RAID
- Integrated UPS for extended temperature (-40°C to 75°C)
- Redundant power input
- Managed Switch solution



Detail of flange mounting solution



PIP with integrated fiber optic distribution & firewall



PIP4x Open-Frame mounted on cooling plate



Rugged DIN-rail clamp



Lockable power connector



IP67 MIL case for any CPU solution



Lockable M12 connector

CEC Compact Embedded Computers



The name CEC stands for the ultra compact, robust, fanless, and low power Embedded Computer Family with Intel processors. The systems are offered with long term availability guarantee and in a rugged housing with different mounting options.

CEC units are available according to your requirements, even with your logo.

Specialties

- Ultra compact embedded Box-PC without any internal wiring
- Fanless solutions for extended temperature -40°C to +85°C
- Customized and/or locked BIOS versions
- Low power embedded designs
- Designed for rugged & tough environments
- Long-term availability guarantee, typically 10+ years, 20+ years repair support
- Customized design and functionality

Standards

The MPL embedded computers are deployed in many applications as listed below. For many of these applications MPL products have been designed to meet various tests including: marine certification (IEC 60945), railways certifications (EN 50155), defense certifications (MIL-STD-810), EMI certification, UL, CE, FCC, just to name a few. In each case MPL embedded computers have successfully passed all required tests.

Application Areas

MPL CEC compact embedded computers have been designed for reliable and rugged industrial use:

- | | |
|------------------|------------------------|
| – Automation | – Food Industry |
| – Communication | – Railways |
| – Maritime | – Medical & Healthcare |
| – Transportation | – Traffic |

as well as other applications where reliable, rugged, long-term available computers are needed.



CEC20 with flange mount
and built in FIME



MPL Compact Embedded Computer Characteristics

- Extreme low power consumption
- Compactness and modularity
- Graphics, Ethernet, USB on board
- 9-36 VDC input power
- Load dump and reverse polarity protection
- Serial ports (RS232/422/485)
- All status LEDs and user buttons on the front
- Fanless design, even in extended temperature range
- Same foot print / same size since 2010

We constantly invest in new and innovative technologies for our products. Our close partnership with the world leaders in chip technologies guarantee state-of-the-art hardware and software solutions with long-term availability.

Please talk to us about your specific needs and we will provide the best solution!



Customized CEC with fiber optic



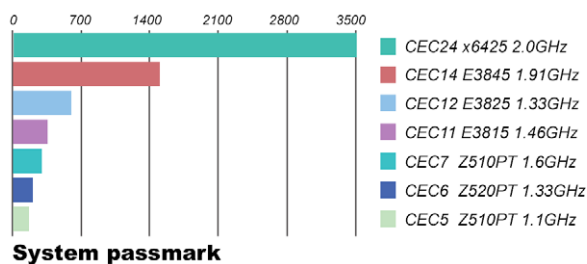
CEC with integrated WLAN



CEC10 Family with standard connectors



CEC Family with M12 connectors



System passmark



CEC and GUARD/Firewall combo
with DIN-Rail mounting



CEC built into IP67 housing

CEC Expansion Options



MPL embedded expansion options are specifically designed and produced to withstand the high quality expectation in MPL embedded computers. These option products are tested inside the complete system with all relevant drivers. For highest flexibility most options are offered in different versions for best possible fit.

Special Features

- ECC DDR3 memory (extended temperature)
- Specific interface for vehicle operation
- On-board soldered flash
- Space for mSATA and/or SATA 2.5" disks
- Up to 7 slots mPCIe expansion
- Extended temperature option (-40°C to +85°C)
- Coated and bonded versions
- Marine certified versions (IEC 60945)
- Railway certified versions (EN50155)

A selection of available expansion options

Power Options

SM BATT	UPS 0°C - 60°C / -40°C - 75°C (smart battery)
PIPVIN	9-36V/18-72V/43-160V input
REDPI	Redundant power input

Expansion Options

FIME	mPCIe exp. 3 slots, DVI, VGA, 2x 2.5Gbit LAN
ICC	Customized interconnect board

Networking options

μMAGBES	10-port managed Gbit switch
μTX2FX	Media converter (copper to fiber)
uEPI	PoE (Power over Ethernet)
IEBY	LAN bypass solution

Various Add-on

SERIF	RS232 / isolated RS232/422/485 module
HDSound	Sound module
DUALDP-1	Second display port module
FLEXIO	DIO/AIO add-on card, up to 64 channel

CEC Housing Options



CEC in standard housing
with DIN-Rail mount



MPL offers various rugged
and flexible housing options
for its compact embedded
computers to give customers
the best possible solution
for their specific application.
All housings can be adapted
according to the customer
requirements.

CEC Standard Housings

Version	Footprint	Height
Standard DIN-Rail	62 x 120mm	162mm
Standard Flange	62 x 123mm	198mm

Case characteristics: robust, rugged aluminum, internally chromated, externally powder coated.

Version	Footprint	Height
MIL / Outdoor	238 x 188mm	min. 86mm

Case characteristics: for harshest environment, up to IP67 protected, connectors according requirement.

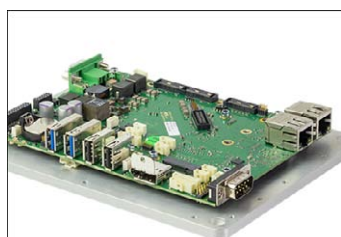
Version	Footprint	Height
Open Frame	102 x 153mm	min. 23mm

Case characteristics: mounted on cooling plate with passive cooling concept, adaptable to customer case. Cooling plate can be adjusted to your needs.

Quality / Finish

All housings are chromated to provide best EMI protection. Each chassis is external powder coated to provide a more industrial and long lasting exterior finish.

For the harshest environments use our fully IP67 protected MIL Outdoor housing. Feel free to select the required interface and external connectors (standard, M12, MIL38999, or headers) according to your requirements and standards.



CEC Open Frame solution with headers



CEC for Railway applications



CEC built into MIL housing (IP67)

Industrial Network Solutions



MPL provides numerous solutions for IP based industrial-grade networking with devices such as firewalls, routers, switches, and media converters. Like all other MPL products, they are designed to work in harsh environments with extreme temperature, humidity, and vibration. Low power, reliability, and long-term availability are key, and make them ideal for the industrial environment.

Networking Solutions for the Rugged Environment

Specialties

- Easy to integrate
- Robust, industrial products
- Extended temperature available
- Long-term availability guarantee
- Customized design and functionality

Gigabit Firewall and VPN Router/Switch

The μ GUARD product series are the ideal solution for all rugged applications, where security, quality, reliability, low power consumption, and long-term availability are key. The μ GUARD comes in various versions as firewall/router or with integrated switch, with or without fiber optic. The system is supplied with the well-known OpenWRT OS, and is also available in extended temperature from -40°C up to $+85^{\circ}\text{C}$.

Gigabit Ethernet Media Converter

The TX2FX and μ TX2FX converts copper (header or RJ45) to fiber (SFP) and allows to expand data transmission distance beyond the 100 meter limitation of copper wire, to over 10 kilometers by using fiber optic cable. The TX2FX product series are available as stand-alone version or built into any PIP product. The TX2Fx product series can be ordered in extended temperature from -40°C up to $+85^{\circ}\text{C}$. The TX2FX can also be used as 3-port unmanaged switch.

Managed Gigabit Switch

The MAGBES and μ MAGBES product family are manageable Gigabit Ethernet switches from 5 up to 28 ports. The μ MAGBES is the 4th generation of MPL switches. The products allow configuration settings like: Quality of Service, VLAN, Rapid Spanning Tree, etc. Different interface configurations with RJ45, 2mm header, or SFP fiber optic are available. The robust design, low power consumption, and the various mechanical configurations make the MPL switches ideal for any application that needs a rugged and reliable solution. The MAGBES and μ MAGBES are also available in extended temperature from -40°C up to $+85^{\circ}\text{C}$.



Rugged 10-port switch (copper & fiber) for extreme environments (130mm x 130mm)



UNIGET - Universal Gigabit Ethernet Controller

The UNIGET expansion module is based on the PCIe/104 standard. With a single UNIGET module, a system can be expanded with up to four Gigabit Ethernet controllers. It supports several interfaces like RJ45, 2mm lockable header, and SFP cages. The UNIGET is also available in extended temperature from -40°C up to +85°C and can support PoE+ requirements.

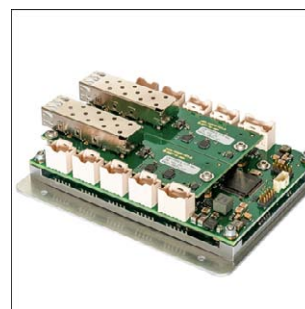
10-port Gigabit Switch with 2 SFP+ 10Gb port

The manageable MAXBES and μ MAXBES come with 8-ports 1Gbit and 2-ports 10Gbit speed. The 1Gbit ports are either available on headers or on RJ45. Various configurations are possible. The μ MAXBES 2th generation of MPL 10Gbit switches. The 10Gbit port can be equipped with SFP+ or as copper port.

The MAXBES and μ MAXBES solutions are extremely compact and can be used as open frame solution or in a MIL housing with connectors of your choice. Supply power is 5–36VDC and uses as less than 6W. The product is also available in extended temperature from -40°C up to +85°C.

Power over Ethernet module

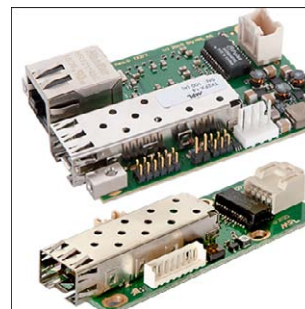
The μ EPI is an ultra small form factor Ethernet Power Injector. Its main purpose is to upgrade products without PoE port to a PSE solution (Power Sourcing Equipment). The μ EPI comes with either lockable headers and RJ45 or with lockable headers only.



μ MAXBES



μ EPI Ethernet Power Injector (PoE+)



TX2FX & μ TX2FX



UNIGET & PIP4x-Dual-GbE LAN



μ GUARD with M12 connectors



10 port μ MAGBES Gigabit Switch (up to 29 ports possible)

Rugged Embedded Server

with fanless Intel® Xeon™ Processor



The MXCS is a high performance, low power and highly integrated rugged Embedded Server, built in various special designed aluminum housings. The MXCS can be integrated in any environment, regardless if moderate or harsh.

The design integrates standard connectors for easy connection or lockable headers, depending on requirement.

The special rugged design, combined with the best industrial-grade components, offers high reliability and long-term performance.

Specialties

- Wide temperature range
- ECC DDR4 up to 512GB
- Up to six 1Gbit Ethernet, up to 4x 10Gbit Ethernet (fiber)
- Long term availability (typically 10 years after introduction)
- PCIe x16 expansion
- Expandable with PCIe, mPCIe, M.2., XMC & PMC
- Fanless operation possible

Options

- DVD drive
- RAID up to 8 drives
- 19" housing, open frame, flange mounting, MIL-housing
- Customization possible

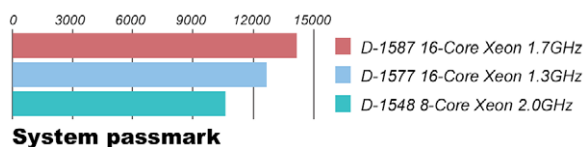
Particular precautions in the design have been taken that the entire system EMC is within the CE and FCC limits and capable to meet the MIL-STD810F as well as standards like IEC60945 or EN50155.

Application Areas

MPL solutions have been successfully operating for many years in the following application areas:

- Automotive
- Food Industry
- Communication
- Defense
- Maritime
- Railways
- Traffic
- Medical & Healthcare

as well as other applications where reliable, rugged, long-term available computers are needed.



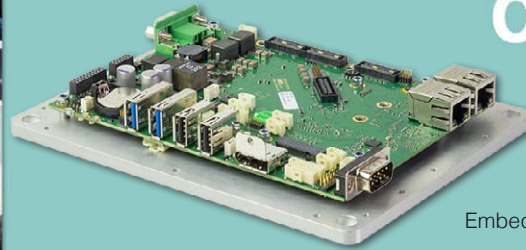
MXCS in MIL enclosure



MXCS removable mass storage



Embedded CPU Boards



Embedded boards on cooling plates



The MPL Embedded Open Frame CPU boards represent a distinguished solution for today's demanding industrial needs. The products are easily expandable over the on-board expansion buses.

These embedded CPU boards are designed from inception to operate under both, extreme and normal conditions, as standalone units with no fans, or CPU derating/throttling. For easy installation, the solutions come with a cooling plate or on request can be customized for the perfect fit in your product.

Specialties

- Extended temperature solutions
- Fanless and noiseless
- Housings in stainless steel and aluminum
- Up to IP65 / NEMA4 protection level from all directions
- Long-term availability – same form, fit, function
- Space saving, slim and compact All-in-One solutions
- Various mounting and installation options possible

Options

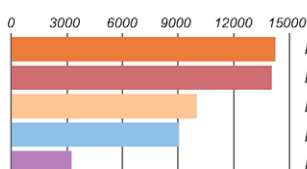
- Touch screen
- Wide DC input voltage range
- Integration of expansion cards
- Integration of mass storage
- Extended temperature solution
- EN50155 and IEC 60945 approved solutions

Application Areas

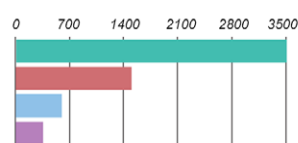
MPL embedded computers have been successfully operating for many years in the following application areas:

- Automotive
- Food Industry
- Communication
- Defense
- Maritime
- Railways
- Traffic
- Medical & Healthcare

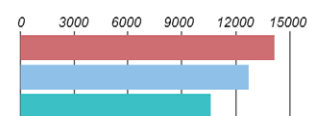
as well as other applications where reliable, rugged, long-term available computers are needed.



PIP49R SixC Xeon
PIP48 SixC Xeon
PIP46 SixC i7
PIP44 QuadC i3
PIP42 DualC Cel.



CEC24 x6425 2.0GHz
CEC14 E3845
CEC12 E3825
CEC11 E3815



D-1587 16-C Xeon
D-1577 16-C Xeon
D-1548 8-C Xeon

System passmark

Fanless Industrial Panel PC



The MPL Panel PC Solutions are based on the embedded CPU boards we offer. Where a rugged PANEL PC solution is required, select the right display from the market to insure your needs in temperature, vibration, and long-term availability. With the modular concept, integration of additional features will adjust the system to the customer's specific needs.

MPL Panel PCs are specifically designed and produced for rugged and sensitive environments. We offer customer tailored Panel PC products for specified markets, even in small quantities!

Specialties

- Extended temperature solutions
- Fanless and noiseless
- Housings in stainless steel and aluminum
- Up to IP65 / NEMA4 protection level from all directions
- Long-term availability – same form, fit, function
- Space saving, slim and compact All-in-One solutions
- Various mounting / installation options possible

Options

- Touch screen
- Wide DC input voltage range
- UPS for safe shut down or autonomous operation
- WLAN integration
- Integration of additional cards
- HDD / SSD
- Extended temperature -30°C up to +70°C

Application Areas

MPL embedded computers have been successfully operating for many years in the following application areas:

- | | |
|-----------------|------------------------|
| – Automotive | – Food Industry |
| – Communication | – Defense |
| – Maritime | – Railways |
| – Traffic | – Medical & Healthcare |

as well as other applications where reliable, rugged, long-term available computers are needed.



OEM & Customer Specific Solutions

Customized housing



OEM Products

All MPL products are available even in small quantities as individual OEM products or as custom/semi-custom products. Talk to us if you would like to add your brand or OEM logo on one of our products. MPL's broad range of customers and references underline the trust, reputation, and capability of MPL AG. Just tell us what you need and MPL will deliver the right solution for you.

Full customized Products

A customized product designed by MPL is a success due to the broad know-how in various technologies (Intel, PowerPC, ARM, FPGA...). MPL is capable to design your product fast and cost optimized. Bring your specifications as early as possible to help us evaluate the ideal solution for your needs.

Selection of References

ABB

ALSTOM

AREVA

BAE SYSTEMS

BOEING

BOMBARDIER

BOSCH

CATERPILLAR

DLR

FOX-IT

GENERAL DYNAMIC

HONEYWELL

LOCKHEED MARTIN

MBDA

NASA

NORTHROP GRUMMAN

OTO MELARA

PILATUS

SAAB

STADLER RAIL

THALES

KMW

THYSSENKRUPPS

ZEISS

MAX PLANK INSTITUTE

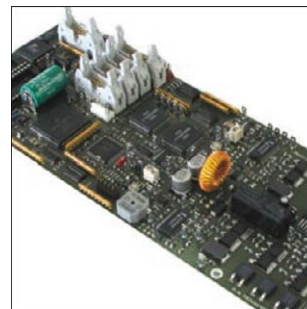
ETH ZÜRICH

KUDELSKI/ NAGRA

NAVAL

AIRBUS

KROHNE OIL & GASA



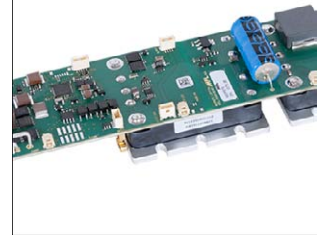
Medical: modification of a 20 year old product without SW change



Avionics: UAV flight control systems, Pentium M 1.4 GHz



Vision: High Speed Camera with 32'000fps, up to 100G shock



MUPS75 Support of 20ms power cut (MIL-STD-1275 standard)



Customized 10-port Gigabit switch with cooling block



Communication: IP67 protected Fiber optic switch



Vehicle: Customized PIP for mine trucks



WORLDWIDE DISTRIBUTOR AND SUPPORT NETWORK FROM MPL

Local sales support

Our distributors are near you! To serve our customers best, we have a worldwide distributor network which will handle your local pre and post sales support.

Technical support from the engineer

Our customers get direct access to our design engineers to assist with initial product function and operation. We do not work with call centers or large support teams, but we rather rely upon our prompt and courteous service, while giving customers direct access to our design engineers to resolve any support issues.

MPLcare

is provided to each customer free of charge and includes technical support questions answered in less than 24 hours by the design engineering team.

MPL – The Company You Can Trust



MPL AG Elektronik-Unternehmen
Täfernstrasse 20
CH-5405 Dättwil
Tel.: +41 56 483 34 34
Email: info@mpl.ch
www.mpl.ch