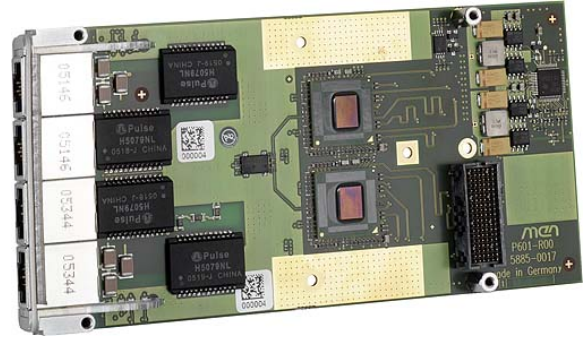


P601 – Quad Redundant Gigabit Ethernet XMC

- Four 10/100/1000Base-T channels
- 1 XMC connector with 2 x4 PCIe® links
- Alternatively two redundant channel pairs
- 4 RJ45 connectors at front
- Full and half duplex
- 1.5 kV electrical isolation



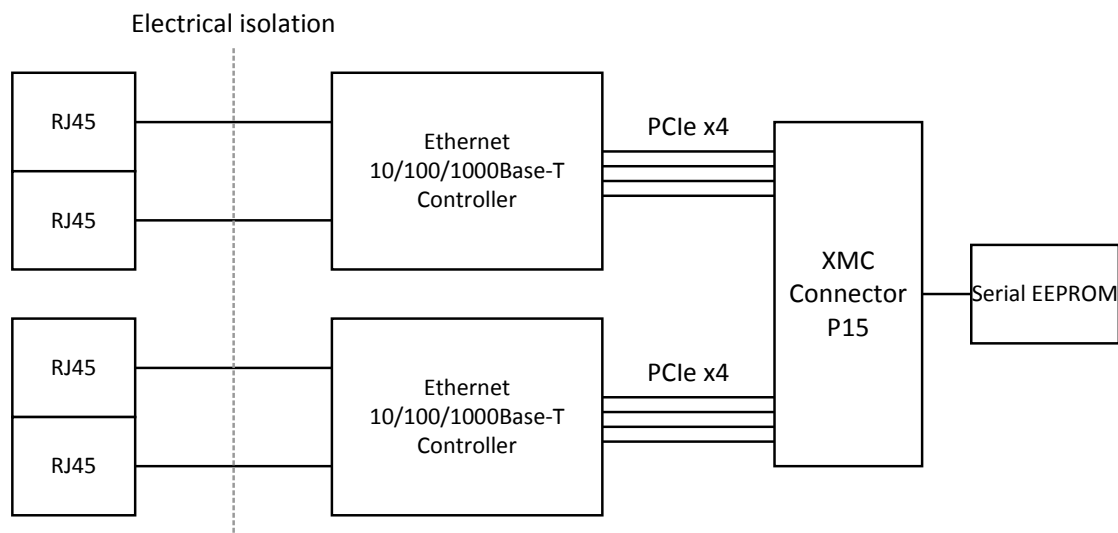
The P601 is a Gigabit Ethernet XMC mezzanine card suitable for any XMC compliant single-board computer or host carrier board in any type of bus system, i.e. CPCI, VME or on any type of stand-alone SBC. Compared to PMC, the XMC standard defines a different board-to-board connector for support of PCI Express®.

The four Ethernet channels on the P601 are provided by two Ethernet controllers with two lines each and supported by two PCIe® links with four lanes each. With a specific set-up the two lines inside each Ethernet controller can be used as a redundant channel pair. In this mode one line is monitored by the other line and the controller recognizes when an error occurs.

The mezzanine module P601 is typically suited as an extension for Windows® and Linux based systems with a heavy demand for multiple and ultra-fast communication requirements. As such it is used in high-bandwidth multi-channel communication applications in networked appliances such as base stations, routers, switches, gateways, residential gateway controllers, etc. Main target markets comprise telecom, medical engineering and transportation.

For use in rugged environments the P601 is delivered with a passive heat sink and is prepared for conformal coating. Equipped with Intel® components that come exclusively from the Intel® Embedded Line, the P601 has a guaranteed minimum standard availability of 5 years.

Diagram



Technical Data

Ethernet	<ul style="list-style-type: none"> ■ Four 10/100/1000Base-T Ethernet channels at front panel ■ RJ45 connectors at front panel ■ Two independent dual-port Ethernet controllers <ul style="list-style-type: none"> □ Fully integrated Gigabit Ethernet Media Access Controllers (MAC) and physical layer ports (PHY) □ 48 kB per port on-chip packet buffer □ Full duplex and half duplex operation ■ Ethernet controllers are connected by two PCIe® links with four lanes each ■ Two LEDs per channel to signal LAN Link, Activity status and connection speed (10/100/1000Base-T)
XMC Characteristics	<ul style="list-style-type: none"> ■ XMC connector P15 assembled
Peripheral Connections	<ul style="list-style-type: none"> ■ Via front panel on four RJ45 connectors
PCI Express®	<ul style="list-style-type: none"> ■ Two links with four lanes each to connect local 1000Base-T Ethernet controllers (1 GB/s per channel in each direction) ■ Both links on XMC connector P15
Electrical Specifications	<ul style="list-style-type: none"> ■ Isolation voltage: 1.5 kV DC electrical isolation between isolated side and digital side ■ Supply voltage/power consumption: <ul style="list-style-type: none"> □ +5 V or +12 V (-5%/+5%), 1.4 A typ. (+5 V), 600 mA typ. (+12 V) □ +3.3 V (-5%/+5%), 100 mA typ.
Mechanical Specifications	<ul style="list-style-type: none"> ■ Dimensions: conforming to XMC standard VITA 42.0-200x ■ Weight: 104 g (with heat sink)
Environmental Specifications	<ul style="list-style-type: none"> ■ Temperature range (operation): <ul style="list-style-type: none"> □ 0..+55°C □ Industrial temperature range on request □ Airflow: min. 10 m³/h ■ Temperature range (storage): -40..+85°C ■ Relative humidity (operation): max. 95% non-condensing ■ Relative humidity (storage): max. 95% non-condensing ■ Altitude: -300 m to + 3000 m ■ Shock: 15 g/11 ms ■ Bump: 10 g/16 ms ■ Vibration (sinusoidal): 2 g/10..150 Hz ■ Conformal coating on request
MTBF	<ul style="list-style-type: none"> ■ 920 841 h @ 40°C according to IEC/TR 62380 (RDF 2000)
Safety	<ul style="list-style-type: none"> ■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers
EMC	<ul style="list-style-type: none"> ■ Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst)
Software Support	<ul style="list-style-type: none"> ■ Drivers from Intel® for Windows® and Linux

Ordering Information

Standard P601 Models	15P601-00	4-port 1000Base-T Ethernet, 4x RJ45, 2 x4 PCIe® links, 5V supply, 0...+55°C
Miscellaneous Accessories	05P000-01	25 mounting screw sets to fix PMC/XMC modules on carrier boards
Software: Windows®	This product is designed to work under Windows®. See below for potentially available separate software packages from MEN.	
	13T001-70	Windows® network driver (Intel®) for F14, F15, F17, F18, D9, D6, D7, D601, A19, A20 and P601, P602
For operating systems not mentioned here contact MEN sales .		
Documentation	Compare Chart mezzanine functions on PMC/XMC and PC-MIP® » Download	
	20P601-00	P601 User Manual

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