AcroPack® Carriers

XMCAP2000 Series XMC Carrier Cards for AcroPack® Modules

CE 2 YEAR WARRANTY RoHS Compliant
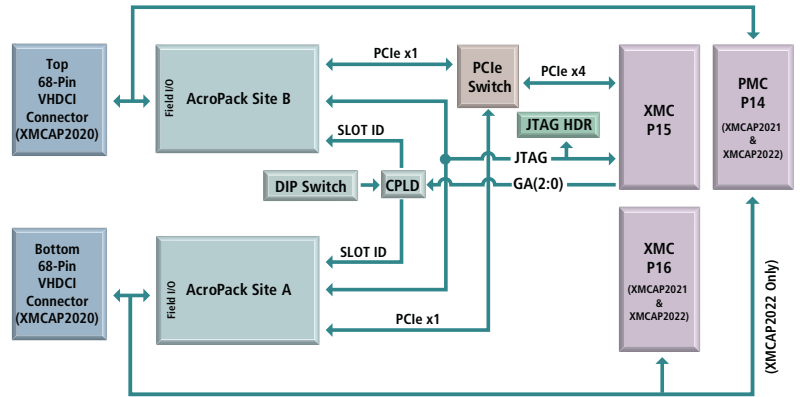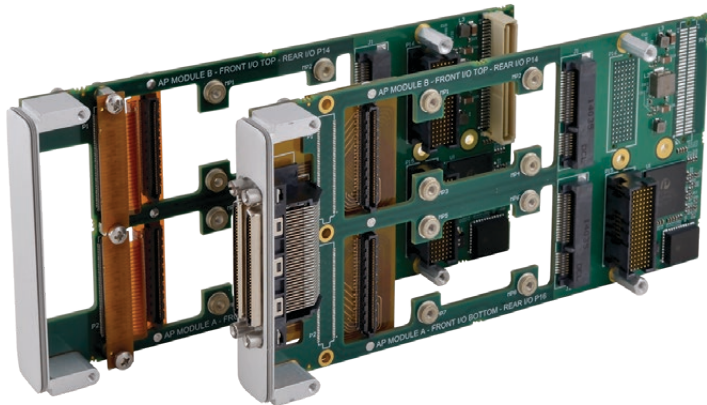
Two AcroPack or mini-PCIe mezzanine module slots ◆ **Non-Intelligent carrier card** ◆ **PCIe x4 interface**

Description

Models:
XMCAP2020-LF: Front I/O
XMCAP2021-LF: Rear I/O
XMCAP2022-LF: For use with ARCX-4000 rugged computers

The AcroPack® product line updates our popular Industry Pack I/O modules with a PCIe interface format. This tech-refresh design offers a compact size, low-cost I/O, the same functionality and memory map of the existing Industry Pack modules.

This board interfaces two AcroPack mezzanine modules to a PCI Express bus on an air-cooled XMC carrier.

Two AcroPack module slots give you the freedom to mix a variety of I/O functions (A/D, D/A, digital in, digital out, serial I/O, etc.) on a single board. Or, combine modules of the same type for almost one hundred channels on a single card. Either way, the XMCAP2020/2021 saves your precious card slots and reduces your costs.

Select I/O modules from Acromag's offering or use most third-party mPCIe compliant modules.

Key Features & Benefits

- Two AcroPack or mini-PCIe module slots support any combination of I/O functions
- PCI Express compliant
- Plug-and-play carrier configuration and interrupt support
- Front panel 68-pin CHAMP 0.8mm connectors for field I/O
- Rear P14 and P16 connectors for field I/O
- DIP switch and/or geographical addressing for card identification
- VITA 42.0, 42.3 complaint
- JTAG programming through XMC P15 connector or through onboard micro connector
- Software development tools for VxWorks®, Linux®, and Windows® environments.
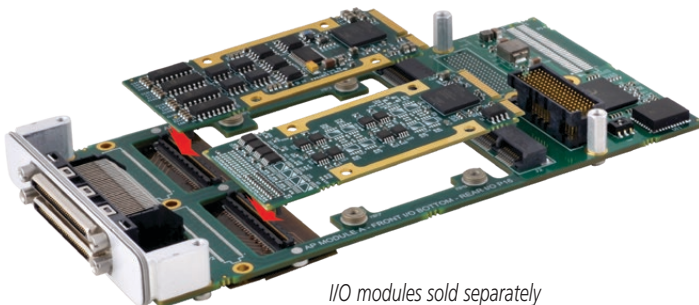
I/O modules sold separately

Acromag
THE LEADER IN INDUSTRIAL I/O

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Performance Specifications

■ PCI Express Bus Compliance

This device meets or exceeds all written PCI Express specifications per revision 2.1.

Includes a PCIe Gen 2 switch to expand the single host PCIe port to two ports, one to each device (AcroPack or mini-PCIe).

The host port consists of four PCIe lanes, each of the mini-PCIe sites have one lane each.

■ Field I/O Connectors

Front I/O

XMCAP2020-LF: Two 68-pin 0.8mm Champ cable connection.Pin assignments are defined by the installed AcroPack or mini-PCIe module.

Rear I/O

XMCAP2021-LF: One AcroPack routed to rear P14 connector and one AcroPack routed to rear P16 connection.

XMCAP2022-LF: One AcroPack routed to P16 and the second to P14. Intended for ARCX-4000 applications only.

■ Ease of Use

A unique carrier and site number can be set for each AcroPack site by a DIP switch or geographical addressing. This provides the capability to distinguish a particular AcroPack module from others when multiple instances of the same module are used in a system.

JTAG signal are provided for programming and debugging the FPGA on some AcroPack modules. The JTAG ports of the two AcroPack modules are daisy-chained.

■ Physical

Physical Configuration
PCIe x4 lane
Length: 5.866 inches (149 mm)
Height: 2.9134 inches (74 mm)

Conforms to VITA 42 air-cooled XMC specification.

■ Environmental

Operating temperature
-40 to +70°C

Storage temperature
-55 to +125°C.

Relative humidity
5 to 95% non-condensing.

Power
+3.3 Volts (±5%): 140mA typical
VPWR: +5 Volts (± 5%): 200mA typical
VPWR: +12 Volts (± 8%): <100 mA typical

The XMCAP2020/2021 has four DC/DC converters to provide the power supply voltages to the AcroPack modules that are not present at the host interface. The +1.5 Volt supply is sourced from the VPWR host power. The +5 Volt and ±12 Volt supplies are sourced from +3.3 Volt host power.

Ordering Information

Carrier Card

Go to online ordering page >

XMCAP2020-LF: AcroPack carrier card for AcroPack or mPCIe modules, front I/O, air-cooled, two AcroPack slots.

XMCAP2021-LF: AcroPack carrier card for AcroPack or mPCIe modules, rear I/O, air-cooled, two AcroPack slots.

XMCAP2022-LF: AcroPack carrier card, rear I/O, two AcroPack slots, for ARCX-4000 applications (consult factory).

See Acromag.com/AcroPacks for a full list of I/O modules.

Accessories

5025-288: Termination panel, SCSI-3 connector, 68 screw terminals.

5028-420: VHDCI 68-pin, round cable, shielded, SCSI-3 to CHAMP. 0.8mm, 2 meters long.

5028-615: Cable, 68-pin CHAMP to pigtail, 36 inches long

5028-616: Cable, 68-pin CHAMP to pigtail, 70 inches long

Heatsinks for ARCX-4000 (consult factory)

AP-CC-02: Heat sink for two generic AP modules (left rail or single wide ARCX)

AP-CC-03: Heat sink for AP57x and generic AP modules (left rail or single wide ARCX)

AP-CC-05: Heat sink for two generic AP modules (right rail)

See User Manual for compatible AP modules.

Software (see software documentation for details)

APSW-API-VXW: VxWorks® software support package

APSW-API-WIN: Windows® DLL driver software support pkg

APSW-API-LNX: Linux® support (website download only)