**APC8620A**  
**PCI Bus**  
**IP Carrier Card**

This board interfaces industry-standard Industrial I/O Pack (IP) modules to a PCI bus on a PC-based computer system.

Five IP 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 hundreds of channels on a single card. Either way, the APC8620A saves your precious card slots and reduces your costs.

Select I/O modules from Acromag’s offering of more than forty models or use any third-party IP mezzanine ANSI/VITA 4 modules.

**Features**
- Five industry-standard IP module slots
- Board resides in memory space
- Supports IP module I/O, ID, INT, and MEM spaces
- Plug-and-play carrier configuration and interrupt support
- Two interrupt channels per IP module
- Supervisory circuit reset generation
- Individually filtered and fused power

**Benefits**
- Quickly create custom I/O boards by mixing and matching I/O functions.
- Conveniently configure and control the I/O modules through software with full IP module register/data access.
- Easily integrate IPs with your software using RTOS VxWorks, QNX, Linux, or Win DLL for Windows® 2000/XP/Vista/7 32-bit systems.

**Specifications**

**IP Module Compliance (ANSI/VITA 4)**
- Meets or exceeds all written IP specifications per ANSI/VITA 4-1995 for 8MHz or 32MHz operation.
- Supports Type I and Type II ID space formats.
- Electrical/mechanical interface: Supports five single-size IP modules (A-E), or two double-size and one single-size IP module.
- IP module I/O space, ID space, INT, and MEM space supported.
- IP module I/O space: 16 and 8-bit, supports 128 byte values per IP module.
- IP module ID space: 16 and 8-bit, Supports Type I 32 bytes per IP (consecutive even byte addresses) and Type II 32 words per IP via D16 data transfers.
- IP module memory space: 16 and 8-bit, supports up to 8M bytes of memory space per IP module.
- Interrupts: Supports two interrupt requests per IP and interrupt acknowledge cycles via access to IP INT space.

**PCI Bus Compliance**
- This device meets or exceeds all written PCI local bus specifications per rev. 2.2 dated December 1998.
- System base address: This board operates in PCI memory space. It requires 1K of memory space for mapping the carrier controls, and IP module ID, INT, and I/O space. An optional 64MB of PCI memory space is required to use IP module memory space.
- Data transfer bus: Slave with 32, 16, and 8-bit data transfer operation. 32-bit read or write accesses implemented as two 16-bit transfers to IP modules.
- Interrupts (PCI bus INTA# interrupt signal): Up to two requests sourced from each IP mapped to INTA#. Interrupt vectors come from IP modules via access to IP module INT space.

**Environmental**
- Operating temperature: 0 to 70°C (APC8621A) or -40 to 85°C (APC8621AE model).
- Storage temperature: -55 to 100°C (all models).
- Relative humidity: 5-95% non-condensing
- Power: +3.3 Volts (±10%): 130mA, typical; 50mA max.  
+5 Volts (±5%): 30mA, typical; 50mA, max.  
±12 Volts provided to each IP module.
- MTBF: 413,003 hrs. at 25°C, MIL-HDBK-217F, notice 2

**Physical**
- Physical configuration: PCI universal card (3.3V or 5V)
- Length: 12.283 inches (312.0 mm)
- Height: 4.200 inches (106.68 mm)
- Board thickness: 0.062 inches (1.59 mm)
- Maximum component height: 0.380 in. (9.65 mm)
- Max. height under IP modules: 0.180 in. (4.57 mm).
- Connectors: A-E (carrier field I/O): 50-pin male header

**Ordering Information**

**Industry Pack Carriers**

**APC8620A**  
Non-intelligent PCI bus carrier board. Holds five IP modules.

**APC8620AE**  
Same as APC8620A plus extended temperature range.

**Software**

**IPSW-API-VXW:** VxWorks® software support package  
**IPSW-API-WIN32:** 32-bit Windows® DLL driver software support pkg.  
**IPSW-API-WIN64:** 64-bit Windows® DLL driver software support pkg.  
**IPSW-LINUX:** Linux™ support (website download only).

**Accessories**

**5025-550:** Cable, unshielded, 50-pin header both ends  
**5025-551:** Same as 5025-550 except shielded  
**5025-552:** Termination panel, 50-pin connector, 50 screw terminals

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