

# QLA1040 Ultra Wide

## Integrated SCSI Controller

The QLA1040 is an extremely high performance, third-generation Ultra SCSI adapter board representing the best in SCSI processor integration.

Based on QLogic's industry-leading, dual processor ISP1040 PCI-to-Wide Ultra SCSI adapter chip, the high-speed QLA1040 is capable of handling up to 10,000 I/Os\* per second while minimizing host CPU loading (no more than one host interrupt is generated per SCSI I/O). The ISP1040's two on-chip processors manage the SCSI bus protocol and host system interface, respectively. This management permits the QLA1040 to complete entire SCSI I/O instructions, as well as manage many types of exception or error conditions, without host CPU intervention. This powerful combination of performance and host CPU independence makes the QLA1040 ideal for performance-sensitive workstation and server environments.

The ISP1040's advanced, message-style host software interface permits nearly complete host software compatibility between the QLA1040 and QLogic's QLA2100 PCI-to-Fibre Channel adapter board, enabling QLA1040 software to migrate from parallel SCSI to Fibre Channel with minimal changes. This important feature enables you to retain your host software investment while migrating to future SCSI interface technologies.

## Key Features

- SCSI bus transfer rates up to 40 MB/second (Wide) and 20 MB/second (Narrow)
- 32-bit bus master data transfers of up to 132 MB/second
- Sustained data transfer rates up to 10,000 I/Os\* per second
- Only one PCI bus interrupt per SCSI I/O operation
- Compatible with SCSI-2, SCSI-3, Ultra SCSI, and Wide Ultra SCSI peripherals
- Supports up to 15 concurrent, single-ended SCSI peripherals
- QLogic drivers support major operating systems

## Additional Features

- SCSI disconnect/reconnect queued in on-chip memory
- SCSI transfer rate arbitration and error recovery managed onboard
- Flash ROM BIOS included for easy field upgrades
- Active termination
- Plug and Play - No switches or jumpers necessary
- Internal 68-pin and 50-pin SCSI connectors
- External 68-pin, high-density SCSI connector
- Meets or exceeds U.S. and international safety/emissions standards



\*Actual performance will vary with system configuration and I/O transfer size.

## PCI-to-Ultra SCSI Host Adapter

### Full Software Driver Support

- QLogic provided software drivers for DOS/Windows, Windows 95, Windows NT, OS/2, SCO UNIX, UnixWare, AIX, I2O, and NetWare, as well as an installation utility for quick integration of driver software.
- Easy host software migration from Ultra SCSI to Fibre Channel SCSI-FCP
- Software compatible with QLogic's ISP1020-based host adapters
- ASPI manager and CD-ROM driver for DOS/Windows
- INT 13 compliant flash ROM BIOS
- RAM BIOS for high-speed operation

### Complete Peripheral Support

Concurrent support of synchronous and asynchronous SCSI-2, SCSI-3, Fast Wide SCSI, Ultra SCSI and Wide Ultra SCSI devices. Supports fixed and removable disks, optical disks, tape drives, scanners, CD-ROMs and CD-recorders.



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### QLA1040 Specifications

Host Bus	Conforms to PCI Local Bus specification
SCSI Standard	ANSI X3.131-1994 SCSI-2/SCSI-3 SPI X3T10/855D SCSI-3 Fast-20 X3T10/1071D
SCSI Data Transfer Rates	Up to 40 MB/second
Data Transfer	Asynchronous/synchronous transfers to 40 MB/second
SCSI Data Handling	8-bit narrow, 16-bit wide, single-ended
Onboard Processors	Single chip, dual processor design: RISC engine and SCSI Executive Processor
Host Data Transfer	32-bit bus master DMA data transfers to 132 MB/second
RAM	64 Kbytes static RAM
DMA Channels	128-byte data DMA FIFO with threshold control and 64-byte command DMA FIFO
Electrical Drivers	On-chip, 48-mA, single-ended SCSI drivers
Connectors	68-pin, high-density external SCSI connector 68-pin internal ribbon connector 50-pin internal ribbon connector
Termination	Active, software controlled
Form Factor	17.78 cm x 10.67 cm (7.0" x 4.2")
Operating Temperature	0°C/32°F to 55°C/131°F
Storage Temperature	-20°C/-4°F to 70°C/158°F
Relative Humidity	10% to 90% (noncondensing)
Storage Humidity	5% to 95% (noncondensing)

Meets or exceeds U.S. and international safety/emissions standards.

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