

# Fibre Channel Gigabit Link Interface

## FCX40

### PRODUCT INFORMATION

#### FIBER CHANNEL INTERFACE

The FCX40 is a full speed (1063 Mbit/s) **Fibre Channel** link controller with a dedicated Texas Instruments TMS320C40 processor. The FCX40 provides maximum performance between the C40 and the Fibre Channel link and can sustain bidirectional transfer rates of 140 MBytes/s. Channel performance is maximized using dedicated DMA controllers and multi-ported RAM between the processor and Fibre Channel link allowing the C40 to read and write to the channel using both the Local and Global buses simultaneously. The FCX40 is suitable for use in any standard VME chassis and is compatible with a variety of C40 motherboards from DSP Systems and other manufacturers. The FCX40 does not have a VME bus interface.

#### MULTI-PROCESSING SYSTEMS

The FCX40 configured as a server between (front-end) data collection systems and (back-end) analysis, display, and archival systems permits remote, distributed data acquisition and signal processing. Processors optimized for interrupt response and data collection can be connected to high-performance workstations running standard analysis tools and vendor supplied network software. This would allow, for example, a desktop workstation running MS Windows NT to connect to any number of satellite acquisition systems using a PCI bus interface and FCX40s. The FCX40 connects as an IP or Java client and communicates with the workstations using standard TCP/IP protocols. All NT services including workgroups and remote access are supported at gigabit transfer rates — over 200 MBytes/s. Perhaps, the most useful benefit of standard communications is that systems of different processing architectures are easily con-



#### APPLICATIONS and FEATURES

- Remote data acquisition using heterogeneous processing systems running standard network protocols
- SCSI-3 Fibre Channel (SCSI FCP) applications
- Fibre Channel Arbitrated-Loop Disk Arrays (RAID)
- Full speed 1063 Mbaud full duplex Fibre Channel interface
- Simultaneous bidirectional communication at over 200 MBytes/s peak
- Six 20 MByte/s C40 comports for ancillary communications
- Open architecture suitable for proprietary or specialized link development
- Standard and non-standard frame sizes are supported
- Compatible with industry standard Sun, HP, IBM, and other Fibre Channel modules
- Allows Remote Boot and Debug of C40 networks
- Supports direct connect, switch fabrics, Fibre Channel Arbitrated Loop (FC-AL), and Fibre Channel Enhanced Loop topologies
- DMA controlled frame I/O

structed and quickly deployed. Texas Instruments C40s and C60s can be combined with Intel, DEC Alpha, and any other processor having a PCI, PMC, or VME bus.

#### EFFICIENT CONNECTIVITY

The C40 processor has six 20 MByte/s communication ports which can be used to connect to legacy hardware, application specific hardware, and a wide range of off-the-shelf data acquisition modules. This architecture provides everything needed to build a high-performance data acquisition

and DSP system using off-the-shelf components.

#### NEW PROJECTS

Fibre Channel Systems can help you enhance system capabilities and preserve legacy hardware while providing a long term growth path. Let us help you design or enhance your DSP system today. Call or email Fibre Channel Systems to receive more information, application notes, or technical reports.