Extend Reach • Distribute Signals

Advanced signal conditioning made easy and efficient
Optimize Board Space and Complexity
with Front Port Controllers (FPC) for SFP, QSFP, and Mini-SAS HD

How FPC401 works
Aggregates all low speed control and I²C signals across four ports into a single bus (I²C or SPI) to your host. Combines multiple front port controllers to manage up to 56 ports with a single two-wire interface. Enables direct addressing to every port and eliminates the need for polling.

Features
• Selectable SPI (up to 10 MHz) or I²C (up to 1 MHz) host control interface
• Integrated host-side level shifters: 1.8 V to 3.3 V, LED drivers
• Small package fits underneath SFP cage
• Automatic pre-fetch of key SFP+/QSFP+ data
• Daisy chainable: send minimum number of signals to host
• Eliminate discrete shift registers, I²C muxes, LED drivers, and I/O expanders
Optimize Power and Cost with pin-compatible 10/40/100 GbE signal conditioners

Simple and flexible design
TI’s pin-compatible portfolio of linear repeaters, retimers, and mux buffers enable performance and cost optimization in a common footprint. TI solutions use a single power supply, integrated AC coupling capacitors, and operate without a precision reference clock to simplify board design.

Featured products for 10/40/100 GbE interfaces

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<th>Device</th>
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<td>6 x 6 BGA</td>
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Optimize Design Time and Effort with TI design tools and reference materials

Design Tools
Use WEBENCH®, a free simulator that can run on any machine. The Interface Designer allows you to:

- Easily create new high-speed serial interface systems
- Analyze and enhance integrity for existing designs
- Select the right interface devices for your requirements

Use TI retimer and repeater IBIS-AMI models to optimize your channel design

Design Reference Materials
Find out how to optimize your high-speed serial links using green-box testing at: ti.com/lit/slyt678
Check out more technical documents, tools & software, and signal conditioner applications at: ti.com/sigcon

TI Designs
Accelerate system design and layout using TI Reference Designs - available now! Find our 2-port 100GbE/40GbE/10GbE QSFP28 signal conditioner reference design at: ti.com/tool/TIDA-00427

Find our high-speed front-end reference design for PCIe Gen-3 cards at: ti.com/tool/TIDA-00423
Combining cutting-edge silicon process technology with advanced analog circuit design, TI is the market leader for enterprise class signal conditioning solutions. With a comprehensive portfolio of easy-to-use products for front port, backplane, peripheral I/O, optical and active cables applications TI enables complex architectures of advanced data communication systems while reducing the overall system cost. Additionally, TI’s reference designs, on-line simulation (WEBENCH®) tools, application notes, and quality support reduces your time to market.

Industry-leading interface solutions – backplane, front port, optical, active cables

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<th>Function</th>
<th>Application</th>
<th>Standards</th>
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<td>10/40/100/200/400GbE PCIe, CPRI, Infiniband</td>
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<tr>
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<td>EQ, Driver</td>
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<tr>
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International +49 (0) 8161 80 2121

Russian Support +7 (4) 95 98 10 701

Note: The European Free Call (Toll-Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.

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Toll-Free Number

Note: Toll-free numbers may not support mobile and IP phones.

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China 800-820-8882

Hong Kong 800-96-5941

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Indonesia 001-803-8861-1006

Korea 080-551-2804

Malaysia 1-800-80-3973

New Zealand 0800-446-994

Philippines 1-800-765-7404

Singapore 800-886-1028

Taiwan 0800-006800

Thailand 001-800-886-0010

International +86-21-23073444

Fax +86-21-23073686

Email tiasia@ti.com or ti-china@ti.com

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