Powering the Next Generation of AI Infrastructure

High-speed. High-density. Ready for what's next.

From AI servers, and GPU accelerators to networking switches, storage systems, and backplanes, high-performance computing depends on advanced interconnect solutions. Samtec offers a broad portfolio of high-speed, high-density interconnects — and Powell Electronics helps engineers bring these solutions to market.

AI SERVERS
GPU ACCELERATORS
NETWORKING SWITCHES
STORAGE SYSTEMS
BACKPLANES

CONNECTING
A SMARTER
TOMORROW

Featured Interconnect Solutions

DIFFERENT ARCHITECTURES.
ONE CONNECTED ECOSYSTEM.

NovaRay
Next-Generation AI / HPC



Designed for extremely high-density, high-speed connections between boards and through backplane or cable systems.

Up to **128 Gbps** PAM4 per channel

IDEAL FOR: Advanced accelerators, switches and server architectures.

AcceleRate HP
AI Server / Near-Chip



An ultra-dense connector and cable system for moving signals away from high-performance ASICs and accelerator packages.

Up to **112 Gbps** PAM4

CONFIGURATIONS: 32–96 differential pairs

IDEAL FOR: High routing density and critical signal integrity.

Si-Fly HD
AI Racks / High-Speed Backplanes



A high-density cable and backplane interconnect platform for very high-speed data transmission.

Up to **224 Gbps** PAM4

IDEAL FOR: Dense backplane and near-chip connections in AI rack architectures.

Flyover
AI Servers and Networking



Routes high-speed signals over low-skew twinax cable instead of long, lossy PCB traces. Improves signal integrity, extends reach, and frees PCB space for thermal management.

Low-skew twinax cable

A TECHNOLOGY PLATFORM encompassing multiple connector and cable families to support a wide range of system architectures.

FireFly
Optical and Active-Optical Interconnects



Ideal for optical and active-optical interconnect architectures, particularly where electrical signals need to transition to optical transmission.

High-bandwidth optical links

IDEAL FOR: High-bandwidth networking and optical links close to processors or switches.

Application Guide

REAL-WORLD APPLICATIONS. PROVEN INTERCONNECT SOLUTIONS.



GPU / Accelerator Server

AcceleRate HP, NovaRay and Si-Fly HD are ideal for dense chip-to-board and near-chip signal routing.



800G / 1.6T Network Switches

Si-Fly, NovaRay and Flyover QSFP/OSFP systems work well on high-speed ASIC-to-panel and switch interconnects.



Backplanes and Modular Computing Boards

NovaRay backplane and SEARAY/SEAF provide robust board-to-board connectivity, modularity and blind-mate interfaces.



Optical and Active-Optical Links

FireFly supports optical/electrical conversion and high-bandwidth interconnects.

Why Engineers Choose Samtec Interconnect Solutions

Ultra-High Speeds | High Density | Signal Integrity | Design Flexibility

samtec | POWELL ELECTRONICS

ADVANCED INTERCONNECT SOLUTIONS.
AVAILABLE FROM POWELL ELECTRONICS.