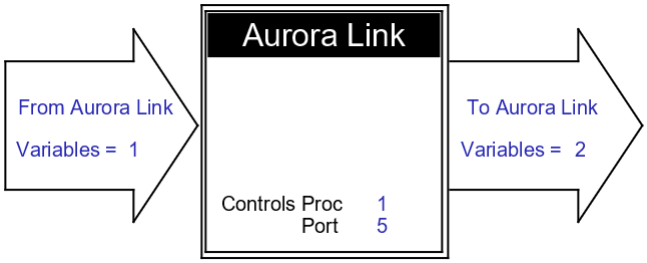
HARDWARE

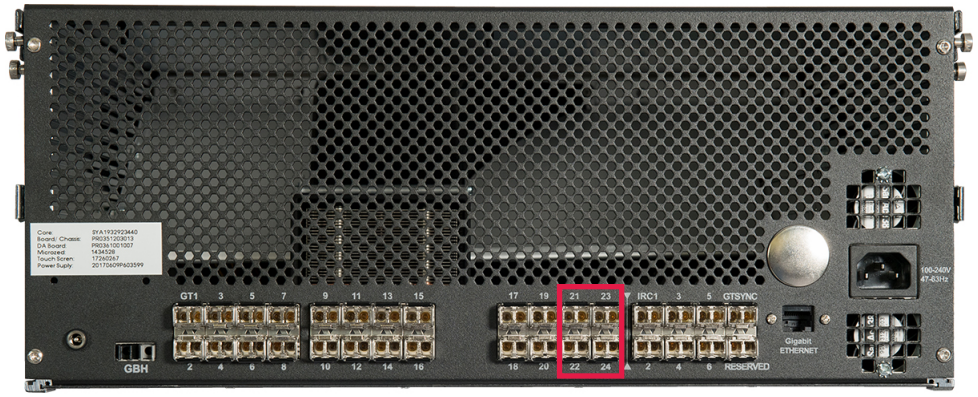
AURORA PROTOCOL

The RTDS® Simulator's Aurora protocol licensing facilitates a convenient, high-speed digital interface between the RTDS Simulator and external devices, achieved via fibre cable. Aurora, a lightweight serial protocol developed by Xilinx, is suitable for point-to-point communication over a wide variety of power systems applications.

The Aurora Link component in RSCAD®



Once an Aurora license is purchased and installed, four I/O ports are reserved exclusively for Aurora communication, enabling communication via four channels simultaneously. Each NovaCor chassis can handle a maximum of 256 variables communicated via Aurora. A link speed of **2 Gbps** and a maximum fibre length of **3 kilometres** are supported.



On the NovaCor chassis, I/O ports 21-24 are reserved for Aurora communication

Aurora can be used in both the Mainstep and Substep environments. The Aurora feature is available for both NovaCor- and PB5-based RTDS Simulator hardware systems. Small timestep compatibility is maintained for PB5 systems.

Users may refer to the Aurora component manual in the RSCAD software for more details on the Aurora implementation and capabilities.

AURORA IN POWER-HARDWARE-IN-THE-LOOP APPLICATIONS

RTDS Technologies has collaborated with the manufacturers of four-quadrant amplifiers to develop custom-built digital interfaces via the Aurora protocol. Using a direct digital interface decreases loop delays and increases ease of use in PHIL work.

The RTDS Simulator can communicate with the following amplifiers via Aurora, directly with a fibre cable:

- Spitzenberger and Spies
- Ponovo
- Egston

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