SimForce

Realtime Technologies Inc. is proud to offer SimForce, a high-fidelity force feedback steering system. SimForce has been under development since 2001. Its revolutionary patent-pending design provides unmatched performance.

Summary
SimForce relies on a high-performance DSP card inside the host PC for communications of up to 1000 Hz. The DSP controls a servo disk type motor which has high bandwidth, low inertia, no gearing, zero cogging and zero backlash.

Specifications

- Inertia: 5.94 kg-m2
- Torque Ripple: 0 Nm
- Motor time constant: 3.15 ms
- Starting Torque: 0.075 Nm
- Maximum Motor Torque: 5.93 Nm uncooled, 9 Nm cooled (higher torque motors available)
- DSP Control Loop: 2000 Hz
- Encoder Resolution: 0.036° /sample
- Servo Amplifier Power: 600 W

Mounted control loading system.

The motor is driven by a powerful 600W servo amplifier, providing high torque and safe speeds.

The dedicated DSP processor, executing with a 2000 Hz loop time, provides tight control and dedicated safety. In addition, the DSP's DX/DT velocity calculation provides smooth feedback.

When coupled with Realtime Technologies' SimVehicleLT, power steer boost curves and tire aligning torque are accurately modeled and presented to the driver.

Design Applications
Used in conjunction with SimVehicleLT, SimForce is effective for assisting in the vehicle design process for steering system design, over steer/under steer studies, and stability management system design. The key is high-quality, accurate steering feedback dynamics in all types of terrain.

Research Applications
In the area of human factors research, SimForce allows you to investigate left and right hand turns, on center steering, hill ascent and decent, and deep skid recovery studies with confidence. Other research applications include driver behavior, driver training, hardware-in-the-loop, human-in-the-loop, and whole vehicle chassis design and layout studies.

Configuration
You have the power to configure SimForce to represent the vehicle you need. SimForce is available as a standalone product or included in the design of a complete simulator.

Desktop control loading system.

We also deliver custom designs based on your specifications.

For difficult driving situations choose SimForce for realistic steering component engineering.

Realtime Technologies, Inc. (RTI), specializes in real time multibody vehicle dynamics, and graphical simulation and modeling. We offer simulation software applications, consulting services, custom engineering, software and hardware development. Realtime Technologies' customer base includes international, government and private entities. RTI was founded in 1998. For more information, visit us at www.simcreator.com.