Automotive Vibration Control and Enhancement

for Electric Vehicles



From mimicking an idle feel, throttles and high-speed gear shifts to providing a superior driving experience with premium vibration indicators, this technology is shifting the future of the electric vehicle (EV) experience.

In a partnership between Parker LORD and GHSP, we have created an Automotive Vibration Control and Enhancement technology (AVCE) for EVs. This all-in-one solution eliminates vibration in real time, generates global vibration haptic indicators, and creates EV vibration enhancements. Key benefits of this solution include:

- Exact custom vibrations
- · Lowest weight
- Lowest power
- Minimum part count

Our AVCE technology can also be integrated with acoustic enhancement technology for an immersive experience for the EV driver. With the market moving toward acoustic enhancement technology, the AVCE has potential in not only passenger vehicles, but in commercial e-mobility as well.







Linear Force Generator

Applications of the AVCE include:

- Automotive cabin vibration control
 Steering column vibration control
- Steering column vibration control
- Combustion engine emulation in EVs
- 3D haptic vibration vehicle feedback and experiences

Capabilities:

- Global vibration responses throughout the vehicle
- Able to generate custom internal combustion engine (ICE) emulation, providing a tangible realism to acoustics
- 3-Dimensional Safety Warnings, such as "lane departure" or "driver warning" systems
- Driver/ Passenger vibration input indicators for autonomous driving
- Scalable systems can consist of one to multiple force generators

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