

NEWS RELEASE

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HAPTIC™ Reactor Hybrid Tough Type Shipments Surpass 200 Million Units

Popular in Gaming and Virtual Reality Due to Realistic and Diverse Tactile Feedback

Munich, Germany, October 09, 2020 – Alps Alpine Co., Ltd. has, as of August 2020, shipped more than 200 million units of its HAPTIC™ Reactor Hybrid Tough Type, a tactile feedback device using vibrations to realistically recreate diverse sensations.

Mobile games account for a growing share of the gaming market because they are so easy to enjoy, though stationary consoles are also performing well. Higher in-game resolutions emphasize the immersive experience more than ever before, creating demand for diverse vibrational expression in the tactile feedback received via controllers. Meanwhile, augmented and virtual reality applications are on the rise even outside the worlds of gaming and video entertainment, for example in facility maintenance and training within the manufacturing industry, public works, and medical settings. There are also needs for control devices that recreate more realistic feel through tactile feedback.



Alps Alpine's HAPTIC™ Reactor Hybrid Tough Type is an electromagnetic vibration actuator that generates vibration internally as electricity passes through an originally structured coil. It produces varying types of feel depending on the vibration pattern. Whereas linear resonant actuators (LRA) and eccentric rotating mass (ERM) motors only perform simple



vibrations along a single axis, the Hybrid Tough Type has vibrational freedom along two axes, enabling realistic recreation of feel even with complex waveforms (Fig. 1). And because there are two resonance points – 320Hz and 160Hz – the frequency range is two to three times broader than for LRAs, allowing for diverse tactile expression (Fig. 2). Vibration response speed is under 1ms, much faster than ERM motors, which typically have a response speed of least 10ms. This enables clear, sharp feedback with no delay. Not only that, a compact size of 10 × 22.6 × 9mm and voltage settings requiring no booster circuit ensure superior mounting capability, contributing to greater design freedom of the end product.

With characteristics matching the needs of the gaming and virtual reality sectors, the product has been used by a large number of customers since its launch in 2014. Cumulative shipments surpassed 200 million units in August 2020. Alps Alpine will continue to pay attention to the finer details of feel creation, applying expertise built up over the years in the human-machine interface (HMI) technology domain, and further efforts to improve functionality, expand sales channels and expand product varieties to deliver optimal vibrational sensations corresponding to the requests of customers and different markets and uses.

For more information on HAPTIC™, please visit the Alps Alpine website: https://tech.alpsalpine.com/e/info/technology/tec_haptic/

Fig.1

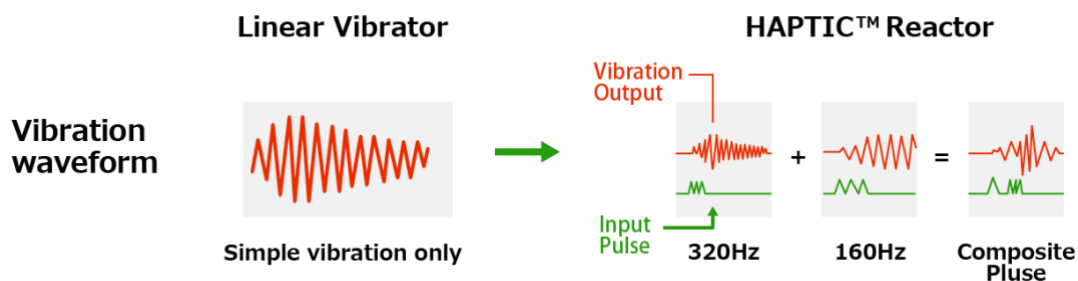
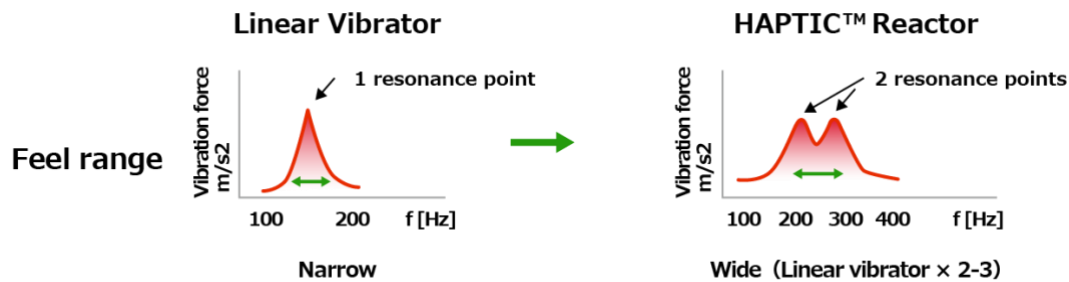


Fig.2



HAPTIC is registered as a trademark in Japan, China and the European Union (JP4619342/JP5471286, CN4730821/CN4730822/CN4730823, CTM4399606), and is used in commerce as a trademark in the United States, being enforceable under common law.

Alps Alpine Co., Ltd. On January 1, 2019, Alps Electric Co., Ltd. and Alpine Electronics, Inc. integrated their businesses and started out afresh as Alps Alpine Co., Ltd with 42,289 employees. Alps Alpine will steadily bring about synergies by drawing on the two companies' advantages in core devices, system design and software development.

The new company will endeavour to create its own unique value for not only the automotive market, but also mobile devices and consumer electronics, as well as new sectors such as energy, healthcare and industry. For more information please visit www.alpsalpine.com

Alps Alpine Europe GmbH, a subsidiary of Alps Alpine Co., Ltd., was established in 1979. Since 2013 the European Head Office has been located in Munich and as such co-ordinates the Sales, Marketing and Product Engineering activities of our offices in Dusseldorf, Paris, Milton Keynes, Coventry, Gothenburg, Frolunda and Milan, as well as the production activities of our manufacturing site in Dortmund. Alps Electric Europe GmbH changed its name on 01.04.2020 to Alps Alpine Europe GmbH.

Contact:

ALPS ALPINE EUROPE GmbH
Phone.: +49 89 321421-0
Fax: +49 89 321421-205
Inquiry: www.alpsalpine.com/eu_info/
www.alpsalpine.com

PR Agency:

MEXPERTS AG
Peter Gramenz
Phone: +49 (0)8143 59744-00
www.mexperts.de
Press Portal: www.presseagentur.com
Contact: peter.gramenz@mexperts.de

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