



Ultrahaptics STRATOS™ Explore

Flexible, scalable mid-air haptics development kit

Built for research and development, the STRATOS Explore development kit is ideal for exploring how mid-air haptics can enhance innovative products and experiences. Particularly suitable for automotive, appliances/smart home, kiosks, gaming and computing applications.

STRATOS Explore tracks users' hands using the world-leading Leap Motion Controller, and projects tactile effects onto them using ultrasound.

The simplest type of effect is a single pressure point measuring as little as 8.6mm in diameter. With a 40kHz refresh rate, pressure points are then moved very rapidly in 3D space to create a variety of tactile effects in mid-air including:

- Virtual buttons and sliders, as well as haptic pulses and alerts
- Immersive sensations such as textures, and presence for virtual objects, surfaces and shapes
- Magical sensations such as lightning, fireballs, ghosts, clouds, bubbles and force fields

Real-world benefits

Adding mid-air haptics offers clear, real-world advantages across a range of sectors, including:

- **Marketing/Advertising:** 4.8x average increase in advertisement recall of digital signage when hand tracking and mid-air haptic effects were added.
- **Automotive:** >25% reduction in "eyes off the road" time for gesture control + mid-air haptics infotainment controls, compared to a touchscreen
- **VR:** 90% of VR arcade guests would replay an experience with hand tracking and mid-air haptics.¹



Development tools for different workflows

- Software development kit for C# and C++
- Unity® plugin
- Plug-and-play demos, including UI controls demos, interactive marketing posters and VR magic spells demo
- Sensation Editor: tool enabling visualisation of haptic sensations



¹ DOOH: Independent study conducted by ERM Research measuring 316 moviegoers' response to Shazam! at a top-tier multiplex cinema in downtown L.A. The test group walked past interactive haptic digital out-of-home advertising Shazam! to get to their movie. The control group walked past static digital out-of-home advertising Shazam!. For more information contact Ultraleap. Automotive: Results from an academic study at the University of Nottingham 2018. The research was a collaboration between Ultrahaptics and Professor Gary Burnett, Dr David R Large and Kyle Harrington of the Human Factors Research Group at the University of Nottingham, UK. These results relate to a slider-bar task. For more information see <https://www.ultrahaptics.com/news/partners-stories/study-values-automotive-haptics/>. VR arcades: Pilot project leveraging Fallen Planet Studios' AFFECTED: The Visit, a 5-minute VR experience where hand tracking with mid-air haptics replaces the VR controllers for user interaction. The experience was installed at Immotion's VR arcade in a mall in Bristol, UK. Ultraleap completed user research studies as part of the pilot project. There were 55 participants in the user research. 31 tried the experience with haptics and 23 tried it without haptics. For more information see <https://www.ultrahaptics.com/news/blog/vr-arcades-study/>.

Specifications

	Length	Width	Depth	Weight
Metric	242 mm	207 mm	34 mm	0.7 kg
Imperial	9.5"	8.1"	1.3"	1 lb 8 oz

Product category:	Evaluation kits
Description:	STRATOS Explore development kit
Power supply:	24V DC +/- 10%, 3.75A max.
Data connection:	USB Type C connector
Cover materials:	5 frame-mounted cover materials included (2 metal, 3 acoustic fabric)
Haptic interaction zone:	For 16x16 transducer array approx. 50-700mm, $\pm 30^\circ$ cone centred around top surface of transducer board. Maximum potential interaction zone >1.5m
Hand positioning device:	Leap Motion® camera module.
Ultrasound transducers:	256
Construction:	16x16 transducer array (Murata transducers), control board and frame structure
Ambient operating temperature:	0°C to +40°C / 32°F to 104°F
Software	Software development kit for C# and C++, Unity® plugin
Compatible operating systems:	Microsoft Windows (7, 8, 8.1 and 10), Apple MacOS (10.13 onwards), Ubuntu Linux 16.04 LTS. <i>NOTE: Most mid-air haptics demos support only Microsoft Windows. Please check with Ultraleap if unsure.</i>
Minimum system requirements:	Intel Core i3; AMD Phenom II with 2GB RAM and USB 2.0 port
Recommended system requirements:	Intel Core i5/i7 or AMD Ryzen with 4GB RAM, USB 2.0 and dedicated graphics processor

Where to buy

STRATOS Explore is available from our distributors:

Distributor (Worldwide): ARROW | www.arrow.com | Distributor (Japan): CORNES | ctl-comm@cornes.jp

Partner with us

To catalyse innovation, deliver great products fast and get it right first time, partner with us. We have a world-leading team of haptic and 3D interaction design experts who can support your team in everything from development and testing of use-cases to bespoke training, UX design and hardware/software integration. Ultraleap partners also get priority access to new hardware and software and design guidelines.

About Ultraleap

Ultraleap was formed when Leap Motion and Ultrahaptics came together in May 2019. Our spatial interaction toolkit includes the world's most powerful 3D hand tracking and the only haptic technology able to create the sensation of touch in mid-air. We provide these solutions both separately and together, and expertly support our customers to deliver immersive, intuitive, innovative and often magical experiences.



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