

IMU motion capture gloves you can tune to the joint

For robotics teleoperation, neuroscience, biomechanics and animation. One sensor platform, two sensor counts, open fingertips.

16 sensors

Every finger bone, measured

One IMU on every phalanx except the little-finger tip, plus one sensor between the 4th and 5th metacarpals, mapped to both bones with separate scaling. For research and high-fidelity robotics.

9 sensors

Full-hand data at lower cost

Sensors on the middle phalanges, three on the thumb, and on the palm and back of the hand. The software fills in each finger with interpolation you can tune per axis.

WHY RESEARCHERS CHOOSE IT

Accuracy you can configure

Your skeleton from a photo

AI Skeleton Maker builds the hand skeleton from one image and two palm measurements.

Your calibration

Choose the reference sensor, the poses and the axis. Two-pose calibration in seconds.

Open fingertips

Touch and feel real objects, or tape sensors straight onto the skin.

Map and scale every sensor

Assign any sensor to any segment, scale each axis, add bones to the skeleton.

Patented calibration jig

Repeatable hand poses every session. US patent; pending in China and the EU.

More than the hand

Add arm or trunk sensors, props and HTC Vive position in one skeleton.

CAPTURE MODES

Stream live or record on the hub

MODE	CONNECTION	RATE	DROPPED FRAMES
Live, access point	Hub Wi-Fi direct to a PC, laptop or iPhone	60 FPS	Possible
Live, router	Through a Wi-Fi router	Up to 240 FPS	Possible
Live, USB	Cable to the PC	Up to 240 FPS	Zero
Onboard recording	Saved on the hub, downloaded after	Up to 240 FPS (tested to 480)	Zero

Rates for a 16-sensor glove. Fewer sensors can run faster.

Tested at scale: seven suits, 150 sensors, on one PC through one router: two 30-sensor suits and five 18-sensor suits streaming together at 60 FPS with zero dropped frames for over a minute. [Watch the test](#)

SENSORS

IMU

Sensor type	9-axis IMU (accelerometer, gyroscope, magnetometer)
Gyroscope range	±2000 °/s; ±4000 °/s sensors to order
Accelerometer range	±8 g
Magnetometer accuracy	1.4 µT
Internal IMU rate	416 Hz
Output	Quaternions; heading, pitch, roll; accelerations; angular rates; timestamps
Sensor board	11 × 16 × 3 mm, under 1 g
Sensor in housing	5 g
Ingress	IP65
Operating temperature	-40 to +55 °C

HUB

Capture and power

Connections	USB, Wi-Fi access point, Wi-Fi router
Live latency	About 50 ms at SDK level
Onboard storage	1 GB, no limit on file count
Recording time	30 FPS: 16-sensor about 45 h, 9-sensor about 80 h
Power	Any 5 V USB power bank; swap to keep going
Battery life	16-sensor glove about 2 h 50 min on 5,000 mAh
Size	65 × 65 × 20 mm
Extras	Vibration alert; optional GPS (10 Hz, 11 cm), synchronised

SOFTWARE

Pipeline

Desktop	SynDash for Windows PC
Mobile	iOS app for capture anywhere
Export	CSV (raw and positional), SR, BVH, FBX, MVNX for Visual3D
Plugins	Unreal Engine 5, Unity, MotionBuilder, Siemens Process Simulate, OptiTrack Motive
Sync	Native HTC Vive; UDP start/stop for Vicon and optical systems
SDK	Open C++ SDK

GLOVE

Fit and build

Sizes	S, M, L, XL
Changing size	One set of electronics; move it to another glove in about 5 minutes
Hands	Left or right; electronics move between them
Fabric	80% nylon Lycra, 20% spandex
Fingertips	Open on all models

Trusted in research. When Apple R&D needed the most accurate gloves money could buy, they chose our 16-sensor gloves.

United Kingdom

Hangar 4, 2-4 Cecil Pashley Way, Shoreham-by-Sea, West Sussex BN43 5FF
+44 7868 456 455

Taiwan

8F, No.426, Linsen N. Rd., Taipei 10451
+886 2 2521 5155

www.aiqsynertial.com