3DSuit

The World Is Your Studio

The Next Generation in Motion Capture is here!

www.3dsuit.com

3DSuit

Motion Capture with
No Markers, No Cameras, & No Occlusions

3DSuit's inertial sensor based motion capture system provides the ultimate in…

Flexibility	Operate anywhere you want at any time. You no longer need a motion capture studio.
Affordability	At just under $25K and aggressive discounts, 3DSuit is the industry's lowest cost inertial based motion capture solution.
Portability	Everything needed to make captures of even multiple characters fits in a single case the size of a small laptop bag.
Capability	Temperature compensated and submergible, 3DSuit captures in a widest variety of environments of any motion capture solution.

Available Suit Formats

Strap-Based Suit

Individual fixtures are applied to each body segment offering the greatest flexibility for those who will have varying models and model sizes.

Under Armor Suit

Sensor pockets are sewn directly into an Under Armor long sleeve top and bottom creating a two piece outfit. The sensors get mounted into the sensor pockets and cables are routed externally.

Full Body Suit

A custom made full body suit in which both sensors and cables are embedded. Fully washable, it offers the greatest convenience for those wanting to setup and capture quickly and often.

Technology in a nutshell…

3DSuit utilizes 17 inertial sensors that measure real-time movements of each major bone segment of the body. From there, with the help of inverse kinematics, the system determines the location of each body joint and applies that to the skeleton of the avatar. Because inertial sensors rely on earth references of gravity and magnetic field, which exist everywhere, the suit itself is then able to operate virtually anywhere and without requiring any pre-operation setup.

With temperature compensation and waterproof housing for sensors and cabling, 3DSuit now also offers abilities to work underwater, in rain, in cold or hot weather; almost anywhere a person (or animal) would dare to go.

For Universities

3DSuit offers ***You*** a solution that is not only affordable but that can be brought directly into the classroom without the ***Need*** to install anything. Bring ***3DSuit*** in its portable carrying case, open it up, and be ready to capture in minutes.

For Game Developers

3DSuit offers ***You*** the ability to not only own your motion capture system, but also allows the flexibility you ***Need*** to perform captures in the locations most appropriate for what you are creating. If you are developing a soccer game, take ***3DSuit*** onto the soccer field.

For Professional Animators

With 3DSuit ***You*** have the ability to make use of a system that you can utilize in your own home without the ***Need*** to create a specific dedicated capture studio. Use ***3DSuit*** how you want and when you want, without even leaving the house.

The Hardware

1 Inertial Labs OSv3

The standard 3DSuit utilizes 17 sensors mounted on all major bone segments and measures real-time movements of the entire body.

2 Wireless Control Unit and USB

All data from the sensors are transmitted via a single wireless control unit and received through a USB dongle at the PC.

3 Sensor Bus Splitter

Two sensor bus splitters are used on the back to receive data from the head, arms, and legs providing a single connection to the wireless control unit.

4 Sensor Bus Extender

The sensor bus extender allows the customer to add their own peripheral devices with data transmitted through the system automatically. Buttons, triggers, and/or RS-232 devices can be added.

5 Battery Pack

A single battery pack is used to charge all system components and provides up to 2 hours of continuous suit usage before requiring recharging. The battery packs can be hot-swapped eliminating a risk of shutdown during a capture.

3DSuit Included System Hardware

1	Strapped, Fullbody, or Under Armor Suit
20	OSv3 Sensors
20	Sensor Cables
1	Wireless Control Unit
1	Wireless USB Dongle
2	Battery Packs (rechargeable)
1	AC Power Adapter and battery charger
2	Sensor Bus Splitters
1	3DSuit Carrying Bag

Available 3DSuit Accessories

Sensor Bus Extenders
USB Converter
USB Converter and Power Input (combo)

3DSuit

Build Your Own Inertial Tracking System!

3DSuit SDK provides a new level of flexibility and affordability to human motion tracking. With packages starting below $5K, customers can utilize the industry's hottest inertial tracking hardware within virtually any tracking application de**sired.**

With 3DSuit SDK users can…

- Access and monitor all sensor data directly
- Integrate directly to their own motion analysis applications
- Perform deep analysis of movements including monitoring movement rates and accelerations seen by each sensor
- Integrate the output into commercial gaming engines for virtual and augmented reality
- Create their own inertial based motion tracking system

Available SDK Hardware Options

10 Sensor Set	
10	OSv3 double ended sensors
10	Straps for sensor mounting
10	Sensor cables
1	Wireless Control Unit
1	Wireless USB Dongle
1	Battery Packs (rechargeable)
1	AC Power Adapter and charger
1	Sensor Bus Splitters

7 Sensor Set	
7	OSv3 double ended sensors
7	Straps for sensor mounting
7	Sensor cables
1	Wireless Control Unit
1	Wireless USB Dongle
1	Battery Packs (rechargeable)
1	AC Power Adapter and charger
1	Sensor Bus Splitter

5 Sensor Set	
5	OSv3 double ended sensors
5	Straps for sensor mounting
5	Sensor cables
1	Wireless Control Unit
1	Wireless USB Dongle
1	Battery Packs (rechargeable)
1	AC Power Adapter and charger

Technical Specifications

Sensors	
Output Data	Quanternion/Raw data, fixed point 16 bits
Update Rate	120 Hz (Quaternion)/100 Hz (Raw data)
Resolution	0.01 deg
RMS Accuracy	1 deg in yaw, 0.5 deg in pitch & roll
Operating Temperature Range	-40 to +70 C
Housing Seal Rating	IP-67 (submersible)
Power	5 Vdc, 60 mA
Weight	12 grams
Size	45 mm x 16 mm x 9 mm
Communications	
Number of connected sensors	1 – 20
PC Interface	USB 2.0 (VCP Baud Rate 800Kb)
	802.15.4 @ 915 MHz (1000 m range)
	802.11b/g (on request)
Battery pack (included)	Li-Pol, 3.7V 3000mAh
Power for charging	12 Vdc, 2 A

3DSuit Size Chart

	Size	Chest	Waist	Hips
Men	Small	34-40 in 86-102 cm	28-32 in 71-81cm	N/A
	Large	42-48 in 107-122 cm	34-40 in 86-102 cm	N/A
Women	Small (0-10)	31-38 in 85-97 cm	23-30 in 62-76 cm	33-40 in 89-102 cm
	Large (12-16)	38.5-43 in 98-109 cm	30.5-35 in 77-89 cm	40.5-45 in 103-114cm

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