



animazoo
the future of motion capture

IGS Inertial Motion
Capture Systems

About animazoo

Animazoo™ is the world's leading manufacturer of inertial motion capture systems. Based in Brighton, UK Animazoo's head office contains both administration and manufacturing departments. All Animazoo™ systems are assembled and tested by UK qualified engineers ensuring quality and performance.

20 years of experience

OVER THE PAST 20 years Animazoo™ has been setting industry firsts. The award winning Gypsy range of electromechanical systems introduced the world to portable, occlusion free, camera-less motion capture in the early 90's.

In **2004** Animazoo™ released the first commercial inertial motion capture system to use gyroscopic sensors on body limbs. The Gypsy Gyro 18 raised the bar for modern motion capture and the core technology has been inherited by current IGS range of products.

2011 brought a partnership with US based IMU pioneers Inertial Labs Inc. The combined R&D has resulted in the IGS 180i, the world's first gyroscopic system that is able to withstand the magnetic force inside of a moving car. Coupled with advanced Motionwex drivers for Siemens UGS Jack, the IGS 180i allows automotive manufacturers to capture data in environments in which other systems fall down.

With advances in kinematic skeletons, **2012** saw Animazoo™ adapting the IGS 180 for canine and equestrian capture. This bespoke system was used in the first inertial capture of a Greyhound!

Expanding resources and a solid team ensure that Animazoo™ is always innovating rather than imitating.

750+ Clients

AS OF JANUARY 2012 Animazoo™ has a client base of over 750 companies using our award winning motion capture systems. This means that by choosing an Animazoo™ system you are joining a group with members such as Ubisoft, SKODA, Hyundai and UQAM. Animazoo encourages client feedback; this feedback is used in our R&D team when developing our systems.

53 Countries

WITH SYSTEMS in over 50 countries and distributors across all continents purchasing an Animazoo™ system has never been easier.

"The accuracy of the data and the reliability were hugely important to us and the IGS 150 met our requirements. I think it was the service I received throughout the whole process that reassured me that Animazoo™ was the right company to go with".

MOHAMED HUSSEIN EL-MAZEIN, EVOLUTION POST PRO

Key points

1. EASY TO USE

Our aim has always been to simplify motion capture technology and our systems have been designed to solve your problems. This allows our clients to concentrate on the end data rather than the hardware.

2. PORTABILITY

Animazoo™ systems fit into a suitcase and do not require lengthy calibration at set up so moving location is simple. All systems are powered by rechargeable battery packs, which means you do not need mains power.

3. NO LAG REAL-TIME

Users can direct the captured subject and view the end results at the same time. For Animation this is a perfect tool for pre-visualisation and live performance Animation. For Biomech/Industrial clients this means quick data, which provides on the spot analysis.

4. INCREDIBLY ACCURATE DATA (EVEN WHEN RAW)

For Animation data fused with Animazoo's kinematics algorithms are incredibly smooth and clean and requires little cleaning. For Biomech/Industrial – accurate raw data from the IMUs allow for precise analysis, or the creation of bespoke kinematic algorithms. IGS systems do not suffer from occlusion, marker swapping and require no re-targeting.

5. SOFTWARE INNOVATION

Developed over the past 20 years through experience in the field of human movement, motion analysis, and are experts in animation and biomechanics, the Animazoo OS™ is the most stable inertial Motion Capture Software in the market today. Currently running version 11 the Animazoo OS™ not only contains real-time data viewing and recording but also includes; Key Frame Editor, Auto-Cal (skeleton scaling software), Internet data streaming function, and optional advanced magnetic compensation algorithms. The Animazoo OS™ is available in Animation or Biomechanics versions.

6. COMPATIBILITY

All Animazoo IGS™ systems output a native .bvh file, which is compatible with most Animation and Biomechanics software. Additional software drivers and software development kits ensure compatibility to a large variety of third party software.

IGS Inertial Motion Capture Systems

IGS 150/*150w

Ideal for:

Educational institutes, independent developers and animators.



IGS 180

Ideal for:

Biomechanics, professional and higher education institutes.



IGS 180i

Ideal for:

Biomechanics, Digital factory, Industrial, Training and Simulation, professional and higher education institutes.



IGS MINI

The IGS Mini systems are configured to measure localized movements of joints or limbs and are ideal for researchers when specific areas of body movement need to be analyzed without the need for a full body capture system.

IGS Mini systems are available in a number of configurations:

IGS 30, IGS 40, IGS 70 and IGS 120.

Ideal for:

Researchers and educational institutes.

SYSTEM SPECS

TARGET MARKET

150*

Animation/Training Sim

180

Animation/Training Sim

180i

Biomechanics/Industry

SUIT

Start Up including time to put on suit
System weight
Actor size and weight range
Accurate scalable skeleton
Ability to manipulate bone lengths after capture
Ability to manipulate key frames after capture
Suit material
Waterproof
Operating temperature
Cable set
Industrial cabling

>5mins
1.5Kg
Unlimited
Yes
Yes
Yes
Lycra
No
-10 to 50 deg C
Single Daisy Chain
No

>5mins
1.5Kg
Unlimited
Yes
Yes
Yes
Lycra
No
-10 to 50 deg C
Single Daisy Chain
Optional

>5mins
1.5Kg
Unlimited
Yes
Yes
Yes
Lycra / straps
Optional
-10 to 50 deg C
Single Daisy Chain
Included

PERFORMANCE

No. of IMUs
Inertial Update rate (Hz)
Max. Angular rate
Angular Sensor resolution
Yaw
Pitch
Roll
Accelerometer range
Magnetic Interference
Ability to adjust magnetic compensation after capture
IMU calibration
Connectivity
Range

15
500 Hz
+500 deg/sec
<0.01 deg
<2 deg
<1.5 deg
<1.5 deg
+ 2g
Standard Compensation

17 (+1 spare)
500 Hz
+1200 deg/sec
<0.01 deg
<1 deg
<0.2 deg
<0.2 deg
+ 2g
Standard Compensation

17 (+1 spare)
500 Hz
+1200 deg/sec
<0.01 deg
<1 deg
<0.2 deg
<0.2 deg
+ 2g
Advanced Compensation

No
Delivered Calibrated
Wired Via 5m USB
5m

No
Delivered Calibrated
WiFi
50m

Yes
Delivered Calibrated
WiFi
50m

DIMENSIONS

IMU dimensions
IMU weight
MPU dimensions
MPU weight

5.07cm x 1.45cm x 0.92cm
11.2 gram
W 8.5cm H18cm D2.3cm
45g

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11.2 gram
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5.07cm x 1.45cm x 0.92cm
11.2 gram
W 8.5cm H18cm D2.3cm
45g

POWER SUPPLY

Batteries supplied
Battery run time
DC charger

AC/DC Adapter only
N/A
N/A

20Amp/hr
3 hours
Included

20Amp/hr
3 hours
Included

Shipping weight

15Kg

15Kg

15Kg

MINI RANGE Gyro Specs

The IGS-Mini uses the same gyros as our high end motion capture systems, to give you the accuracy and data quality you need for your limb specific studies.

Inertial Update Rate (Hz)
180

Max. Angular Rate
1200° per second

Angular Range
360°

Angular Sensor Resolution
0.03°

Yaw
1°

Pitch
0.25°

Roll
0.25°

*150w

Connectivity
WiFi

Range
50m

Batteries Supplied
20 Amp/Hr

Battery Run Time
4 Hours

DC Charger
Included

animazoo software

animazoo OS

The powerful **Animazoo OS™** gives you everything you need to calibrate, record, clean and integrate **Animazoo™** motion capture suits with a variety of animation and biomechanic softwares using real-time drivers or the SDK.

animazoo OS features

- Actor File for discrimination of user attributes.
- AutoCAL for complete scalable skeleton.
- Ferrous metal compensation system.
- External Hardware sync system.
- Online streaming system.
- Multi actor viewing system.
- Skeleton Joint outer parameter system.
- Automatic Editor.
- Key Frame Editor.
- Real-time joint angle graphing (Bio module).

animaView

Giving the option to record in 30/60/120 FPS **animaView** is a comprehensive Graphic User Interface which displays data on a real-time skeleton within a 3D environment.

Using **animaView**, data can be recorded and played back in full 360 degrees giving the director a powerful pre-visualization tool. Data can be recorded in BVH, AN and text as well as recording from inside MotionBuilder which saves in FBX. Animazoo™ Biomechanical software module outputs raw channels from the IMUs in Quaternion and Euler angles.

animaView features

- Real-time viewing and recording using open GL.
- Use of extract actor offsets for solid footsteps.
- Recording at 30/60/120 fps.
- Option to add external syncing hardware.
- Ability for solo operation.
- Option to render in wire frame, solid or raw channels.
- Ability to stream or receive data over the Internet and Ethernet.
- Ability to create cycles (and crop).
- Following a roaming character.
- Viewing from front, left, right, top and perspective.
- File frame info bar including recording and crop information.
- Advanced Key Frame editing module.
- Playback speed control.
- IMU interface.
- Magnetic compensation system.
- SDK is available as an optional extra.

Real-Time Plug-ins

Optional real-time drivers are available for:

MotionBuilder
Unity
Siemens Jack
Unreal 3D
Panda 3D



