

Magic Ball III

Motion capture

• Position control unit - 3D mouse - gesture detection

> Description

Aerial interface for 3D software and control by means of hand movements.



Associated research topics

- Sensor fusion
- Man-machine interfaces
- Usage value

Technologies developed

- Movement algorithms (attitude and positioning)
- Micro-system
- 3D force sensor
- Embedded calculation

Potential fields of application

- Intuitive interfaces
- Office automation, instrumentation
- 3D geolocation
- Video games and digital leisure activities
- Virtual reality
- 3D browsing

Presentation

The Magic Ball is an interface for controlling any 3D software intuitively.

Orders are given either by moving the hand or by using a Leti micro joystick. The associated push-buttons and laser mark each stage of the user process. In spite of its ease of use the Magic Ball III features triaxial magnetometers and accelerometers associated with a 3D force sensor providing precise measurements that are processed via an embedded ARM 9 DSP (Digital Signal Processing).

This configuration thus produces "ready-to-use" data that do not take up any of the user's PC resources.

It is very simple to implement thanks to its standard Bluetooth interface and it has 10 hours' autonomy when not operating with the laser.

The Magic Ball is associated with several types of applications: Visioglobe 3D browsing, the laser-less laser pointer, control by movement recognition, and finally any type of movement measurement application based on a 3D attitude control unit, such as detecting falls, initiation of movement, etc.