

DATASHEET SAM

HUMANOID ROBOT FOR RESEARCH AND ENTERTAINMENT

SAM is a humanoid robot for research and entertainment use. **SAM** can move like a sitting human being – legs are not implemented yet. Its hands can be used for gesturing and simple gripping actions. As the neck and the eyeballs allow all human-like motions, the two build-in eye cameras are able to detect and follow objects. Custom made skins can provide different personalities – from an innocent child to an wise old woman or man.

Components	mechatronic body, arms, hands and head driven by 41 DC / servo motors; iModules for easy hardware control via one USB-connection
Body	steel-frame backbone; build in electronics with power stages; neck, shoulders and arms with human-like motion system
Hands	independent finger animation; Teflon [®] bearings; high torque servo motors; synthetic compound material; weight reduced design
Head	human-like eyeball movement with eyelid animation, two build-in firewire eye cameras with 640x480 pixels (color); mimic animation
Software	platform independent iActuator system for easy motion control; 3D-simulation software using OpenGL; XML robot database
Firmware	high performance C and assembler firmware for embedded electronics; 13 Atmel [®] µC for parallel motion control

