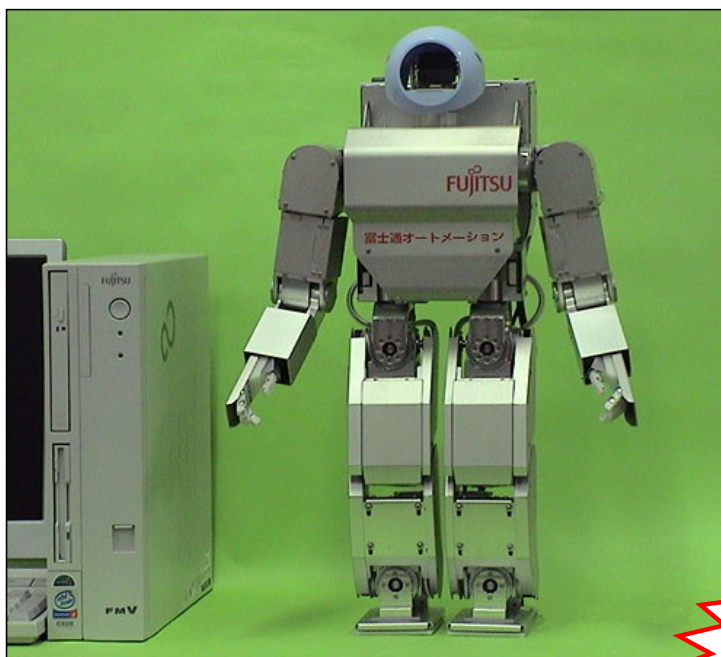


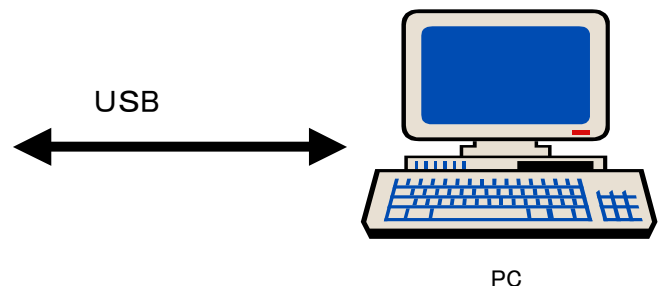
MINIATURE HUMANOID ROBOT HOAP-2

HOAP-2 : Compact・light weight real Humanoid Robot with 2 hands/2 feet that is easy handling.
 A neck, a waist and a hand become motion newly, smooth movement can be realized due to motor current control (except neck and hand) and the expression increased.
 It is easy connection with PC, so that it can have it use widely as research tool of Humanoid Robot.
 like motion control and communication with human being.

(*) **HOAP** : Humanoid for **O**pen **A**rchitecture **P**latform



HOAP-2



Robot can be get up.
 Robot can be hold.
 Possible smooth motion.

Features

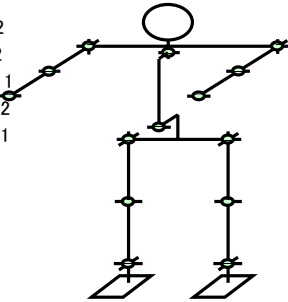
- ◆ It is the compact system configuration which consists of robot body, PC and power supplies.
- ◆ Only 50cm, 7kg that can be handled by one person.
 The motion control of the robot and development of application can be done easily.
- ◆ Since PC OS is adopted by RT-Linux (open C/C++ language), software development is easily with open circumstance.
- ◆ Due to the decrease in backlash of motor. Smooth motion became stable.
- ◆ Smooth movement became realized because the electric current control of motor was possible (except neck and hand).
- ◆ Since USB interface for LAN internally is adopted, modification or additional of new actuator and sensors are easily done.
- ◆ It allows easy to program and energize to use sample program which is packing with Robot when purchasing.

Specification

•Robot Body

Height 50cm
Weight 7kg

Joint Mobility 6DOF/foot × 2
4DOF/arm × 2
1DOF/waist × 1
1DOF/hand × 2
2DOF/neck × 1
(Total 25DOF)



Sensors Joint angle sensor
Optical two-phase incremental encoder
Angle encoder resolution :
0.01 degree/pulse or less
Foot load sensor : 4 ch/foot

Extention port USB port 6 port
Communication I/F USB conformity 1.0 12Mbps
Control cycle 1ms
Control mode Position command control
Electric ampere command control
Control firmware rewritable (note 1)

•Motion command PC

OS RT-Linux
CPU Equivalent Pentium 3 700MHz

•Power Supply

DC24V × 6.2 A (150W) output (AC100V input)

Note 1) Firmware development environment is not included in the set.

•Basic accessories

| |
|---------------------------------|
| Robot body (with standard cace) |
| PC (Fujitsu FMV series) |
| Power supply |
| Lifting jig |
| Initialize setting jig |
| Instruction manual |
| Basic data CD |
| Linux CD |

•Option

Wireless option

| | |
|--------------|---|
| Battery | NiMH battery 24V, 2100mAh |
| Charger | AC100V input, charging time 1 hour(approx) |
| Data radio | IEEE802.11b Wireless LAN, Transmission and reception 1pair |
| Central | OS RT-Linux |
| Control unit | CPU Geode GX1 Processor Memory RAM32MB(Main memory) 128MB compact flash user territory 16MB |

Camera option

| | |
|-------------------|---|
| Color CMOS sensor | 1/4 inch CMOS sensor × 2 (Non-synchronism) |
|-------------------|---|

Extention option

| | |
|----------------------|--|
| TYPE-2 motor unit | Standard output 4.5W motor + control board |
| TYPE-3 motor unit | Standard output 6W motor + control board |
| TYPE-2 motor | Standard output 4.5W motor |
| TYPE-3 motor | Standard output 6W motor |
| Motor control board | Board for HOAP motor control |
| Sensor control board | Load sensor control |
| USB HUB board | 7 port HUB |

* The specification may change without a proir notice.

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