**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**

- 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 Open Architecture Platform**

**MINIATURE HUMANOID ROBOT HOAP-2**

HOAP-2: Compact, light weight real Humanoid Robot with 2 hands/2 feets that is easy handling. It is easy to program and energize to use sample program which is packing with Robot when purchasing.
**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

**Basic accessories**

- Robot body (with standard case)
- 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
  - Central: OS RT-Linux
  - Control: CPU Geode GX1 Processor
  - Unit: Memory RAM32MB (Main memory), 128MB compact flash user territory 16MB

- Camera option
  - Color CMOS sensor: 1/4 inch CMOS sensor × 2 (Non-synchronization)

- 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

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

* The specification may change without a prior notice.