

Robo-Erectus Jr-2016 KidSize Robot Specifications.


Buck Sin Ng, Mabel Koh, Carlos A. Acosta Calderon and Changjiu Zhou.

Advanced Robotics and Intelligent Control Centre, Singapore Polytechnic

url: www.robo-erectus.org

February 1, 2016

Physical Specifications of the REJr Bv-MkIV

1. Physical Specifications.					
Weight	Dimensions			Speed	
	Height	Width	Depth	Walking	Running
4.1kg	560mm	330mm	160mm	300mm/sec	—
2. List of Degrees of Freedom.					
Joint	Roll	Pitch	Yaw		
Head		✓	✓		
Shoulder	✓	✓			
Elbow		✓			
Hip	✓	✓	✓		
Knee		✓✓			
Ankle	✓	✓			
3. Sensors.					
Sensor	Details				
Camera	Logitech C905: 640x480 Resolution 30fps.				
Rate Gyro (IMU)	IDG-3200: $\pm 2000^\circ/sec$ angular rate.				
Accelerometer(IMU)	ADXL345: $\pm 6g$				
4. Actuators.					
Actuator	Torque			Speed	
Kondo KRS-4034	41.7 kg.cm @ 11.1v			0.17 sec / 60 deg @ 11.1v	
Kondo KRS-6003	67.0 kg.cm @ 11.1v			0.22 sec / 60 deg @ 11.1v	
5. Specifications of the boards.					
Features	High Level Host Processor			Low Level Micro-processor	
Processor	fitPC2i			dsPIC32	
Speed	1600Mhz			80Mhz	
6. Power.					
Battery	Voltage			Capacity	
Li-Polymer	12.6v (3 Cells)			2200mAh	

Physical Specifications of the REJr Bv-MkIII+

1. Physical Specifications.					
Weight	Dimensions			Speed	
	Height	Width	Depth	Walking	Running
3.5kg	560mm	300mm	140mm	350mm/sec	—
2. List of Degrees of Freedom.					
Joint	Roll	Pitch	Yaw		
Head		✓	✓		
Shoulder	✓	✓			
Elbow		✓			
Hand		✓			
Hip	✓	✓	✓		
Knee		✓✓			
Ankle	✓	✓			
3. Sensors.					
Sensor	Details				
Camera	Logitech C905: 640x480 Resolution 30fps.				
Rate Gyro (IMU)	IDG-3200: $\pm 2000^\circ/sec$ angular rate.				
Accelerometer(IMU)	ADXL345: $\pm 6g$				
4. Actuators.					
Actuator	Torque			Speed	
Kondo KRS-4034	41.7 kg.cm @ 11.1v			0.17 sec / 60 deg @ 11.1v	
Kondo KRS-6003	67.0 kg.cm @ 11.1v			0.22 sec / 60 deg @ 11.1v	
5. Specifications of the boards.					
Features	High Level Host Processor			Low Level Micro-processor	
Processor	fitPC2i			dsPIC32	
Speed	1600Mhz			80Mhz	
6. Power.					
Battery	Voltage			Capacity	
Li-Polymer	12.6v (3 Cells)			2000mAh	

