

HTWK Robots - Hardware Description

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1 Robot Hardware

We use the pre-approved Booster K1 and Booster T1 humanoid robots for the Middle Robot Division and Large Robot Division, respectively. Depending on availability and experimental requirements, robots may be equipped with different camera modules. The rules do not specify which camera modules are integrated into the robots by default.

Three camera modules are considered as options: the ZED 2i, the Intel RealSense D455, and the Booster camera.

Some of our robots were not equipped with a microphone. Therefore, we might add a simple mini condenser microphone that may be added to the robot, for example a Futheda mini condenser microphone.

2 Specifications

Division	Middle	Large
Robotname	K1	T1
Manufacture	Booster Robotics	Booster Robotics
Height	95cm	118cm
Weight	19.5kg	30kg
Number of degrees of freedom	22	23
Computing unit	Nvidia AGX Orin	Nvidia AGX Orin, Intel i7 1370p
Camera	Depth Camera	Depth Camera
IMU	9-axis IMU	9-axis IMU
Audio	Circular 6-Mic Array + Speaker	Circular 6-Mic Array + Speaker

Table 1: Specification of the robots based on the manufactures specification.

3 Images



Figure 1: Booster K1
Quelle: Booster Robotics



Figure 2: Booster T1
Quelle: Booster Robotics