



Figure 3.1. 2 Sensor Array Schematic [5]

In Figure 3.1.2, the eight IR emitters turn on when the robot is running, but those eight IR emitters and receivers will not be working perfectly because of the disturbance. From the view of physics, eight IR emitters and receivers must be different from each other. In other words, each voltage of the receivers will be different when the black line is respectively under each of them. Therefore, the eight analog signals need to be calibrated before running.