Production of Teleoperation System using Network Communication by Microcomputer

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ABSTRACT

In this study, a teleoperation system to communicate by a microcomputer network created. As the main content, create a controller and a work robot by using the microcomputer, and the both are connected on the network. Using commercial development kit (AKI-H8/3052LAN) for a microcomputer and use wireless LAN in the network. The tele-operation system is built between the controller and the work robot by an access point and two converters. The controller can be attached to the wrist, and the thumb drive to work forward and backward, and the wrist drive to turn left and right. Therefore, an operator can operate the controller with one hand and can operate it anywhere. This controller consists of a circuit including the rotary encoder, H8 microcomputer and a converter. The work robot can move to right and left, front and back by rotary speed, the rotary direction of the motor. This work robot consists of a motor driver, H8 microcomputer and a converter. In addition, in writing in the program for transmission and reception in the controller side and the work robot side microcomputer beforehand, numbers generated by the rotation of the encoder controller, servo motors in the robot (TA7279P) to the output, PWM control can be achieved by the remote control system.