

Recoil Robotics

2024 Robot User Manual

Driver User Interface

The driver is responsible for controlling the robot's movement around the playing field.
The driver uses one or two joysticks attached to the driver station.

Arcade/Tank Drive mode selection is made via a Shuffleboard widget. Selection is read on at the start of teleop and cannot be changed during the game.

Control	Function
Left Joystick, Y axis	Tank Drive - left motor speed Arcade Drive - forward/reverse speed
Right Joystick, Y axis	Tank Drive - right motor speed Arcade Drive - unused
Left Joystick Twist	Tank Drive - unused Arcade Drive - rotation speed
Left Joystick Trigger	Low Gear - while held, cut speed 50%
Right Joystick Trigger	Tank Drive - drive straight Arcade Drive - unused
Button 9 (front left)	Reverse driving direction
Button 7 (middle left)	Normal driving direction

Operator User Interface

The operator is responsible for controlling the robot subsystems other than the drivetrain. They control the intake/output, Goose angle and climb. Operator controls are via a Logitech F310 gamepad.

NB: Make sure the Logitech gamepad is in Flight Mode with the LED OFF!

SubSystem	Control	Function	Control ID
Intake/Output	Intake Auto	Intake a note with automatic motor stop on note detection.	Left Bumper
	Intake Manual	Press and hold to run the intake motors. Note sensor ignored	Btn X
	Deposit Note	Run motors to feed the note out of the mechanism and into the amplifier.	Right Bumper
	Stop	Immediately stop all motors	Btn B
Goose	Move up	Move arm to output/top position.	Start
	Move down	Move arm to intake/bottom position.	Back
	Manual	Manually move arm up or down.	Left Thumbstick Y Axis
Climb	Climb	Retract the pneumatics on the climb mechanism.	Btn Y
	Descend	Extend the pneumatics on the climb mechanism.	Btn A

