# Chassis Type Switching and Detection

The content of this chapter mainly involves switching between different car chassis types using the STM32 controller and performing type checks.

1. Precautions:

① Ensure that the power supply to the STM32 car controller is normal, and check if the positive and negative connections are correct.

② Please confirm that the controller receiver is inserted before turning on the device. If it is already inserted, you can ignore this step (the USB controller receiver is inserted in the robot at the factory).
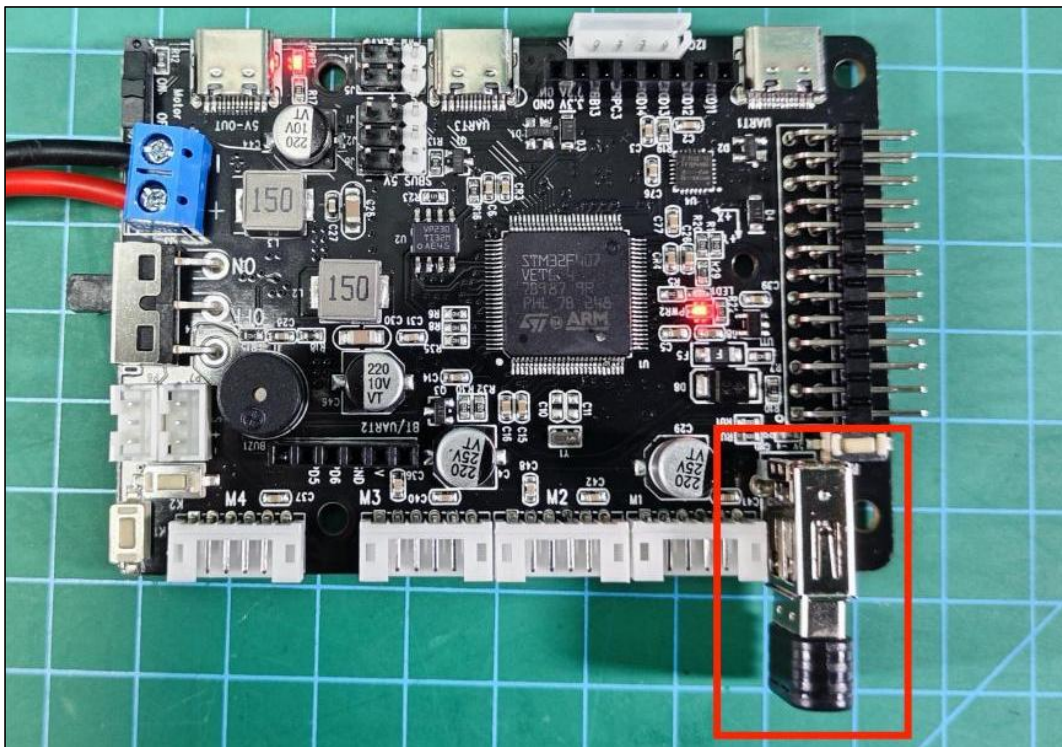

2. Instructions

Note:

① **The control methods for cars with different chassis types will vary. It is necessary to check and verify according to the corresponding car chassis type.**

② The car chassis and the two-dimensional pan-tilt mounted on it are both operated via the controller. The operation method for the two-dimensional pan-tilt is universal (right joystick on the controller). For specific details, refer to "3.2 Two-Dimensional Pan-Tilt Control".

2.1 Chassis Switching

On the STM32 car controller, different types of chassis can be switched and detected by pressing the key 1 button (short press) on the STM32 controller and checking the sound emitted by the buzzer on the STM32 controller. The key 2 button (long press) is used to check the current type of car chassis.
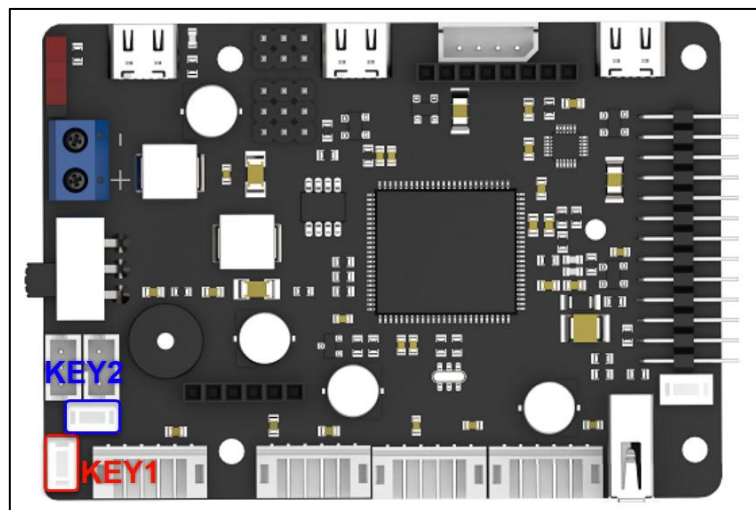
Number of Buzzer Beeps	Chassis Type (Switch by Short Pressing Key1)
1	Differential（Small）
2	Track（Small）
3	Track（big）
4	Mecanum-wheel

5	Ackermann（Large）
6	Ackermann (Small)
7	Differential（Large）

2.1.1 Differential（Small and Large）

The differential four-wheel car is divided into small chassis and large chassis types. After confirming that the wiring is correct, the control method is the same for both types.

Button	Function	Description
START	Stop and reset the body, then wake up and connect the controller	Press
←	Turn left	Press
↑	Go forward	Press
→	Turn right	Press
↓	Go backward	Press
Left joystick	Go forward	Push forward

Left joystick	Go backward	Push backward
Left joystick	Go left	Push left
Left joystick	Go right	Push right
△	Graded acceleration	Press
x	Graded reduction	Press

2.1.2 Mecanum-wheel

Button	Function	Description
START	Stop and reset the body, then wake up and connect the controller	Press
←	Turn left	Press
↑	Go forward	Press
→	Turn right	Press
↓	Go backward	Press
Left joystick	Go forward	Push forward
Left joystick	Go backward	Push backward

Left joystick	Turn left on the spot	Push left
Left joystick	Turn right on the spot	Push right
□	Translate left	Long press
○	Translate right	Long press
△	Graded acceleration	Press
x	Graded reduction	Press

2.1.3 Ackermann (Small)

Button	Function	Description
START	Stop and reset the body, then wake up and connect the controller	Press
←	Turn left	Press
↑	Go forward	Press
→	Turn right	Press
↓	Go backward	Press
Left joystick	Go forward	Push forward

Left joystick	Go backward	Push backward
Right joystick	Front wheel turns left	Push left
Right joystick	Front wheel turns right	Push right
△	Graded acceleration	Press
x	Graded reduction	Press

2.1.4 Ackermann (Big)

The differential four-wheel car is divided into small chassis and large chassis types. After confirming the wiring is correct, their control methods are the same.

Button	Function	Description
START	Stop and reset the body, then wake up and connect the controller	Press
←	Turn left	Press
↑	Go forward	Press
→	Turn right	Press

↓	Go backward	Press
Left joystick	Go forward	Push forward
Left joystick	Go backward	Push backward
Left joystick	Turn left	Push left
Left joystick	Turn right	Push right
△	Graded acceleration	Press
x	Graded reduction	Press

2.1.5 Track (Small and Big)

Button	Function	Description
START	Stop and reset the body, then wake up and connect the controller	Press
←	Turn left on the spot	Press
↑	Go forward	Press
→	Turn right on the spot	Press
↓	Go backward	Press
Left joystick	Go forward	Push forward

Left joystick	Go backward	Push backward
Left joystick	Turn left on the spot	Push left
Left joystick	Turn right on the spot	Push right
△	Graded acceleration	Press
x	Graded reduction	Press

2.2 Two-Dimensional Pan-Tilt control (Simple Type and Elevated Type)

If the car is equipped with a two-dimensional pan-tilt, the right joystick of the PS2 controller needs to be used for control, as follows:

Button	Function	Description
Right joystick	Servo NO.1	Push left and right
Right joystick	Servo NO.2	Push forward and backward

2
号

1
号