Communication protocol

1.

Header	Data length	Command	Parameters
0x55 0x55	Length	Cmd	Prm 1…Prm N

2. Frame header: Two 0x55 are received consecutively, indicating that a data packet has arrived.

Data length: Equal to the number of bytes of data to be sent except the first two bytes of the frame, that is, the number of parameters plus 2.

Command: Various control commands.

Parameters: Control information that needs to be added in addition to the commands.

3. Command name CMD_MULT_SERVO_MOVE (Command value:3 Length:N)

Description: Control the rotation of multiple servos, Data length N= the number of controlled servos*3 + 5

Parameter 1: The number of controlled servos

Parameter 2: Lower time value of 8 bits

Parameter 3: Higher time value of 8 bits

Parameter 4: Servo ID number

Parameter 5: Lower the angle position value of 8 bits

Parameter 6: Higher the angle position value of 8 bits

Parameters...: The format is the same as the Parameters 4, 5, 6, which control the angular position of different servos.

4. Command name CMD_FULL_ACTION_RUN (Command value:6 Length:5)

Description: The action group runs. If the number of parameters is infinite, the parameter value is 0.

Parameter 1: The number of the action group to run

Parameter 2: Lower the running times of action group of 8 bits

Parameter 3: Higher the running times of action group of 8 bits

5. Command name CMD_FULL_ACTION_STOP (Command value:7 Length:2)

Description: Stop the running action

Parameters: no parameter

6.   Command name CMD_FULL_ACTION_ERASE(Command value:8 Length:3)

Description: Erase the action group downloaded to the controller

Parameter 1: (reserved)

Returns: The control board returns an instruction without parameters

7. Command name: CMD_GET_BATTERY_VOLTAGE 　(　Command value: 15
Length: 2)

Description: Get the servo controller's battery voltage in unit millivolts, the controller

will immediately return the data after the command has been sent to it, the returned

data is a data packet with two parameter values.

Parameter1: no parameter

Transmit:

Header	Length	Command	Parameter
0x55 0x55	0x02	0x0F	No parameter

Return: The parameter 1 of the data returned by servo controller represents the lower

8 bits of the voltage value, and parameter 2 represents the higher 8 bits of the voltage,

such as the return voltage of 7500mV.

Header	Length	Command	Parameter
0x55 0x55	0x04	0x0F	0x4C 0x1D

8. Command name CMD_ BLE_SERVO_ DOWNLOAD (Command value:25 Length :N)

Description: Download the action group via Bluetooth on the mobile phone, download one frame at a time, the action group downloads as many frames as it has.

Data length N=Number of download servos*3+8

Parameter 1: Action group number to download to

Parameter 2: Total number of frames for this action group

Parameter 3: The number of frames's data

Parameter 4: The number of servos to download

Parameter 5: Lower time value of 8 bits

Parameter 6: Higher time value of 8 bits

Parameter 7: Servo ID number

Parameter 8: Lower the angle position value of 8 bits

Parameter 9: Higher the angle position value of 8 bits

Parameters...: The format is the same as the parameters 7, 8, 9 and the angular position of the different IDs.

Each time a frame of data is downloaded, the board returns data. The command value of the returned data is the same, but it is an instruction packet without parameters.