ADTECH TV5600 Series
Dispensing control system
User Manual

Preface

TV5600 series CNC system is made by Adtech (Shenzhen) Technology Co., Ltd. especially for dispensing technology research and development of multifunctional embedded dispensing CNC system. The series of TV5603DJ-A01 three axis dispensing control system, TV5604DJ-A01 four axis dispensing control system, TV5606DJ-A01 of six axis dispensing control system.

About teaching material:

- **This textbook is TV5600 series user manual, for secondary development purpose 《OMC series development manual》**

Content of manual：

- **Using content of the manual, then TV5600 series dispensing CNC control system can be installed, also can undertake the corresponding maintenance and service.**
- **Using content of the manual, can complete the operation of TV5600 series dispensing CNC control system.**

To Readers：

- **Project design engineers, electrical technician and installation person**
- **Maintenance and Operating people.**

Regarding specification of this manual and read of agreement:

For initial use of CNC control system, please read this manual carefully with the content of each chapter, in order to better effectivity of system function.

The part of this manual annotation and read agreement：

TV5603DJ - A01 refers to MPG hardware model TV5600 and controller hardware model ADT - 8830 for the hardware platform of a split type dispensing CNC system, project number: BZ001B178A.

TV5604DJ - A01 refers to MPG hardware model TV5600 and controller hardware model ADT - 8848 for the hardware platform of a split type dispensing CNC system, project number: BZ001B179A.

TV5606DJ - A01 refers to MPG hardware model TV5600 and controller hardware model ADT - 8860 for the hardware platform of a split type dispensing CNC system, project number: BZ001B180A.

Input terminal definition of DI and IN which they are same meaning in this manual, such as DI22 and IN22 controller that no. 22 port input, DO12 no.12 and OUT12 said controller output.

ADT - 8830/8848 serial interface defined in this manual are starting COM0 mouth and controller shell screen printing, ADT - 8860 serial interface definition from COM0 is corresponding to the shell on the screen printing on: COM0 corresponding silkscreen COM1, COM1 corresponding corresponding silk-screen printing COM2 COM2 COM3.

There is "note" prompt, for related operation or setup prompts the operator carefully, otherwise the operation may occur failure or an action can't be enforced.

Matter needs attention

- **Transportation and storage**
  - **Products shall not exceed six boxes stacked layers**
  - **No climbing, standing or placed on the product with heavy weight**
  - **Do not use the pull of the cable connected to the products or handling products**
  - **Forbidden collision, scratched panels and displays**
  - **Products packing should avoid moisture, sun and rain**
- **Boxing Inspection**
  - **After opening the package, please confirm whether the products which you bought**
  - **Check product for damage in transit**
  - **Verify parts with list whether is completed, and any damage is involved**
  - **While products with model no inconsistent is exist, such as the lack of attachment or transport damage, etc., please do not hesitate to contact our company**
- **Wiring**
  - **In wire connection with the inspection person must have the corresponding ability of professionals**
  - **Products must be reliable grounding, grounding resistance should be less than 4 ohm, cannot use neutral line (zero line) instead of grounding line**
  - **wiring must be correct, firm, so as not to cause the product failure or unintended consequences**
  - **Surge absorbing diode which it's connected with the product, it must be in accordance with the regular direction connected, otherwise it will damage the product.**
  - **Before pluging or open the product case, must cut off power supply of product.**
- **Inspection**
  - **Must cut off the power before repair or replacement of components**
  - **When short circuit or overload occurs fault, it can restart after troubleshooting has been done.**
  - **Do not frequently power outage and power on, power up again after power failure, for at least 1 minute break.**
- **Others**
  - **Without permission, please do not open the cabinet.**
  - **When Long time no use, please cut off power supply.**
  - **Do not let the dust, iron powder into inside of the cabinet as special attention.**
  - **When use of solid state relay for output relay, then must be on the relay coil fly-wheel diode in parallel. Check the power supply is in line meets requirement, avoid the product is burned.**
  - **Products life related with the environment temperature, if the process temperature is too high, please install the cooling fan. Product allows working environment temperature range of 0 ℃ ~ 60 ℃.**
  - **Avoid in high temperature, humidity, dust, or to be used in the environment of corrosive gas.**
  - **Where the strong vibration, should add rubber cushion for buffer.**
- **Maintenance**

  Under the general conditions of use (environmental conditions: day 30 ℃, the average load rate is 80%, operating ratio 12 hours a day), please refer to table 1 for daily inspection and regular inspection.

Table 1 Equipment inspection requirements

Daily Check	**Daily**	**●Confirm that the environment temperature, humidity and dust ●Presence of abnormal vibration and noisy ●Vents has been blocked such as yarn**
Period Check	**1 year**	**●Solid parts whether it is loosed ●Terminal units whether it is damaged**

This manual is launched at 29/09/2014，Version A0103

Content

Chapter One

Basic knowledge of Dispensing machine

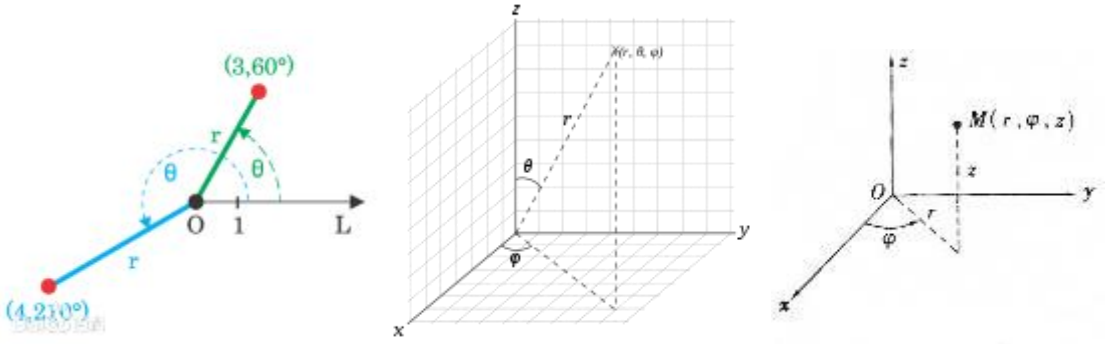
1.01 About the coordinate system

Dispensing machine is based on programming point of space position in the program files to work. Teaching the edit point for space position, which is recording program, coordinates of the point relative to the coordinate system.

Coordinate system: to illustrate the position of the particle, movement speed, direction and so on, must select the coordinate system. In the frame of reference, to determine the position of the space point, method selection according to the rules of order a set of data, this is called "coordinates". On a certain problem specified in the coordinate method, is used for the problem of coordinate system.

Many different kinds of coordinate system, the commonly used coordinate system are: polar coordinates, cartesian coordinate system, etc.

Polar coordinates: refers to the plane by the pole, the pole and the pole diameter of the coordinate system of the P (rho, theta). The diagram below. Spherical coordinates can be regarded as a space of the polar coordinates, it is reference points with origin of coordinates, made up of azimuth and elevation Angle and distance to the P (r, theta, and phi), the following figure. Cylindrical coordinate system can also be seen as polar coordinates space of promotion, the following figure.

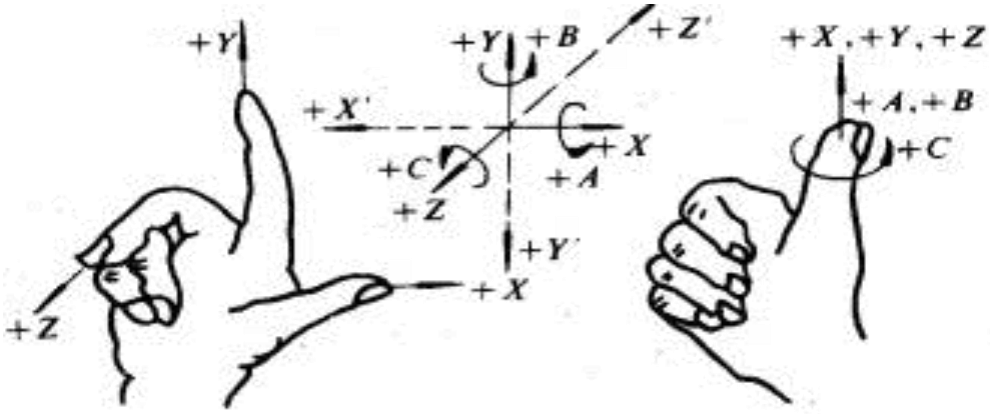


Plane polar coordinates Spherical coordinate system Cylindrical coordinate system

Cartesian coordinate system: meet in the origin of three not coplanar number line constitute of the space affine coordinate system. Three on the number axis affine coordinate system is known as the unit of measure equal space cartesian coordinate system. Three axes perpendicular cartesian coordinate system is called the cartesian space rectangular coordinate system, otherwise known as the cartesian space oblique coordinate system.

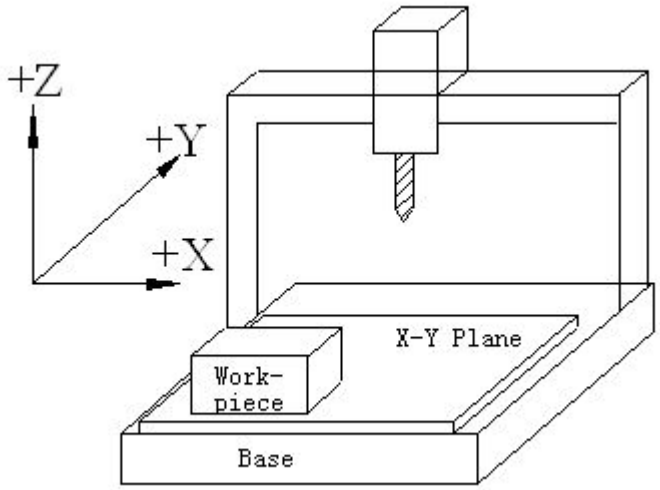
CNC machine tool processing is done by process control, so the determination of coordinate system and the use is very important. According to the ISO841 standard, numerical control machine tool coordinate system with the right hand as a standard to determine cartesian coordinate system. CNC lathe spindle is parallel to the direction vertical to the Z axis, perpendicular to the axis direction is horizontal

to X axis and cutting tool direction away from the workpiece is positive. The right hand cartesian coordinate system are as follows:

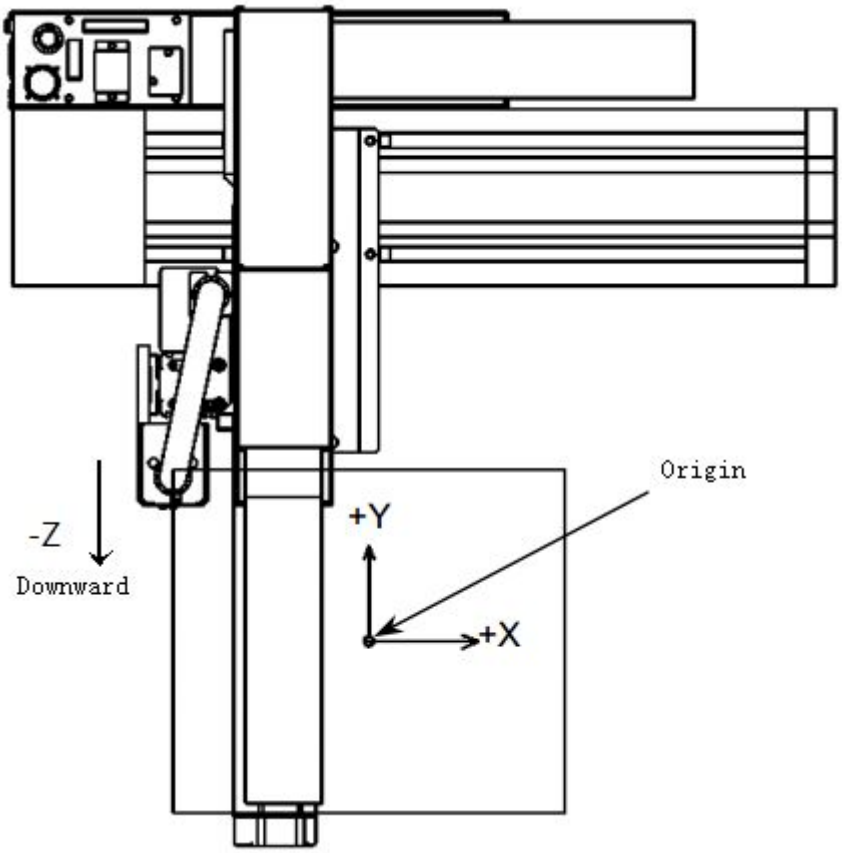


1.02 Dispensing machine coordinate system

After get dispensing machine, we will find that holding a box of interface displays the coordinates of each axis. General dispensing machine body coordinate system structure as shown in the figure below.



Because of the module combination and combination style is different; dispensing machine also has the following structure:



1.03 Dispenser Related Glossary

Suppose screw or pulley is L mm per revolution, desired pulse per revolution is P.
Pulse equivalent: a pulse go how much mm, namely L / P.
Speed: Indicates how fast axis motion, unit: mm / s (mm / sec)
Acceleration: indicates shaft speed how fast change, unit: mm / s2 (mm / second squared)
Start speed: start speed of stepper motor is generally less than 3L mm / sec, the servo motor is less than 5L mm / sec.
Maximum speed: stepper motors are generally the largest 20L mm seconds, servo general maximum 50L mm / sec.

Chapter 2
System survey

TV5600 Series Dispensing control system is based on the TV5600 handheld box + OMC system offline motion control card composition (which may be OMC8830 / OMC8848 / OMC8860), connected via Modbus serial communication between the two, TV5600 complete the work the man-machine interface, offline motion control cards are complete motion control and IO port and other operations, consisting of a split, the whole three-dimensional, high-precision dedicated motion control system.

Product model	Controller	Handing box	Number of axes	Digital input	Digital Output
TV5603DJ-A01	 8830		3	25	8
TV5604DJ-A01	 8848		4	34	18
TV5606DJ-A01	 8860		6	86	40

2.01 Hardware Features

- Controlled axes: 2-6 axis
- maximum pulse frequency: 2MHz
- encoder: TV5603DJ-A01 no, TV5604DJ-A01 no, TV5606DJ-A01 has,
- Pulse Output: 5V differential output, the output mode: Pulse + direction or pulse + pulse
- cache interpolation function: Yes

- Communication interface: RS232 communication module, U disk function, usb communication, network port.
- handheld box screen pixels: 480X272 pixels, color
- handheld box 128M, 128M memory card offline

IO:

- Digital inputs: All opto-isolated input voltage: 12-24V
- Digital Output: All opto-isolated, NPN open collector 5-24V DC, rated current up to 0.5A single maximum 1A.
-

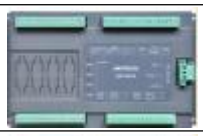
Applications:

- Operating voltage: 24VDC,
- Working temperature: 45 ℃ ¬
- Storage Temperature: -40 ℃ -55 ℃
- Humidity: 40% -80%
- Storage humidity: 0% -95%
-

2.02 software features

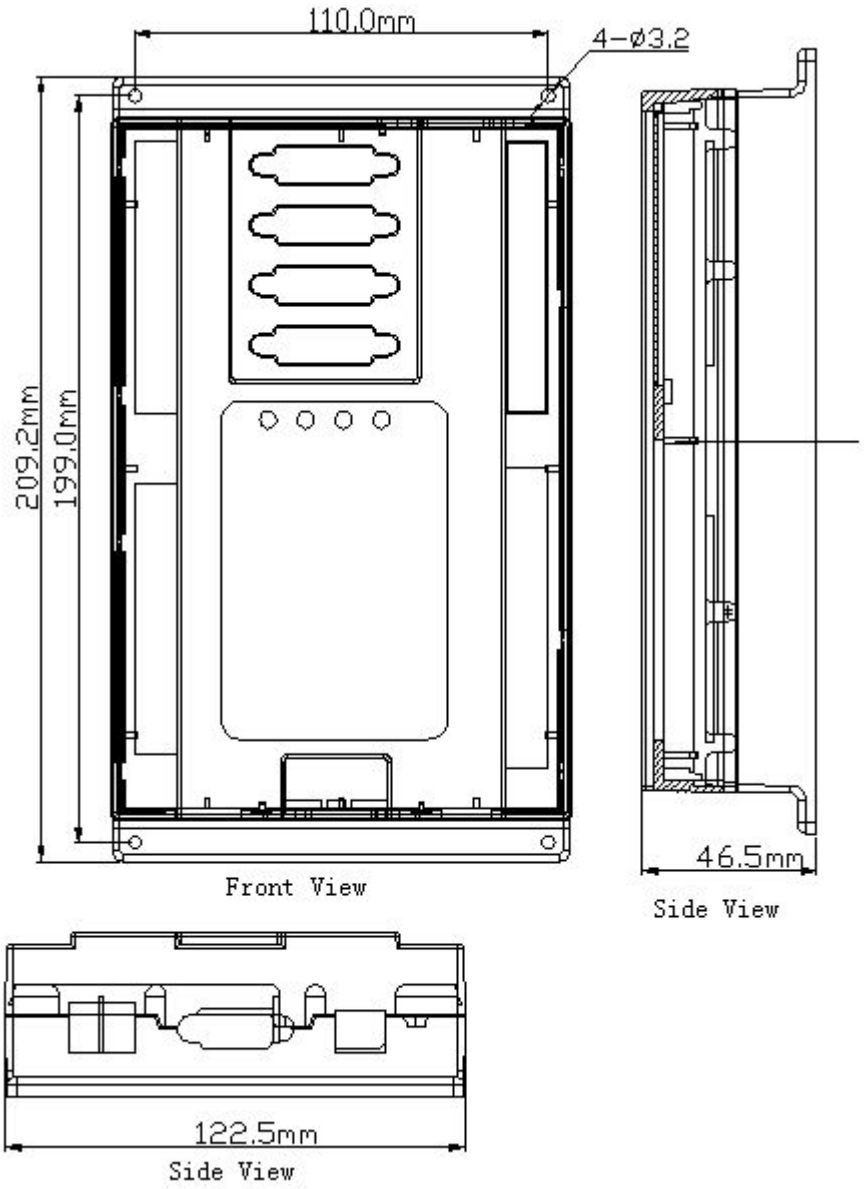
- **2-4 axis interpolation, support space straight line, space circular arc, ellipse, spline curve**
- using look-ahead algorithm, automatic arc corner speeds while automatically rounded knee
- Supports standard Modbus ASCII, Modbus RTU and Modbus TCP protocol
- upport designed to address the non-standard technology Lua scripting capabilities
- support air shift, lines, ellipses, splines, documents and other processing instructions, and open user-defined command (Command specific action customers can write their own)
- axis of rotation radius compensation
- can support computer-generated PLT files and G-code file (PLT files and G-code file shall be my company PC software into .DDJ file).
- Graphical preview and real-time dynamic display processing path.
- Circulation processing, single processing, automatic processing, single-step processing and other processing methods.
- processing files can be stored 10,000 laboratories.
- Real-time dynamic display processing path.
- convenient and friendly teaching and editing files, and provides a batch modification, array copy, graphics, translation, image scaling, automatic fillet and many other advanced editing features, with a common graphics library to facilitate customer calls.

2.03 Accessories List

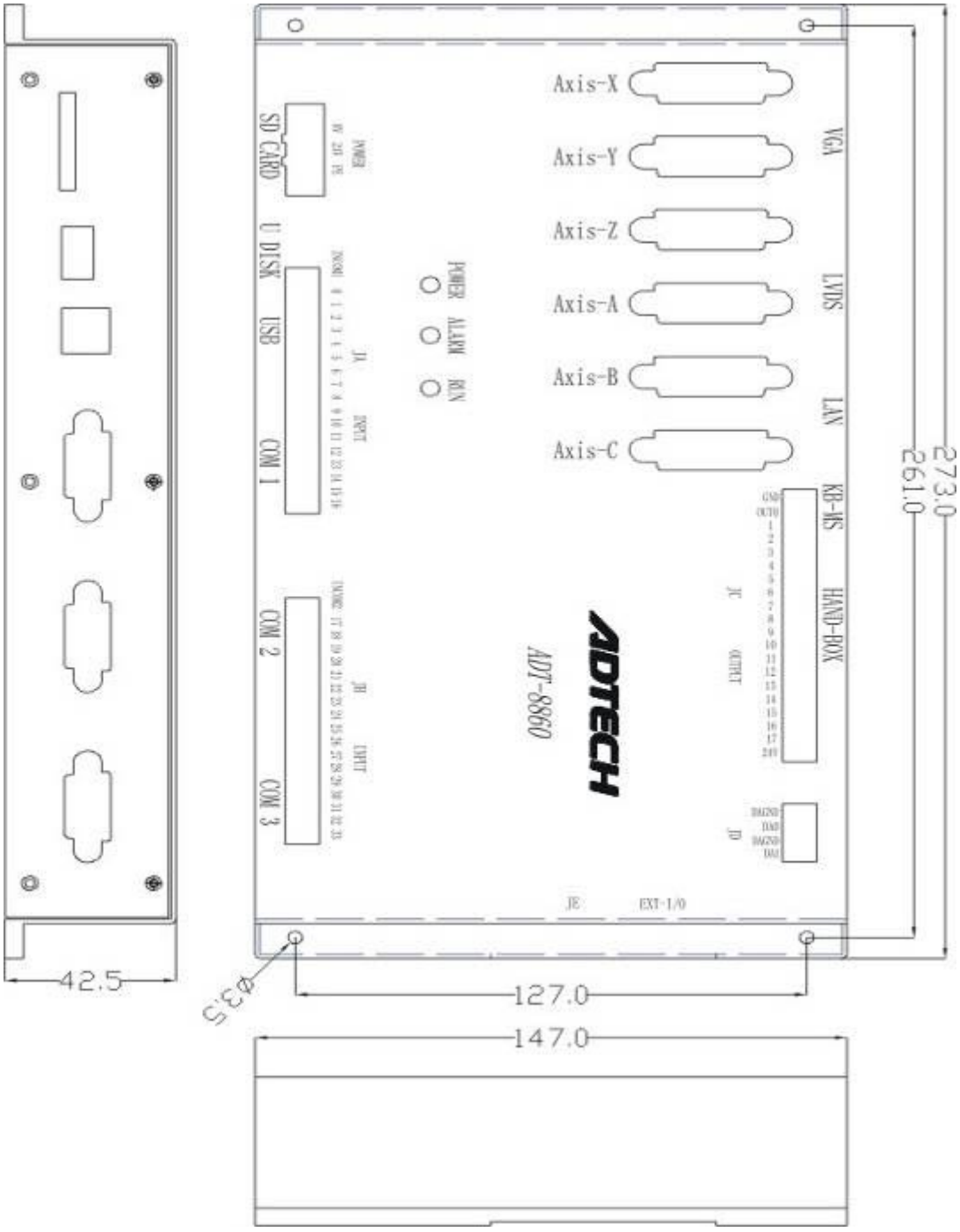
Accessory Name	Model	Optional	Brief introduction	Exterior
Handheld box	TV5600	Required	Human Interface	
Offline Card	ADT-8830	Choose One	Sports and IO Control	
	ADT-8848	Choose One	Sports and IO Control	
	ADT-8860	Choose One	Sports and IO Control	
Data transmission lines	L01-18215002	Required	Handheld box and offline communications card	

2.04 Structure size

ADT-8830/ADT-8848 chart



ADT-8860 chart


Axis-X
Axis-Y
Axis-Z
Axis-A
Axis-B
Axis-C
VGA
LVDS
LAN
KB-MS
HAND-BOX
SD CARD
U DISK
USB
COM 1
COM 2
COM 3
POWER
ALARM
RUN
ADT-8860
ADTECH
JE
EXT-I/O
273.0
261.0
42.5
127.0
147.0
Ø3.5

2.05 Handheld box Key Description

Overall the keyboard layout

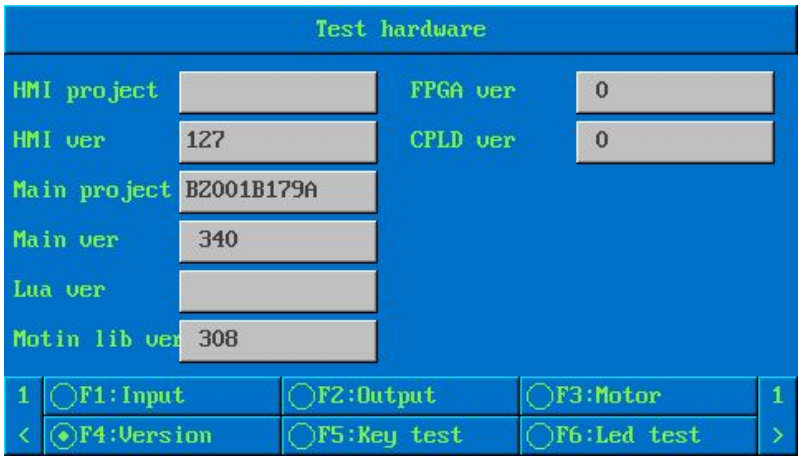
Name	Icons and functions
Function keys	 : Below the menu corresponding to the display interface functions, such as main interface  : Functional menu back flip  : Next turn the Function menu
Motion Control key	 : X-axis manual low positive direction  : X axis manual low speed in the negative direction  : Y-axis manual low positive direction  : Y-axis manual low negative direction  : Z-axis manual low positive direction  : Z axis manual low speed in the negative direction

	 : A manual low speed shaft forward (counterclockwise)  : A low-speed manual axis negative direction (clockwise)  : B-axis manual low positive direction  : B axis manual low speed in the negative direction  : C-axis manual low positive direction  : C axis manual low speed in the negative direction  : When pressed simultaneously with any axis manually go fast  : Locate the current instruction coordinate position  : Save the current data to the specified coordinates
Edit the arrow keys	In the edit mode it is used to select the row you want to edit  : Up and down keys to move the selected row  : Left and right keys to flip
Digital key / command shortcuts	 : Used to enter numbers or letters, and quick selection command type. Detailed instruction type, please see "Processing instruction list" Appendix
Editing keys	 : Insert a point before the current point  : Delete the data from the current point or current input  : Save the processing program file
Determine the cancel button	 : OK or select  : Cancel the current operation
Other key	 : In the monitoring / editing interface, according to the requirements to meet the conditions to find instruction  : In the monitoring / editing interface, display graphics processing files

Global Menu key	Monitor Edit：Switching between the monitor and the editing interface File Manage：File management processing function File Param：Set file parameters System：Set system parameters Test：Offline card test signal input and signal output, as well as hand-held cassette test button is normal. Help：Display help information corresponding interface
	Home：Reset button, each axis motor homing ：Start button to begin processing ：Stop button, the system stops working

2.06 Software version

After power on the controller to access the main screen, press the [diagnosis] button, enter the diagnostic interface, and then press the [F4] key to enter the version information screen, as shown Below:

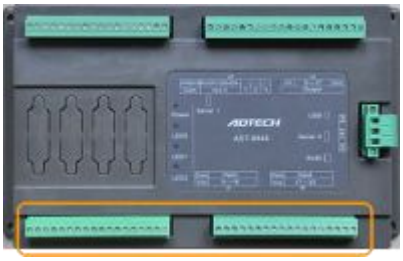


Generally we only need to focus on hand-held cassette version and controller version number.

Chapter 3

Hardware Interface Definition and wiring instructions

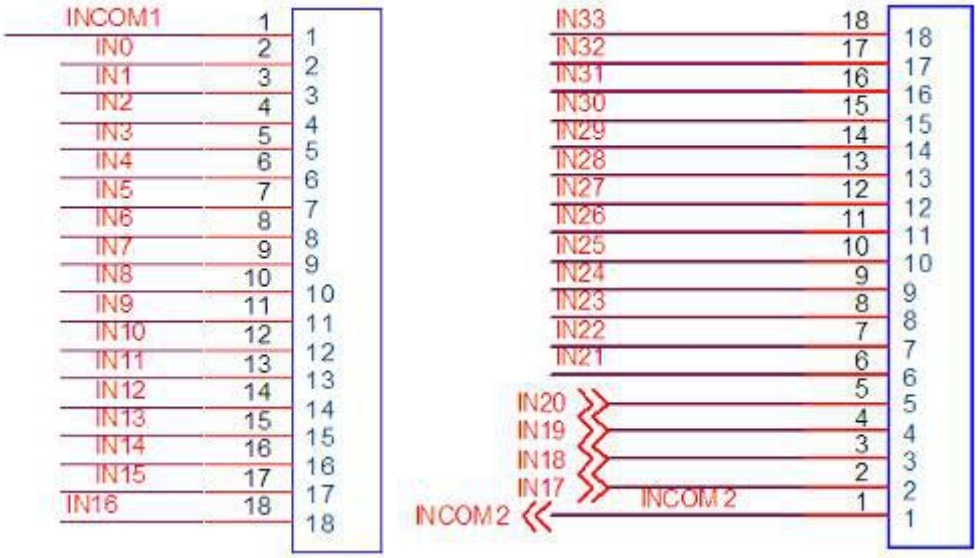
3.01 Input port wiring instructions



ADT-8830/ADT-8848 Input port

ADT-8860 Input port

3.01.01 The input port definitions



JA Line number	Name	Function	JB Line number	Name	Function
1	INCOM 1	Input common 1 (+ 24V power supply)	1	INCO M2	Input common 2 (+ 24V power supply)
2	IN0	X origin (or X servo Z phase)	2	IN17	B origin (or X servo Z phase)
B	IN1	Y origin (or Y servo Z phase)	3	IN18	C origin (or Y servo Z phase)

4	IN2	Z origin (or Z servo Z phase)	4	IN19	B positive limit
5	IN3	R origin (or R servo Z phase)	5	IN20	B negative limit
6	IN4	X positive limit	6	IN21	C positive limit
7	IN5	X negative limit	7	IN22	C negative limit
8	IN6	Y positive limit	8	IN23	Universal input
9	IN7	Y negative limit	9	IN24	
10	IN8	Z positive limit	10	IN25	
11	IN9	Z negative limit	11	IN26	
12	IN10	R positive limit	12	IN27	
13	IN11	R negative limit	13	IN28	
14	IN12	Universal input	14	IN29	
15	IN13	External Emergency Stop	15	IN30	
16	IN14	Universal input	16	IN31	
17	IN15		17	IN32	
18	IN16		18	IN33	

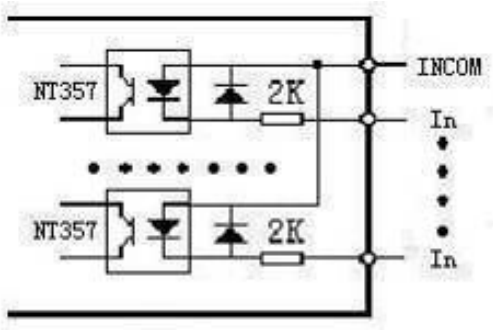
※Note: Each axis origin port in "Preferences" -> "Motor Characteristics" - Configuration> "Home Port", the origin port junction are all above the default port.

※Note: All of the above input ports are general-purpose input port, For occupy origin and limit port, you can simply turn off the corresponding axis origin and limit configuration features

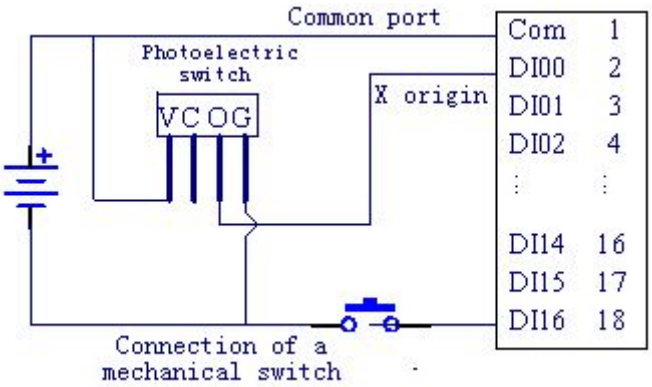
※Note: input port only from IN0 - IN24 ADT - 8830, a total of 25, not 33.

3.01.02 Input wiring port

The controller internal input port Figure

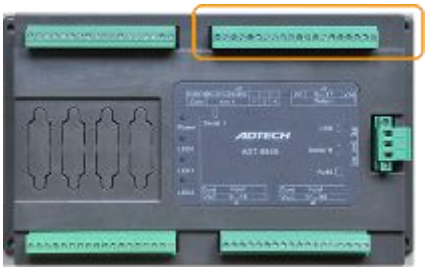


The controller general input connection :(photoelectric switch V represents VCC, G represents GND, O represents the output)



INCOM terminal connected to the positive terminal of the external power supply, input signal connected to the respective terminal pins. Wherein the common terminal IN0-IN16 is INCOM1; common terminal IN17-IN33 is INCOM2; when you need to use a common terminal connected to the + 24V power input is active low, the current single input does not exceed 15mA, no less than 5 mA.

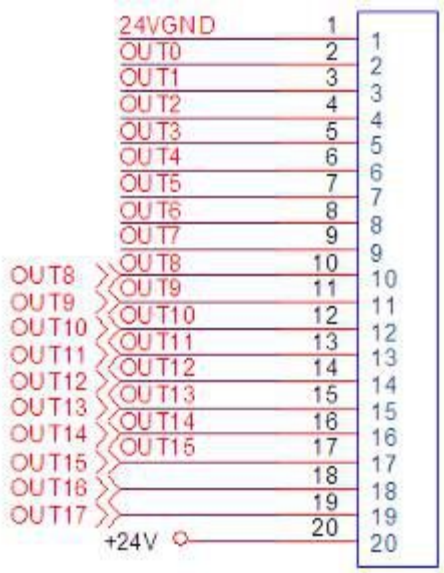
3.02 output port wiring instructions



ADT-8830/ADT-8848 output port

ADT-8860 output port

3.02.01 Output port definition



JC Line No.	Name	Function
1	24VGND	24V output common，24V Ground

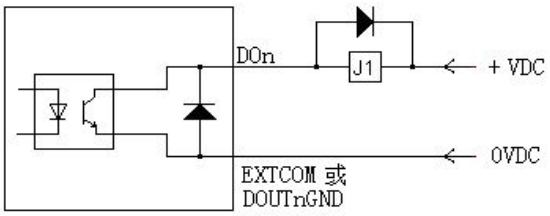
2	OUT0	Output0--17
3	OUT1	
4	OUT2	
5	OUT3	
6	OUT4	
7	OUT5	
8	OUT6	
9	OUT7	
10	OUT8	
11	OUT9	
12	OUT10	
13	OUT11	
14	OUT12	
15	OUT13	
16	OUT14	
17	OUT15	
18	OUT16	
19	OUT17	
20	+24V	external power supply to provide + 24V

※ Note: ADT-8830 output ports only from DO0-DO07 total of eight, no 18.

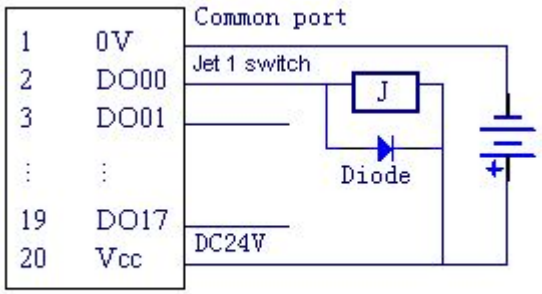
3.02.02 Output port wiring

The control system switch outputs are open collector output common terminal for the first leg JC1 also load power supply GND, please use JC1 20 feet to the + 24V power output point is active low.

Please load connected to + 24V and the output point between the internal output circuit has a relatively complete protection: overcurrent, overvoltage, short circuit protection, thermal protection, with freewheeling protection measures, but if external inductive loads, such as relays, etc., please follow current diode across the coil of the relay, as shown below:



The internal structure of the controller output



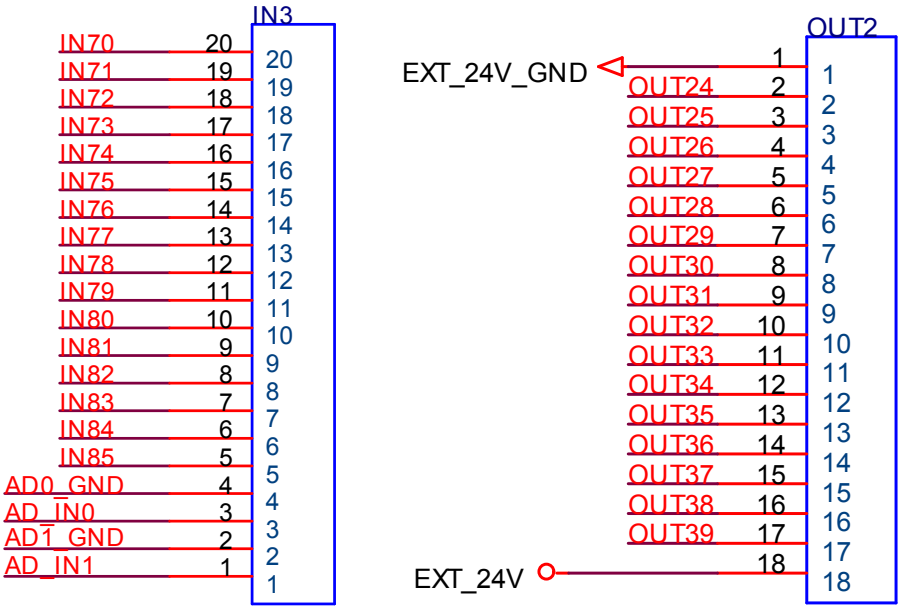
Controller output port general wiring

※ Note: The power supply voltage recommendation 24V, preferably not more than 30V, positive and negative must not be reversed, the load can not be short-circuited, otherwise it will lead to accidental damage!

3.03 ADT-8860expansion board wiring instructions

ADT-8860in its bottom surface with a wiring IO expansion slot, its expansion board are wired as follows:

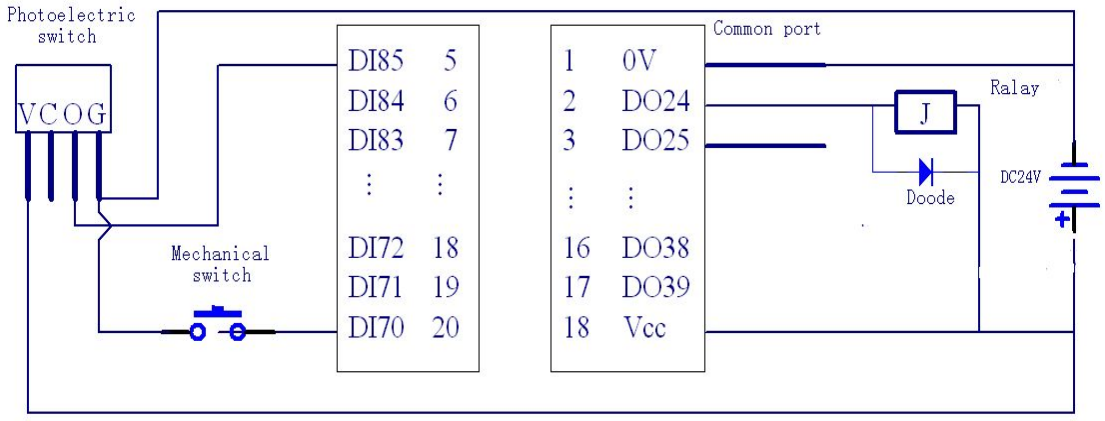
3.03.01 Port Definition



Input Line NO.	Name	Function	Output Line NO.	Name	Function
1	AD_IN1	analog input channel 2	1	EXT_24V_GND	supply references
2	AD1_GND	analog input channel 2 references	2	OUT24	universal outputs
3	AD_IN0	analog input channel 1	3	OUT25	
4	AD0_GND	analog input channel 1	4	OUT26	
5	IN85	universal inputs	5	OUT27	
6	IN84		6	OUT28	
7	IN83		7	OUT29	
8	IN82		8	OUT30	
9	IN81		9	OUT31	
10	IN80		10	OUT32	
11	IN79		11	OUT33	
12	IN78		12	OUT34	
13	IN77		13	OUT35	
14	IN76		14	OUT36	
15	IN75		15	OUT37	
16	IN74		16	OUT38	
17	IN73		17	OUT39	
18	IN72		18	EXT_24V	+24 Power input (required by an external switching power supply to the controller)
19	IN71				
20	IN70				

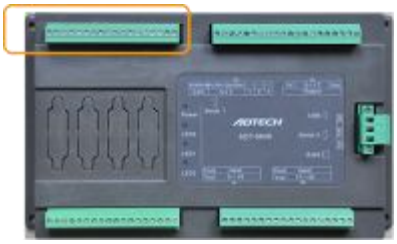
※ Note: To use the extension board to an external + 24V power supply.

3.03.02 Port wiring



※ Note: photoelectric switch V represents a VCC, G represents GND, O represents the output

3.04 Motor drive interface wiring instructions

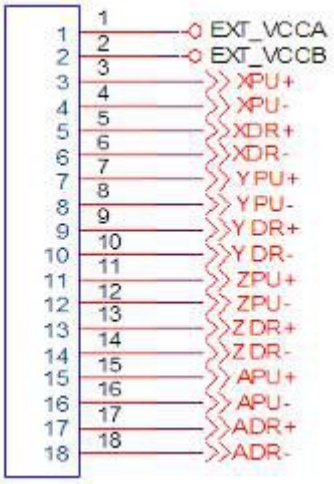


ADT-8830/ADT-8848 Motor drive interface

ADT-8860 Motor drive interface

3.04.01 ADT-8830/8848 motor driver interface definition

ADT-8830 only three motor drive interfaces, ADT-8848 has four motor drive interfaces, these two types of interfaces are in terminal strip on JD.

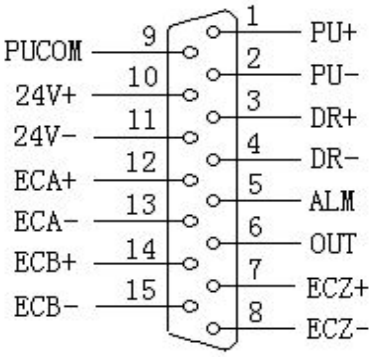


Line NO.	Name	function
1	EXT_VCCA	provide outwardly 5V power supply for common anode connection of X, Y-axis power supply
2	EXT_VCCB	provide outwardly 5V power supply for the Z common anode connection, A shaft power supply
3	XPU+	X pulse signal +
4	XPU-	X pulse signal -
5	XDR+	X direction signal +
6	XDR-	X direction signal -
7	YPU+	Y pulse signal +
8	YPU-	Y pulse signal -
9	YDR+	Y direction signal +
10	YDR-	Y direction signal -
11	ZPU+	Z pulse signal +

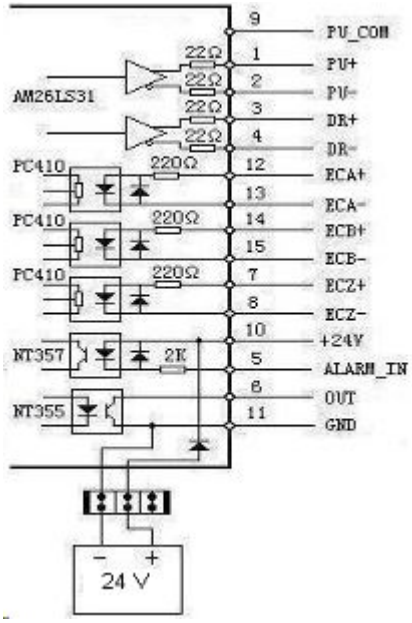
12	ZPU-	Z pulse signal -
13	ZDR+	Z direction signal +
14	ZDR-	Z direction signal -
15	APU+	A pulse signal +
16	APU-	A pulse signal -
17	ADR+	A direction signal +
18	ADR-	A direction signal -

3.04.02 ADT-8860 motor driver interface definition

controller has six (X axis, Y axis, Z axis, A axis, B-axis, C axis) motor driver interface, the interface is defined below:



15-pin DB head pin definitions



driver interface internal sketch

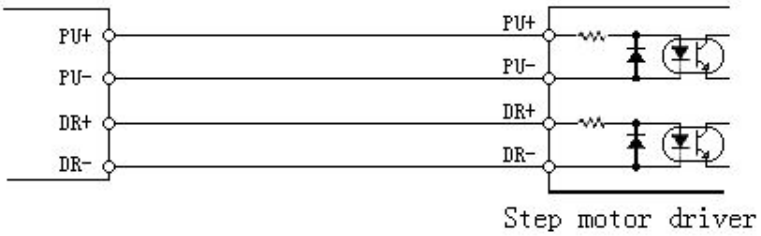
Pin-NO.	Defined	Function
1	PU+	Pulse signal+
2	PU-	Pulse signal-
3	DR+	Direction signal+
4	DR-	Direction signal-
5	ALM	universal inputs can be used as alarm input X: IN34、Y: IN35 、Z: IN36、A: IN37、B: IN38、C: IN39
6	OUT	universal output point X: OUT18、Y: OUT19 、Z: OUT20、A: OUT21、B: OUT22、C: OUT23
7	ECZ+	Encoder Z-phase input + X: IN42、Y: IN45 、Z: IN48、A: IN51、B: IN54、C: IN57
8	ECZ-	Encoder Z-phase input -
9	PUCOM	used to drive a single-ended input
10	24V+	has a direct connection with the controller 24V power supply can provide 24V power out
11	24V-	
12	ECA+	Encoder A-phase input + X: IN40、Y: IN43 、Z: IN46、A: IN49、B: IN52、C: IN55

13	ECA-	Encoder A-phase input -
14	ECB+	Encoder B-phase input + X: IN41、Y: IN44 、Z: IN47、A: IN50、B: IN53、C: IN56
15	ECB-	Encoder B-phase input -

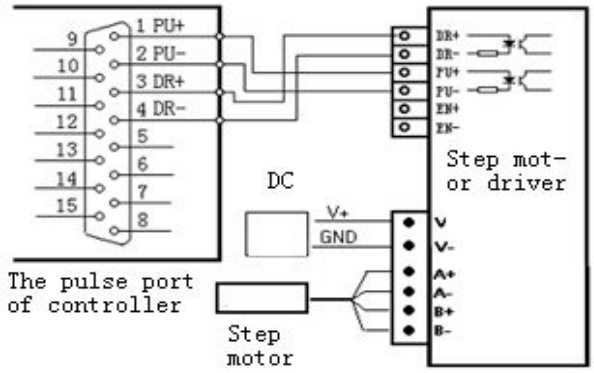
3.04.03 motor drive interface wiring

1) differential mode:

For step drive pulse and direction input and most independent servo drives. Recommend this approach, we can achieve better noise immunity. In Adtech CNC drive is shown below with reference to the connection, between the stepper motor.



ADT-8830/8848 Differential wiring

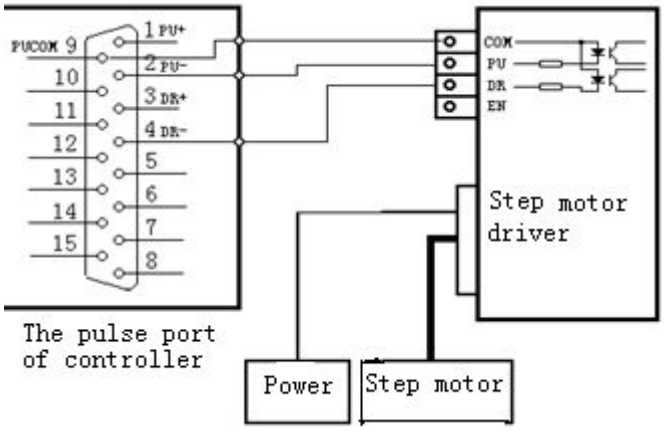


ADT-8860 Differential wiring

2) single-ended mode:

Applies to some of the early pulse and direction of the anode stepper drives connected together, that common anode connection

ADT-8830/8848 Single-Ended Wiring



ADT-8860 Single-Ended Wiring

※ Note: This mode does not apply cathode certain pulse and direction stepper drives connected together.

※ Note: EXTVCC5.0A or EXTVCC5.0B addition to cope with the drive pulse of the non-differential connection, but can not do other purposes, otherwise, may result in damage to the controller's internal circuitry.

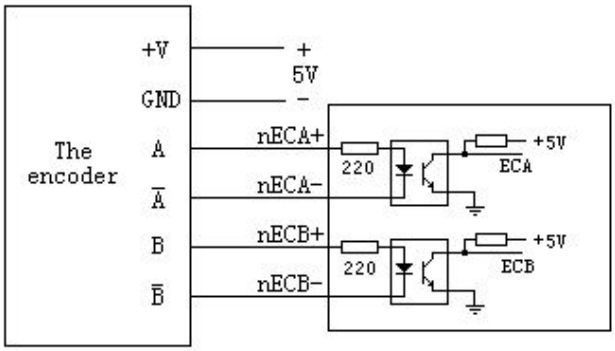
※ Note: PU +, PU-, DR +, DR- any two of the four legs are not directly linked, otherwise it will damage the internal circuits.

3.04.04 encoder wiring

AB phase decoding input into differential connection, two common anode connection, the decision by the encoder type. Encoder outputs are generally open collector output, complementary output, voltage output and line driver output. Wherein the open collector output, complementary output, the voltage output can be common anode connection, the differential line driver output connection.

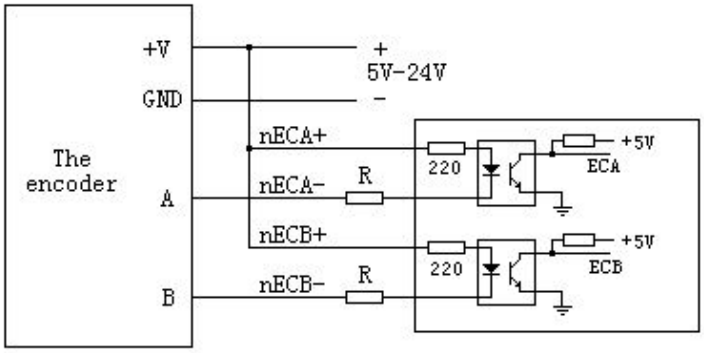
As shown below AB phase input signal is decoded differential input wiring; if it is common anode connection shall be the positive terminal of the positive terminal and B A-phase phase coupled together; if it is common cathode connection, it shall negative terminal and a negative terminal phase B A phase together.

Differential connection as follows:



5V power is supplied from the outside.

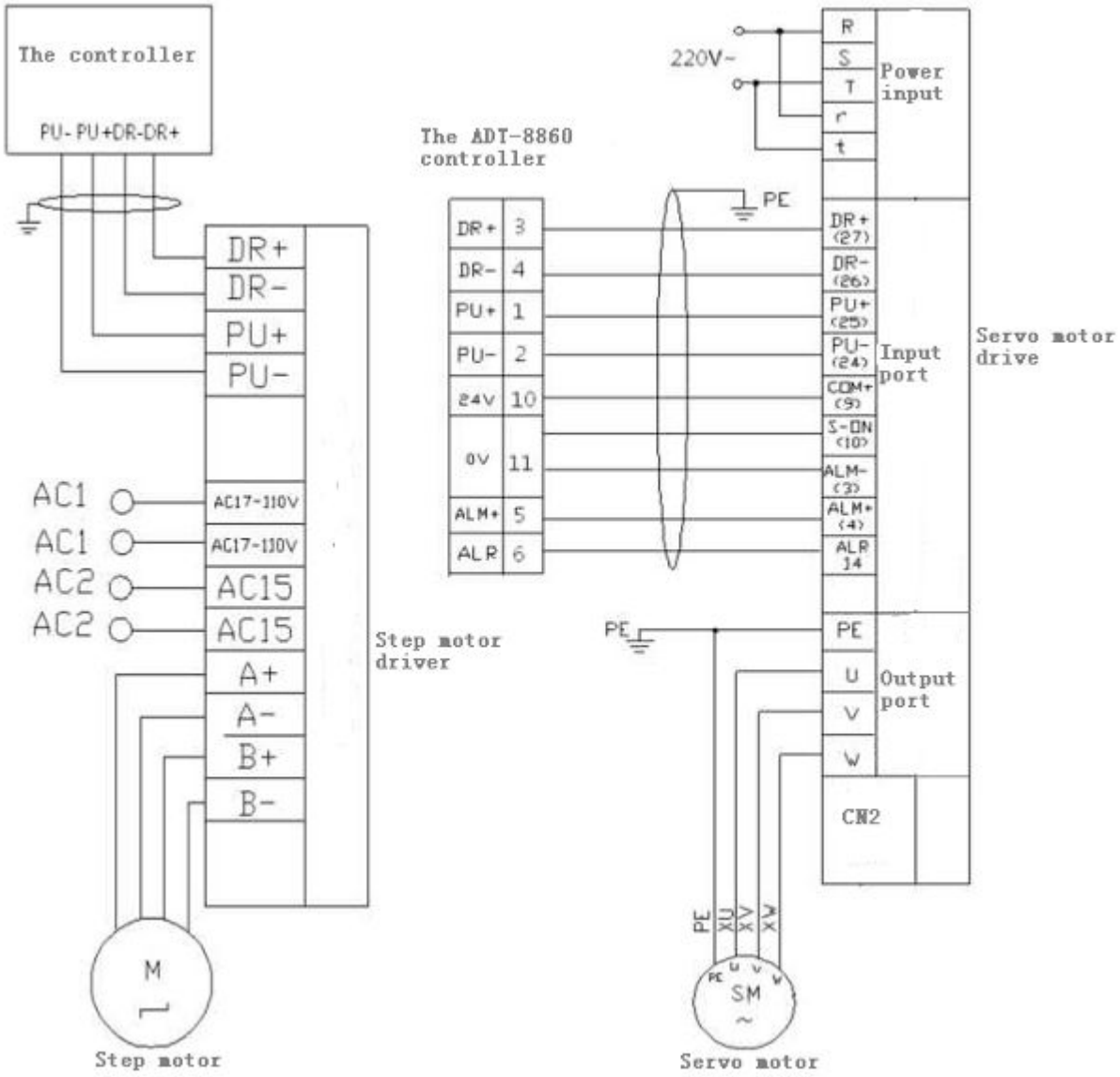
Common anode connection as follows:



The power supply voltage is determined by the encoder, when using a 5V power supply, the resistor R can not, when used 12V power, R can be used 1K-2K resistor, when using 24V supply, R available 2K-5K resistor.

※ Note: Try using the differential output of the encoder, because the use of a differential manner, in line longer is better noise immunity.

3.04.05 stepper and servo general wiring diagram

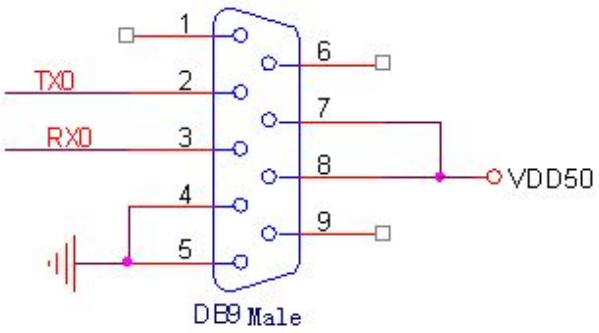


3.05 serial pin wiring instructions

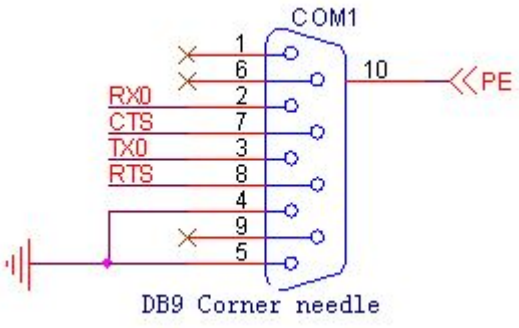
3.05.01 serial connection defined

ADT-8830/8848 COM0 Port

ADT-8860 COM0 Port



ADT-8830/8848 COM0 Port

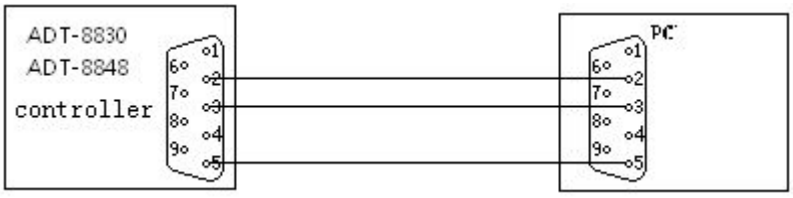


ADT-8860 COM0 Port

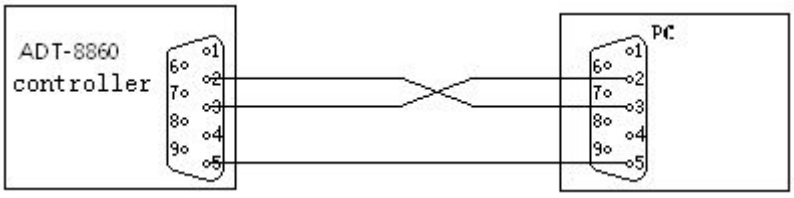
ADT-8830/8848 COM0			ADT-8860 COM0		
Line NO.	**Name**	**Function**	**Line NO.**	**Name**	**Function**
1	NC	Empty Pin	1	NC	Empty Pin
2	TXD	Data transmission	2	RXD	Receive data 0
3	RXD	Data receiving	3	TXD	Transmit data 0
4	GND	Power ground	4	GND	Power ground
5	GND	Power ground	5	GND	Power ground
6	NC	No connection	6	NC	Empty pin
7	VDD5.0	Provide 5V power outwardly	7	CTS	Clear To Send 0
8	VDD5.0	Provide 5V power outwardly	8	RTS	Requert to send 0
9	NC	No connection	9	NC	Empty Pin

※ Note: ADT-8830/8848 COM0 and ADT-8860 COM0 port 2,3 pin is interchangeable.

3.05.02 serial port 0 and computer wiring



ADT-8830/8848 COM0 RS-232 Communication

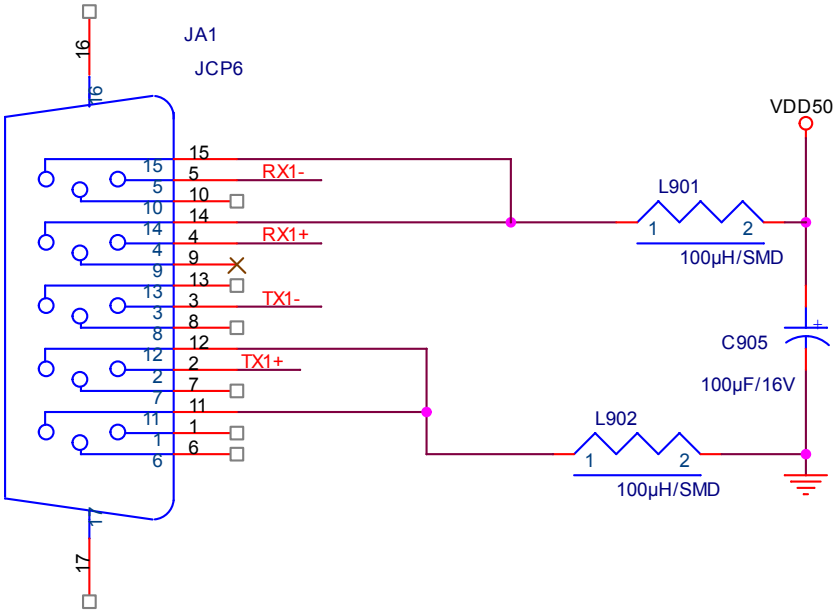


ADT-8860 COM0 RS-232 Communication

3.05.03 Serial 1 connection definitions

COM1 port for receiving the handheld controller box TV5600.

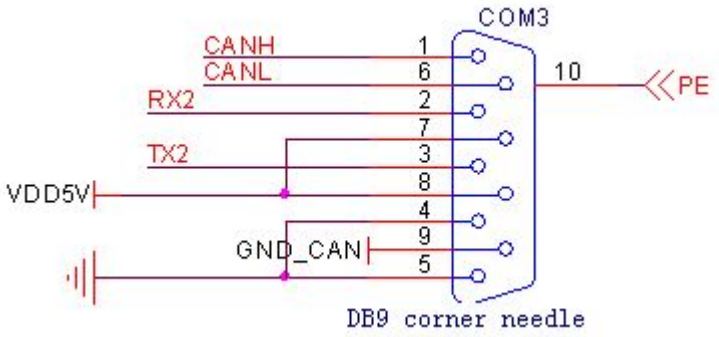
ADT-8830/8848 COM1 Port ADT-88460COM1 Port



Line NO.	Function	Function
1	NC	NC
2	TX1+	Data transmition +
3	TX1-	Data transmition -
4	RX1+	Data acceptance +
5	RX1-	Data acceptance -
6-10	NC	NC
11-12	GND	
13-14	VDD5V	Provide 5V power supply for outside
15	NC	NC

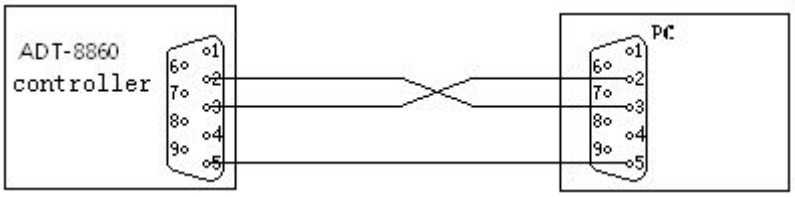
3.05.04 ADT-8860 Serial port 2 wiring definition

ADT-8860 COM2 Port



Line NO.	Name	Function
1	CANH	CAN bus H side
2	RX2	Data 2 acceptance
3	TX2	Data 2 transmition
4	GND	Power Ground
5	GND	Power Ground
6	CANL	CAN bus L side
7	VDD5V	Provide 5V power supply for outside
8	VDD5V	Provide 5V power supply for outside
9	GND_CAN	Can Bus reference ground

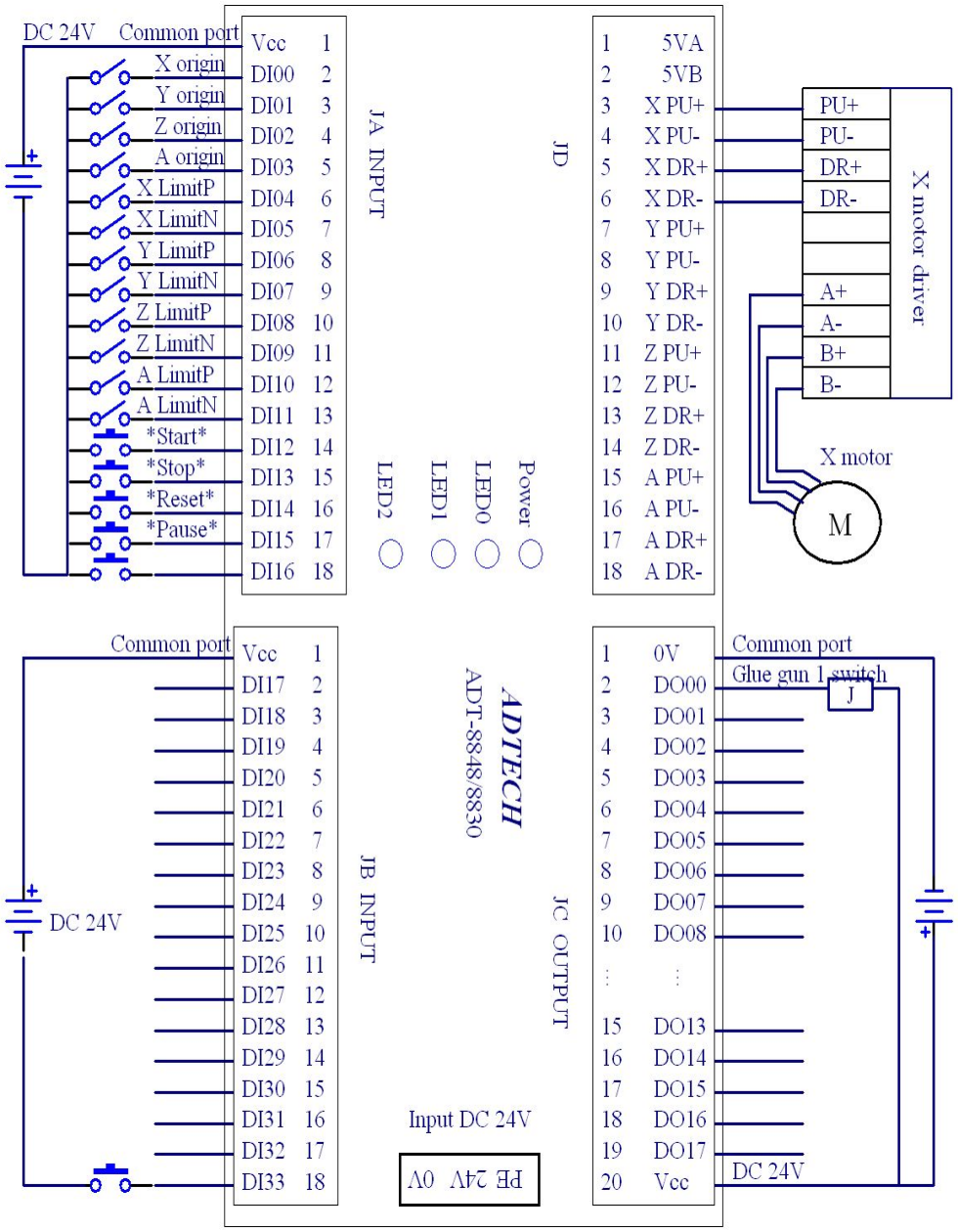
3.05.05 ADT-8860 Serial port 2 connect with computer



ADT-8860 COM2 RS-232 Communication

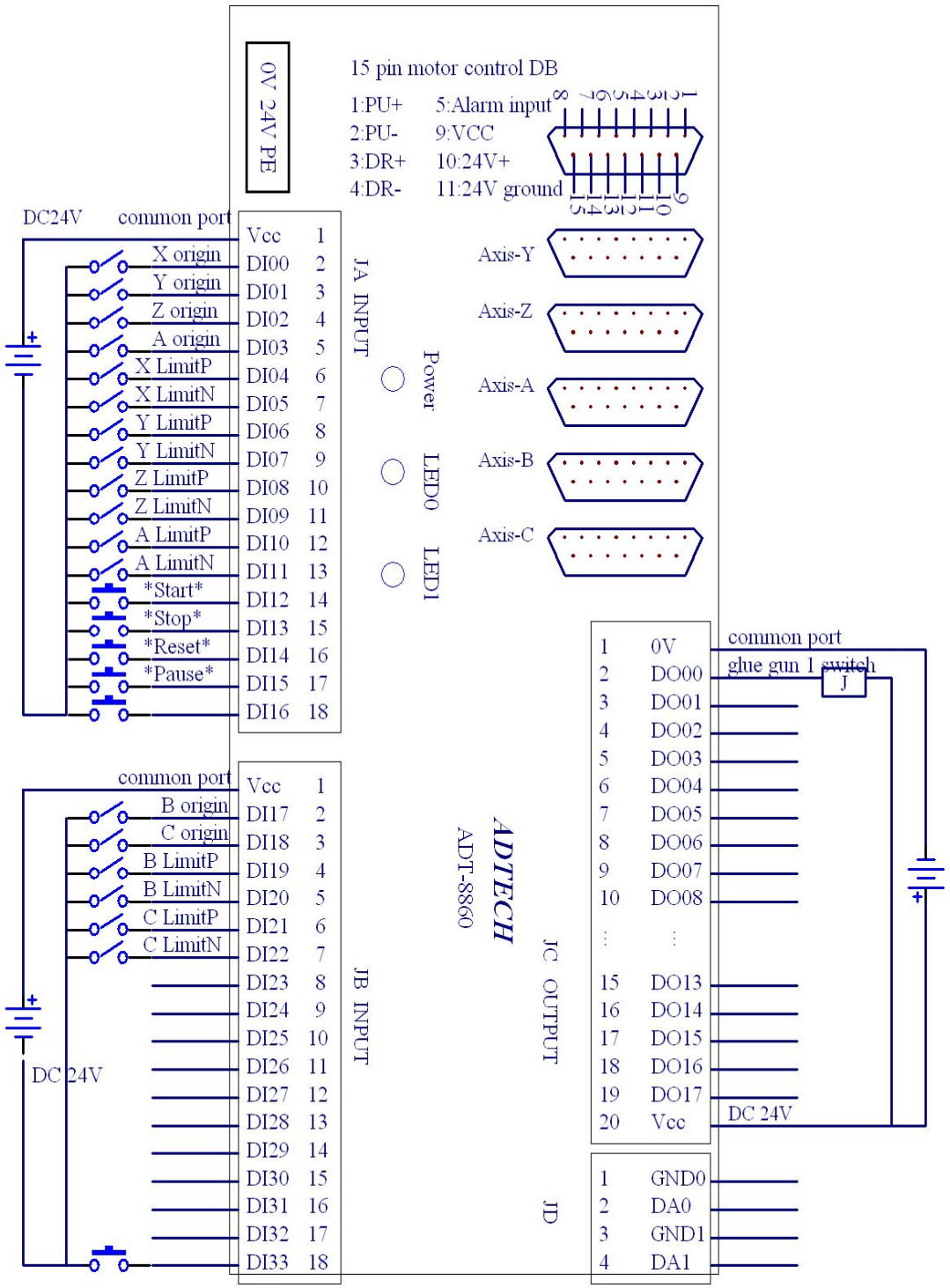
3.06 The wiring diagram example

3.06.01 ADT-8830/8848 Wiring diagram example



※Remark：ADT-8830 only have DI00~DI24 total 25 input，DO00~DO07 total 8output .

3.06.02 ADT-8860 Wiring diagram example



Chapter 4
Reset setting

4.01 Reset parameters name

When connection and installation is complete, the need to complete the first step is the reset action of dispensing machine.To complete the reset function, need to complete the relevant Settings。Below is the explain of relevant parameters

- Pulse equivalent： Refers to the actual distance corresponds to a pulse motor.This parameter is related to the speed value for each axis, whether coordinates is consistent with actual Settings, such as X 30 mm/s speed values, the current coordinate values show is 25.02 mm, if the pulse equivalent set is not accurate, the X axis speed won't be in the actual operation of 30 mm/s, the current position distance from the origin is not 25.02 m.

  Calculation method：
  - Pulse equivalent = 1 revolution of the screw or pulley sports walk distance/roll 1 times the emitted pulse
  - Motor each pulse number M：
    Adopt stepper motor，So M=subdivision *200
    Adopt servo motor，Can be directly to check the servo parameter M
  - Motor per revolution movement distance L
    Adopt pulley drive L=Pulley circumference of a circle
    Adopt lead screw drive L=Screw pitch
  - Pulse equivalent=L/M。According to the value, can be manually shaft forward 10 mm (coordinates increase 10 mm), whether the actual distance is measured with a caliper is 10 mm, is right, the opposite mistake, please find what went wrong.
- **The origin port:** origin signal access controller port (note that not line number), the above wiring diagram for the default Settings, if according to the above wiring diagram wiring, you do not need to change it.
- **The origin signal active level:** when the motor at the origin port, the origin switch input level value**. At**【diagnose】interface【 input check 】can view the origin input level value。
- **Reset mode:** has five kinds of mode: reciprocating reset , circumferential reset, no reset, logic reset, Z phase high and lower level reset.Reciprocating reset is commonly used in screw and belt drive way;Circular reset is commonly used in the rotary table, such as CAM transmission way, when choice no reset so direct current position as the origin.
- **Reset direction:** if the motor to be near the origin coordinate change, reset direction as positive, whereas negative.Before setting the parameter, please determine holding a box of the movement direction of the motor direction after pressing and holding the motor direction mark on the box in the same direction.Holding a box on the positive and negative direction axis buttons check box buttons in hand.
- **Reset high-speed:** motor and the speed to be near the origin.
- **Reset low-speed:** after close to the origin port, capture the origin which rate signal in this speed.

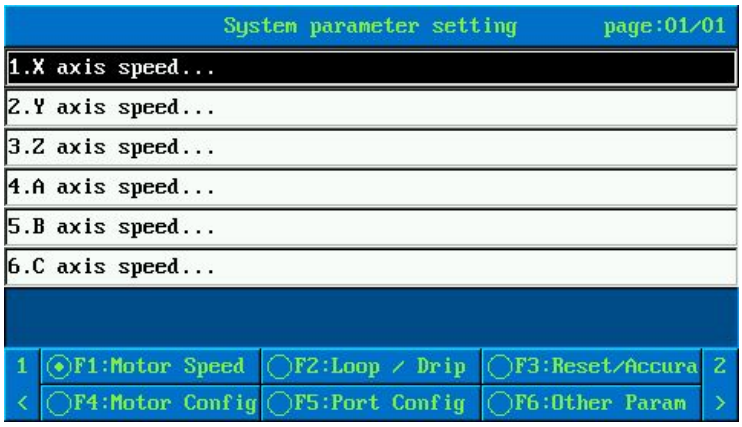
Reset acceleration: the motor has reset high-speed to reset low-speed to speed cut fast or slow.The default value.

※Note: if use glue shaft number less than the inherent axis controller, simply will not with the "motor characteristics parameters of the shaft in the" reset "mode can be set to" no ".

4.02 Reset parameters setting

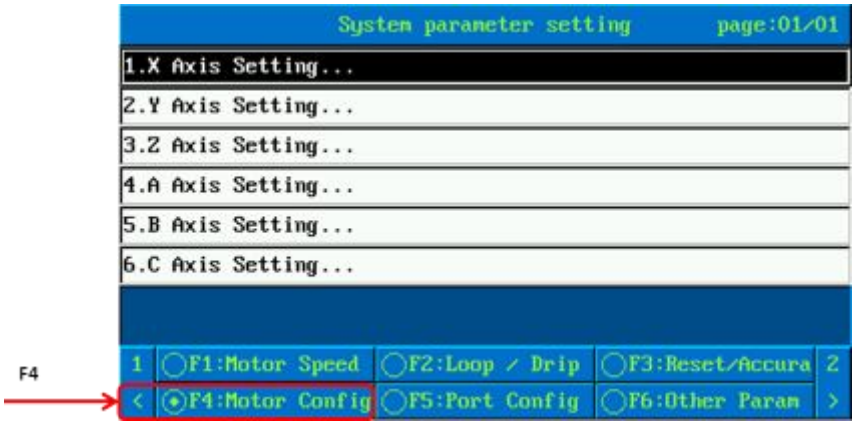
Handwheel——>Main interface——>press【system setting】key 

——>Enter the system parameter Settings interface——>



Continue——>Press 【F4】key 

——>Motor characteristic interface——>

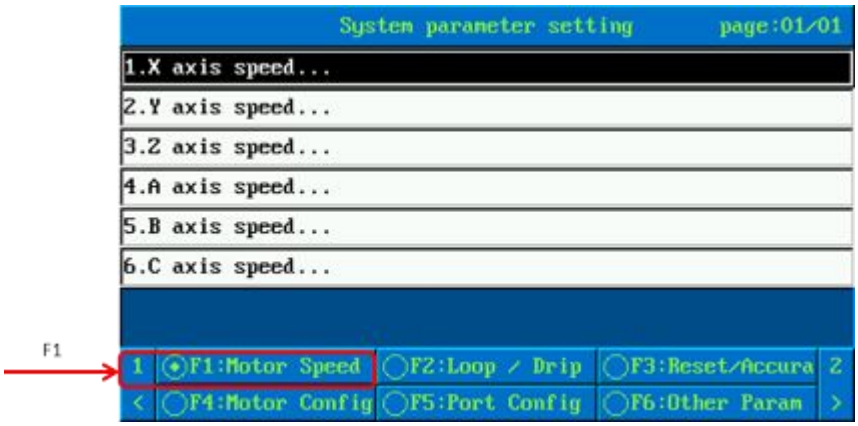


Continue——>  up and down to choice each axis 、press【Enter】key 

——>Enter each axis motor characteristics——>Continue——>  up and down to choice each line，  turn，

press Enter or 

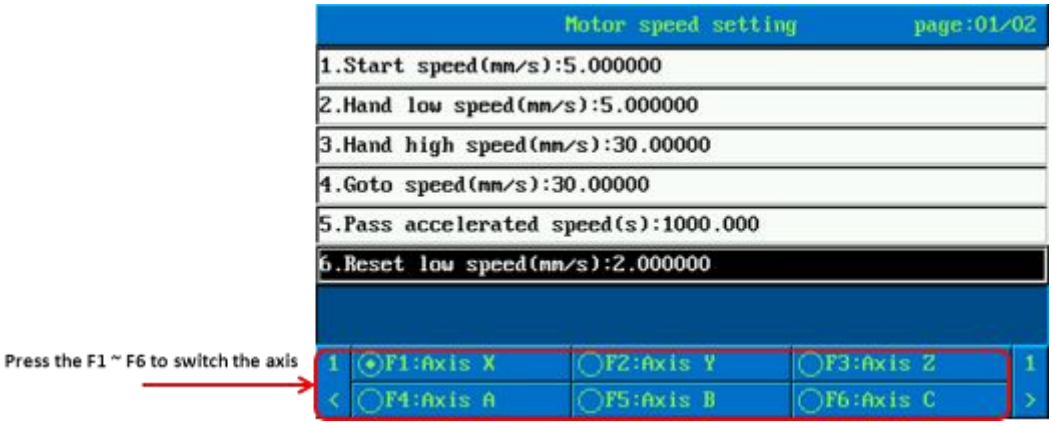
change parameter——>Continue——>Press【Cancel to return】key ESC，Return to main interface system parameters——>Continue——>Press【F1】key F1，Enter motor speed interface——>



——> 
up and down choice each axis、press【Enter】 key Enter——>Enter each axis motor speed setting——>

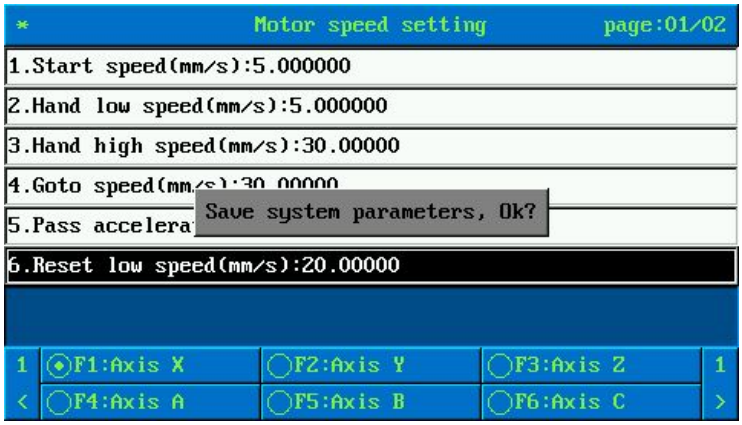
——> 
up and down choice each line，  Turn，press Enter or 

Change parameters——>



If back to the main interface after finished modified, only need to press 【Monitor/edit】 key 

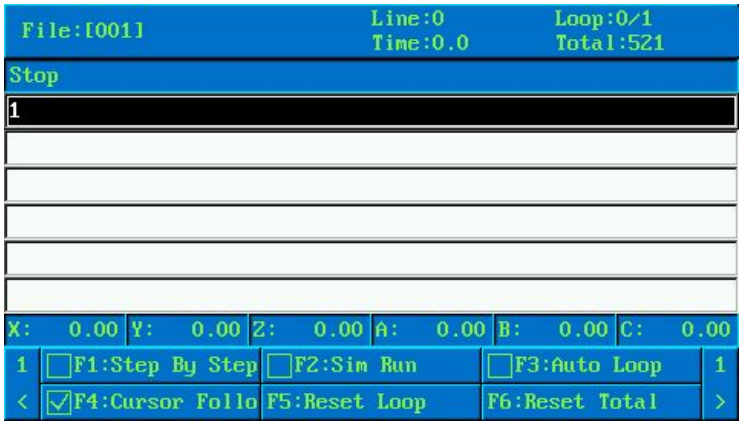
——>if modified hint whether save.



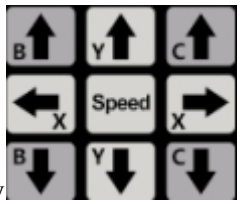
——>Press【Enter】Key 

Save，or【ESC】key 

don't save——>Turn back to the monitor interface



4.03 Motor manual direction revise

Press the handheld box motor manual key 

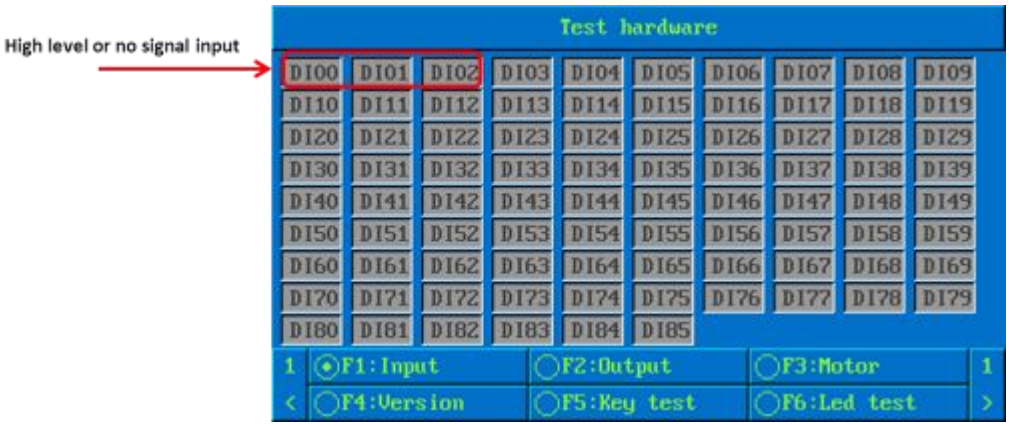
，If the direction different between motor moving and handwheel key indicate, please change the axis " motor fetures"pluse sending pettern. Parameters setting way reference above example.

※Note: pulse + direction mode, the default "pulse & direction +", if in the opposite direction to & direction - "pulse".

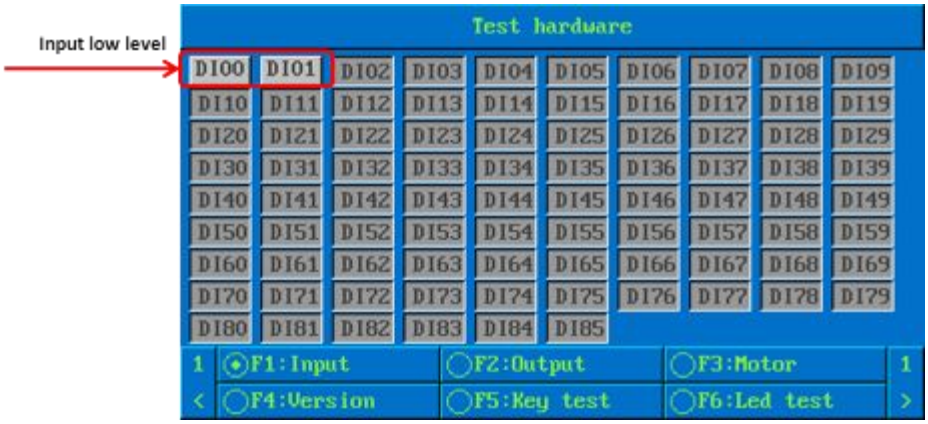
4.04 The origin and limit signal test

——>Handheld main interface ——>Press【Test】key 

——>Enter the Test interface——>



——>Using block slice is blocking the origin and the limit switch or external things press mechanical switch, the origin and the limit switch signal input, in order to test the origin if there is a fault and limit external switch installation.



※Note: the origin and effective level under the origin switch is obscured by the origin induction switch input signal value.And origin switch cover and was not cover is two states, otherwise the origin switch is damaged.

4.05 Home

——>Main interface——>Press【Home】key 

——>The system reset will appear follow situations:

- ❖ Reset the direction is wrong： Please amend the axis "electrical characteristics" - > "reset direction" parameter
- ❖ Reset blunt: please increase of reasonable reduction and low speed and reduce the reset, high-speed increase and reduction and acceleration
- ❖ Reset shake： please reduce the reduction and low speed;Reduce the reset acceleration and acceleration generally set up in 800 ~ 15000
- ❖ When Reset，some axis motor didn't move, interface on the axis in the change, please check

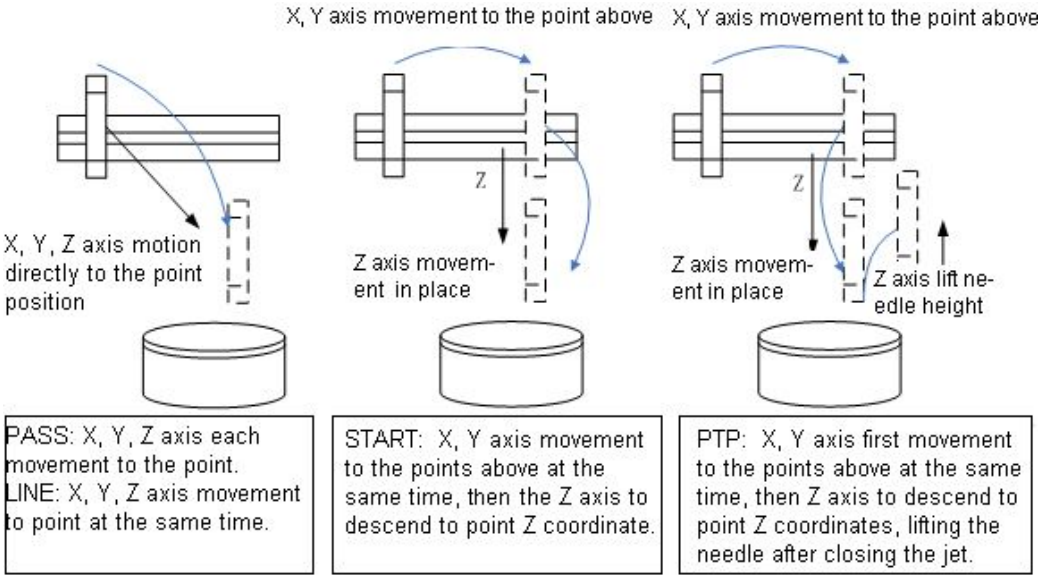
the motor wiring.

Chapter 5
Teaching basic method

5.01 Dispensing program operation mode

The operation of the dispensing process in dispensing programming point of order execution of each programming point downward from the serial number 1, until the end of the dispensing programming point or press the "stop" button.The type of programming point (processing instruction) in addition to holding a box on the keyboard to choose quickly 

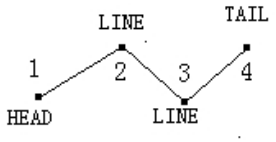
.Also includes the choice of motor reset, glue guns, define labels, procedure calls, etc.All types of instructions please see appendix "processing instruction list".General editing point (processing instructions) operation mode is as follows:

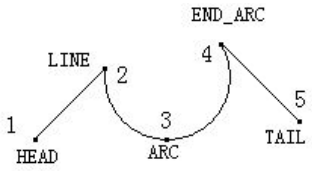


5.02 The basic path of dispensing constraints

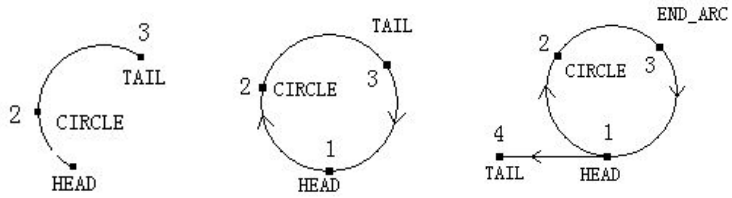
Dispensing path single dispensing, space straight line and circular arc dispensing, spline space curve dispensing, and these basic path programming type: starting point, line, point, single point, arc, rounded, and so on, they in the programming has a certain constraints.

1) A continuous trajectory is required to start with a "starting point" and a "finish" end, where a straight line, arc, ellipse, etc.;



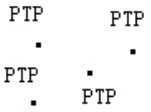


2) “Arc”、“Full Circle”、“Along the arc”、“Inverse arc”、“Along the ellipse”、“Inverse ellipse”These instructions cannot exist alone, must be combined with a little before and after a little to form a pattern.



※Attention：“Full circle” of the actual arc end point and starting point, set by the “arc e nd only a supplementary role.

3) The teaching of the "single point" is simpler, but the "single point" cannot be combined with circular or elliptic instructions.

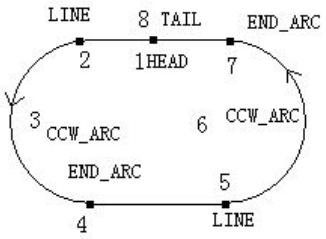


4) "Empty shift" directive function for the XYZ axis rapid locating coordinates to the specified at the same time, does not produce glue or adhesive action,

※Attention：“Starting point” is directive to the XY axis after rapid positioning to the spec ified location, Z axis to quickly locate to the specified location, and does produce glue.

4) "Inverse arc" and "arc" instructions only specify the arc radius, arc starting point and end point coordinates by a little and the next point.

6) "Along the arc", "inverse arc" set by the radius of not less than half the distance betw een two points, before and after otherwise unable to form a circular arc.



5.03 Edit dispensing path example

Before, we have completed the reset function realization, and then this basis, we now use the s ample to mention, how to complete a dispensing path teaching.

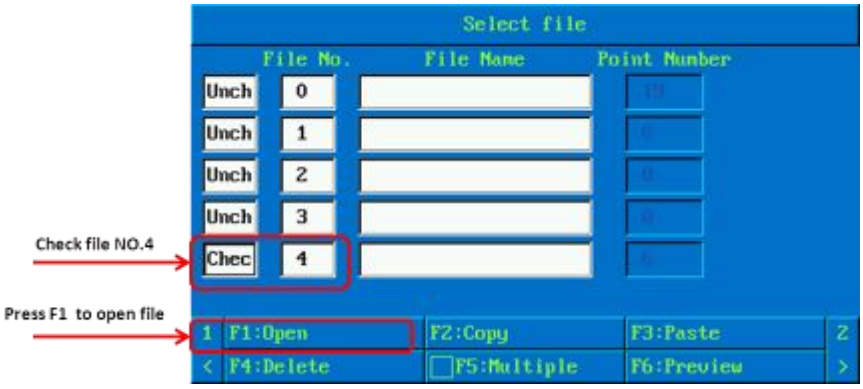
Example demonstrates steps：

1. Select program files.
2. Create programming point or as a processing instruction.
3. Set the process parameters, we call the file parameter, each procedure has its file parameters.
4. Processing operation for the first time.

5.03.01 Select program file

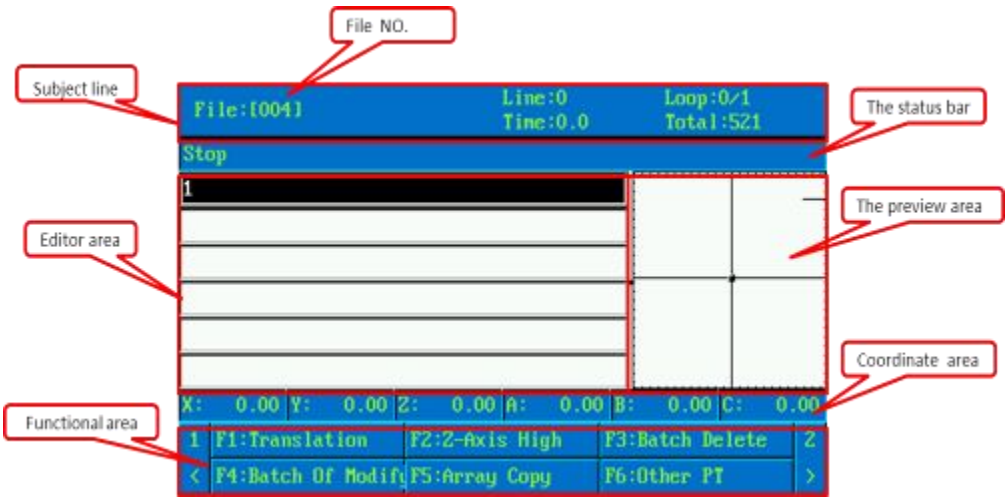
Monitoring interface——>Press【file manage 】Key 

——>File management into the interface ——>

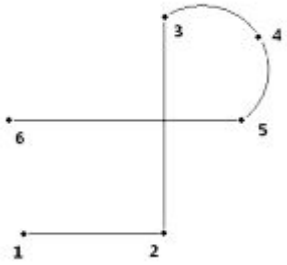


——>Press  moving cursor（Such as moving to the line 4 files）——>press【F1】key 

open—>Enter the file editing interface

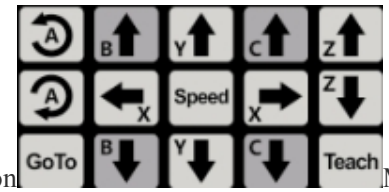


5.03.02 Teach dispensing path



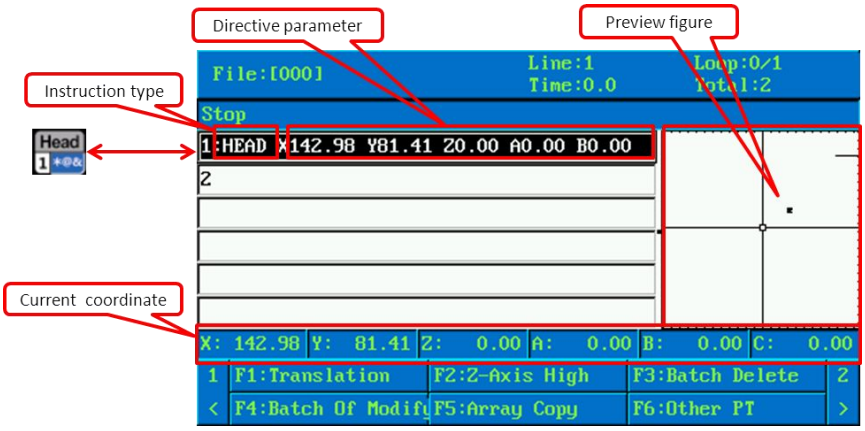
Such as the actual machining path as shown in figure：

——>Press【Reset 】key 

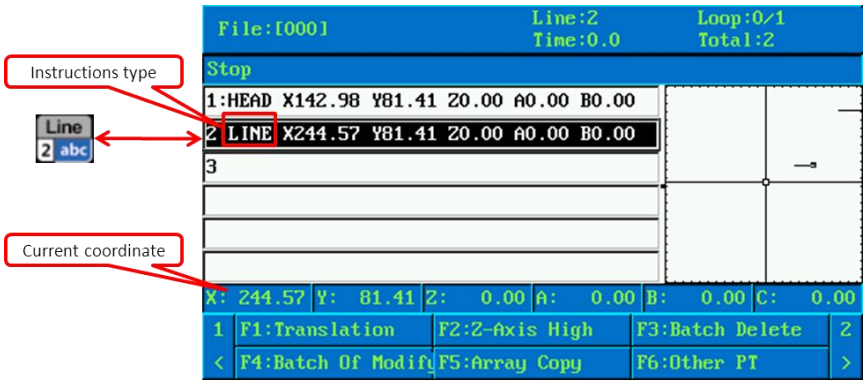
Dispensing machine to complete the reset——>Press the machine manual button 

Move the needle to "1" point——>press【Head】key 

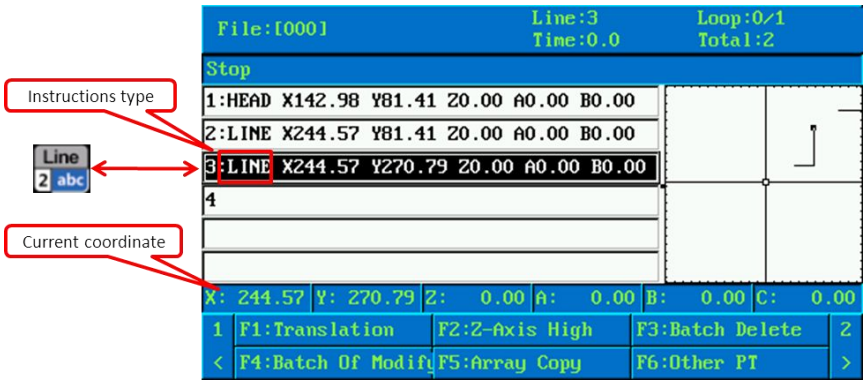
——>Teach the first point of programming——>



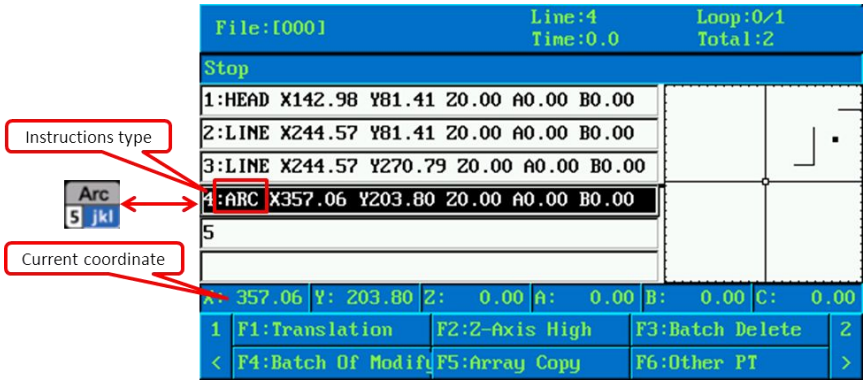
——>Press the machine manual button move the needle to "2" point location——>press【Line】键——>Teach the second point of programming——>



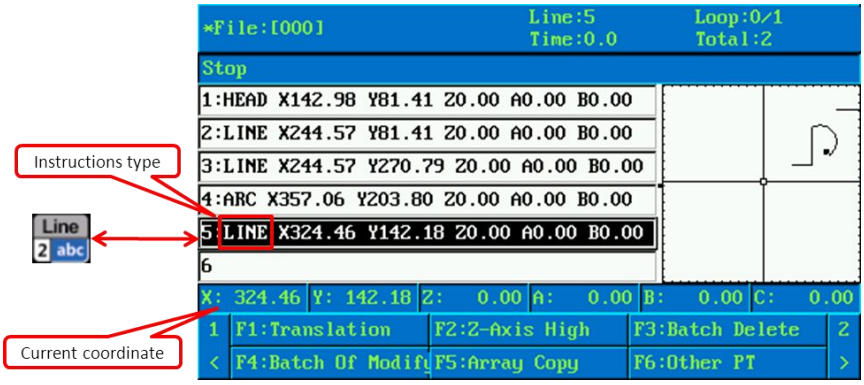
——>Press the machine manual button move the needle to "3" point location——>press【line】key——>Teach the third point of programming——>



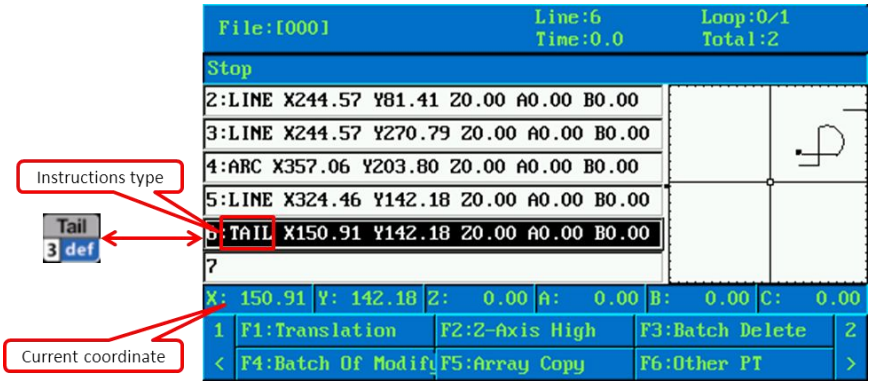
——>Press the machine manual button move the needle to the point of "4"——>press【arc】key——>Teach the fourth point of programming——>



——>Press the machine manual button move the needle to "5" point location——>press【line】key——>Teach the fifth point of programming——>



——>Press the machine manual button move the needle to "6" point location——>press【tail】key——>Teach programming point 6——>



——>press【save】key——>Save the program files, a little bit of glue path teaching is completed.

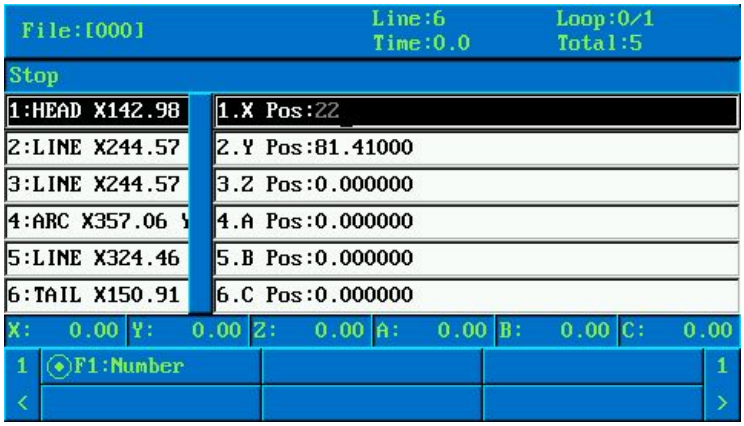
5.03.03 Modify the programming point

Teach good dispensing path, sometimes need some processing (instruction) for programming parameters Settings, such as manual input coordinates, whether to pass time does glue, whether does lag glue, single point glue, the finish and single point glue after the lift programming some parameters, such as needle height.

So all parameters of the type programming point (processing instruction) meaning in detail please check the processing instruction list.

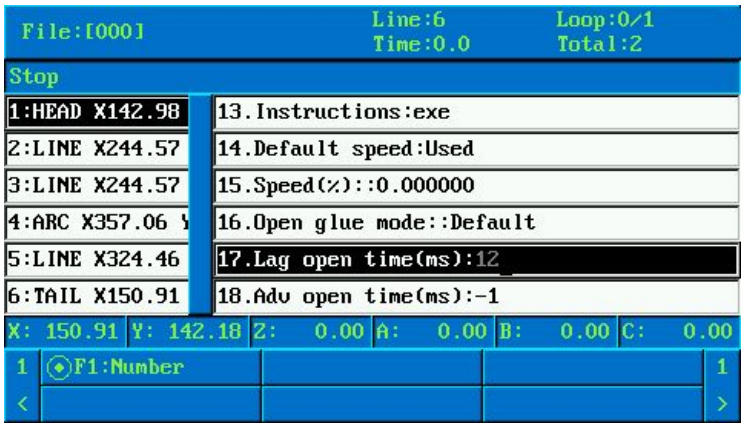
1) Modify the programming point coordinates

editorial interface——>press Selected programming points need to modify——>press【teach】key Update programming point coordinates for the current coordinates



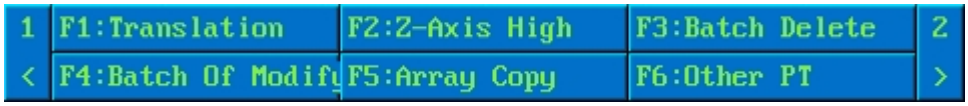
2) Modify the programming some other parameters

editorial interface ——>press  Selected programming points need to modify——>press【Ente r】key  Open that point parameters——>Press numeric keyboard  、【Enter】key  Change parameter——>



5.04 Advanced editing features

Holding a box of senior file editing functions have several.



5.04.01 the translation of graphics

This function is mainly used for unified adjust the graphics XY coordinates. Determine the starting point of good graphics, to move the x, y coordinates to the need to move the starting point of the XY coordinates, after calling the function, the entire graphics automatic sliding to the current position.

5.04.02 The Z axis height adjustment

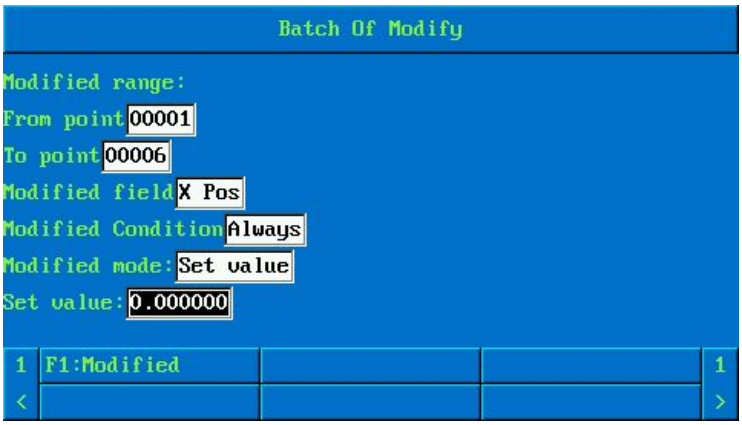
This function is mainly used for unified adjust the graphics of the Z axis coordinates. Determine the starting point of good graphics, and then the Z axis moves to the starting point need to adjust the Z coordinate position, after calling the function, the entire graphics Z axis coordinates will be adjusted according to the current Z coordinate values. (pay attention to when using this function after the migration of high needle don't overrun, otherwise can not run normally and produce overrun error)

5.04.03 Batch Remove

You need to delete the selected range of processing centers，press【F1】delete.

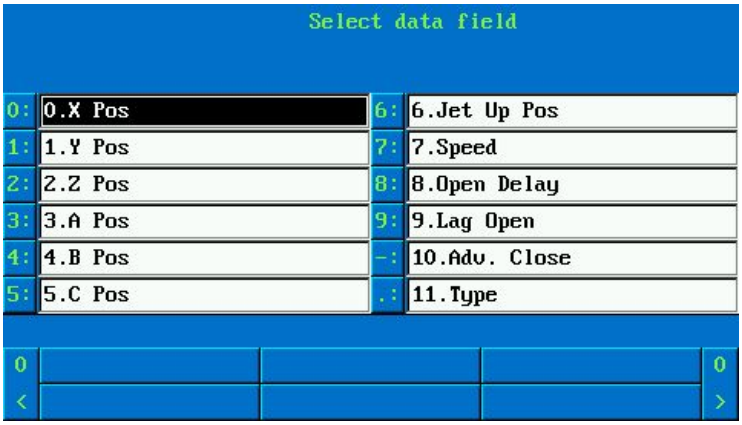
5.04.04 Bulk Editing

Bulk changes function is mainly used to modify a large amount of data.



Modify the scope: the need to modify the initial processing period and end processing period

Modify the content, can choose the following content need to be modified:



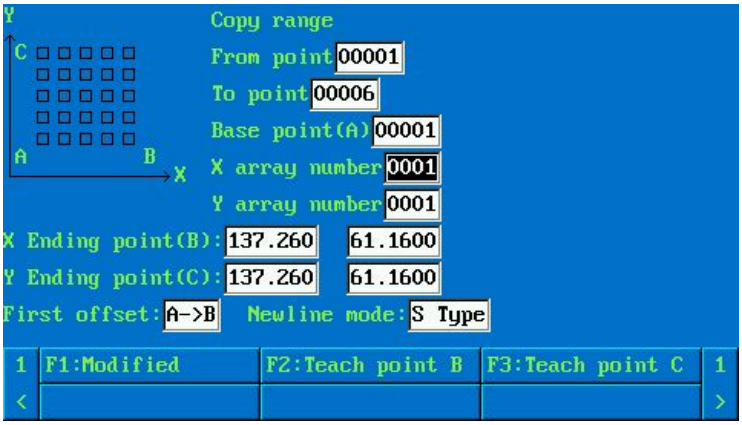
Modify conditions: one of data can be specified to modify data, is not equal to, greater than or less than a specified value.

Modified way: is there a specified value, specify the increment, specify ratio, three ways to specify values for the specified value directly set

To need to modify the content; Specified increment to increase a value on the original value (the specified increment negative decrease); Specify the ratio of the original value multiplied by a value.

5.04.05Array Copy

Array replication are mainly used for copying a single graphics in the form of array into more, also can produce a parallelogram array.



Replication scope: need to replicate the initial processing period of graphics and end processing period;

Reference point A: need to copy A reference point on the graph, the spacing between the x and y direction need to that point as A benchmark, defaults to select graphics first point;

Number of sets of X direction: array number of sets of X direction;

Y direction group count: the number of sets of Y direction of the array, copy only once is the number of sets of x, Y direction is set to 1;

X direction B end coordinates: the coordinates must be X direction one last set of coordinates for the datum A;

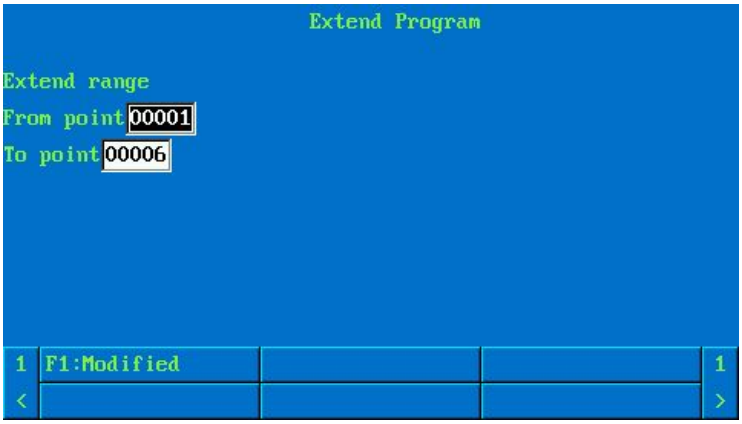
End C Y direction coordinates, the coordinates must be Y direction one last set of coordinates for the datum A;

Initial direction: is the first by A to B or from A to C;

Wrap: has two kinds of S shape and Z, Z in way when processing after a row processing will return to the starting point of a line, s-shaped will not return to the starting point for a new line but with processing directly back to the way the next line;

Press the navigation key position to benchmark;

5.05.06 program development



This feature is mainly used for file will call instruction content nested directly into the directive position.

5.05.07 common graphic

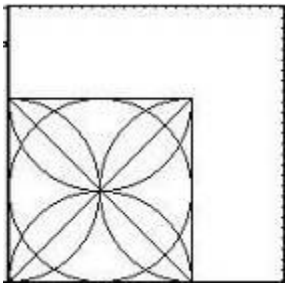
0）Test pattern

first step：Choose the plane test pattern;

second step：The input test graphics side length;

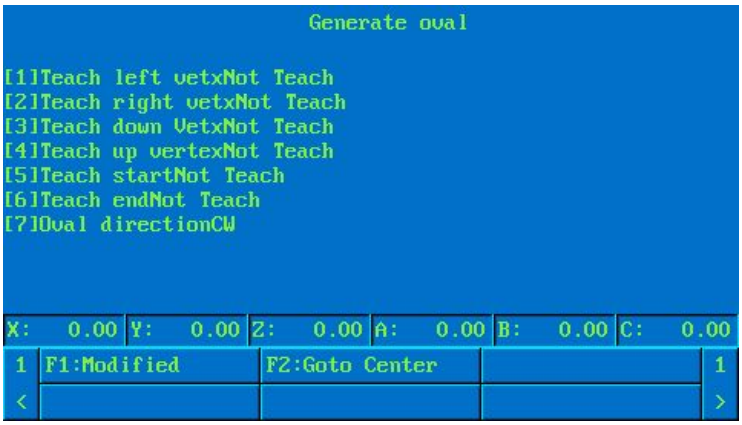
third step：Taught third axis;

fourth step: Generate the following graph:



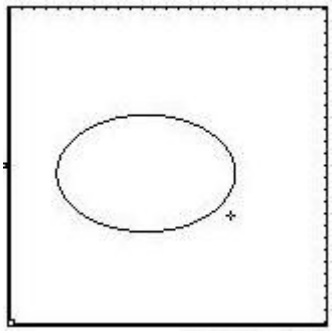
※Attention：Through graphics translation or bulk changes to mobile graphic to the right place.

1）ellipse



In the generate elliptical screen press the number keys 1-4 to teach every vertex of the ellipse (XY every direction need to be taught at least a vertex to generate ellipse)，according to the first time to teach coordinates，According to the instruction of the second to cancel coordinates. After teaching a good starting point and end point，Press numeric keys 7 select the elliptical di

rection，press【F1】Generate ellipse. The interface of each vertex data is kept, even leave the i nterface still exist, When teaching ellipse so can quit the interface, Once again to enter the teac hing when data is still there.



Generate elliptical graphics

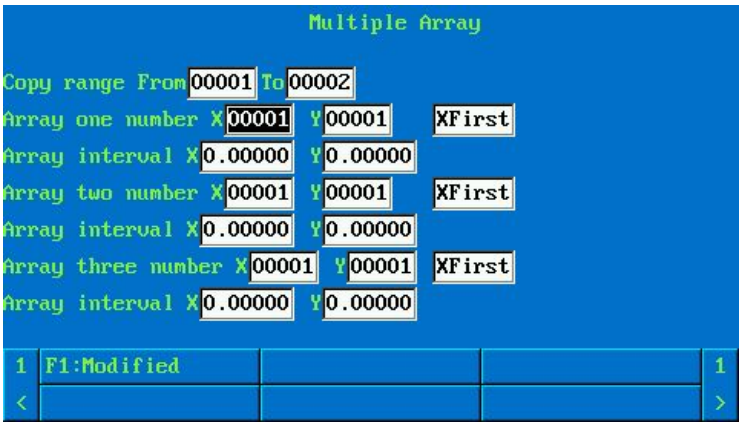
5.05.08 Local adjustment

The current point to the next reference point between the graphic coordinate to adjust, Adjustm ent method to adjust the region graph of the first point to the current coordinates, The rest of t he graphic also simultaneously offset.

This feature is mainly used in graphics array in an area of partial adjustment，Array of graphic s to begin with a reference point，Reference point is mainly used to use the needle，Won't pro duce the actual movement。Adjust to use "type search" function to find the need to adjust the pivot point，And then to local adjustment。

5.05.09 Multiple arrays

After multiple arrays is a weight array graphics for the second array，Get the graphics and then a third array。



Sphere of replication:Need to copy the initial processing period of graphics and end processing period。

A number of sets of array：The current graphics on the x, y direction of the first array on the number of groups.

Array pitch：A weight array x and y directions each graphic distance.

The number of sets of double arrays：After completion of a weight array, and then to the second array when the number of groups in the x, y direction.

Array pitch：Double array x and y directions each graphic distance.

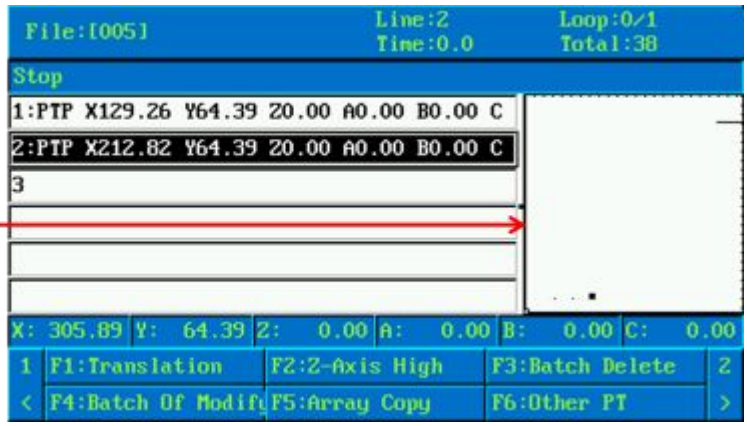
The number of sets of double arrays：After the completion of the double array, and then to the third array again when the number of groups in the x, y direction.

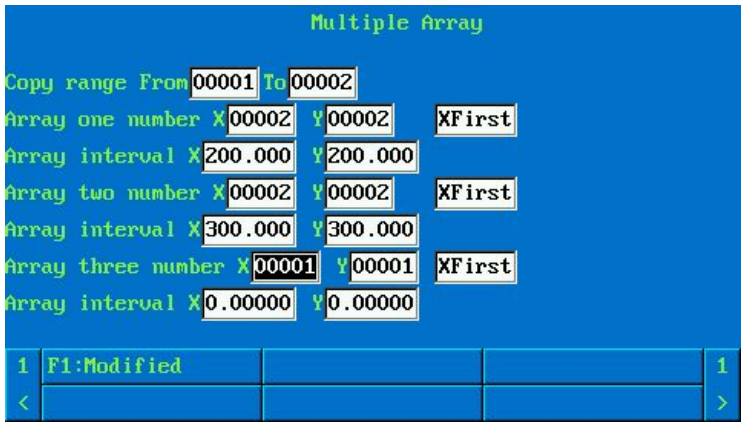
Array pitch：Triple array x and y directions each graphic distance.

Array direction：Points first array X direction and Y direction first array.

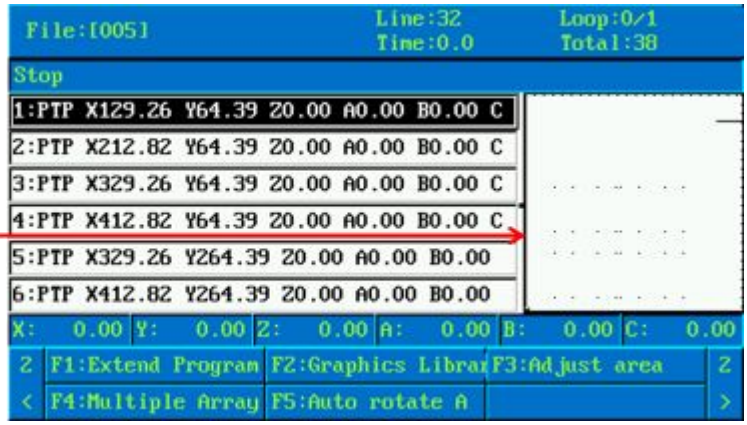
【F1】Key F1 Perform the array.

The figure before array

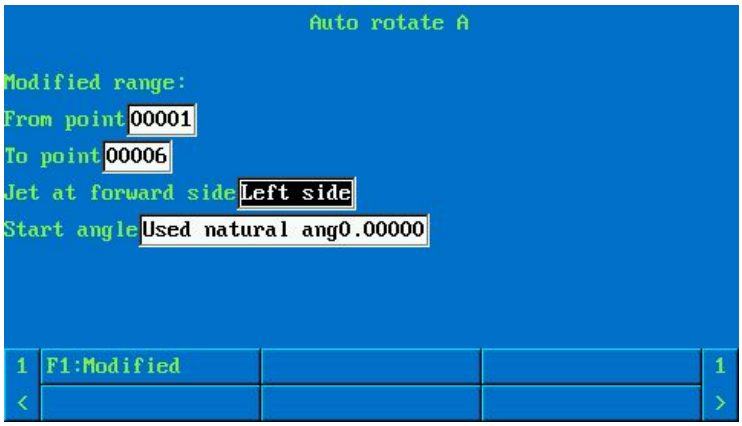




The figure after double array



5.05.10 A Shaft Rotation



This feature automatically according to the curvature of the XY coordinates of the direction of rotation of A shaft and keep the vertical.

Starting point and end point: choose A spindle automatic rotation range.

Glue guns in direction: choose glue gun is in the direction of the left or right.

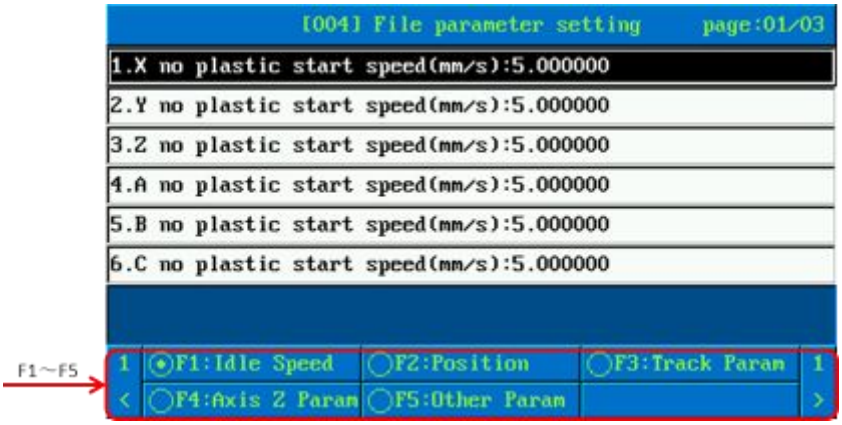
Starting Angle: you can define A starting point as A shaft in the perspective of the first point, at the back of the Angle to the point of view for reference. Also can choose to use a natural point of view, with the positive axis X direction Angle of 0 degree.

Chapter 6
File Parameter Setting

Each glue dispensing program has its corresponding parameter file, after the teaching better glue path, general need for dispensing process parameters (i.e. the file parameter set).

——> press button【file parameters】 

——>into the interface file parameter setting, various parameters explanation is as follows:

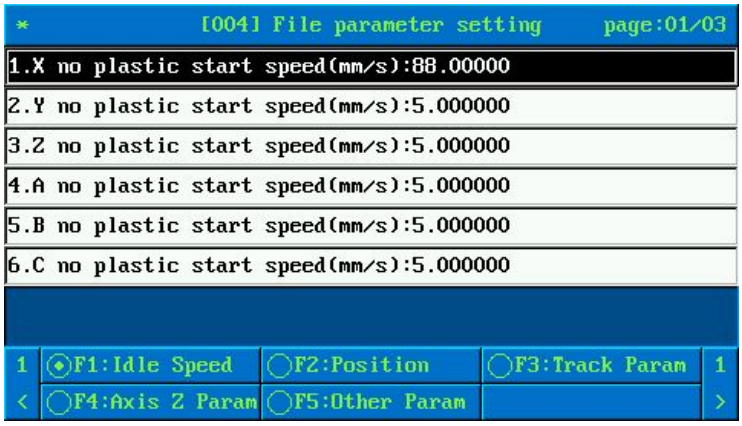


File parameter Settings are divided into 5 categories: empty moving speed setting, position setting, the trajectory of related parameters and the Z axis related parameters and other parameters. Details are shown in table below.

File parameter Settings are divided into five categories: the needle point set, empty/trajectory parameters, setting the stop position, the other parameters. (the camera parameters is achieved by script visual dispensing) shown in the table below in detail.

6.01 Air velocity correlation parameters

——>file parameters under the interface——>press 【F1】 empty moving speed setting F1 ——>>enter the parameters.



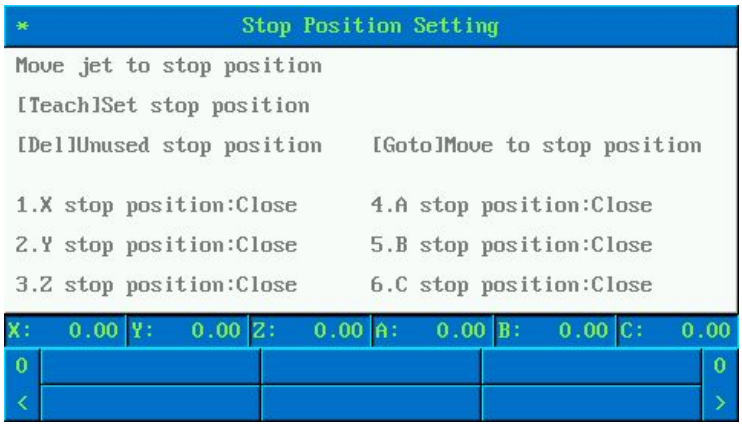
Empty moving speed: namely the dispensing process, not the glue of each axis movement speed. As opposed to a track speed (the speed of the movement of the glue when interpolation)

Parameter	Function Description
Empty moving speed setting	1) Empty start moving speed: start in the case of empty move speed 2) Empty moving acceleration: the initial velocity needed to move to the empty speed acceleration. If set to 0 to track speed uniform processing 3)Empty speed: the speed when empty moving

6.02 Stop Position

——>file the parameter under the interface——>Press【F2 related positions settings】F2—

—>  Select“Stop position”——>>Enter the parameters

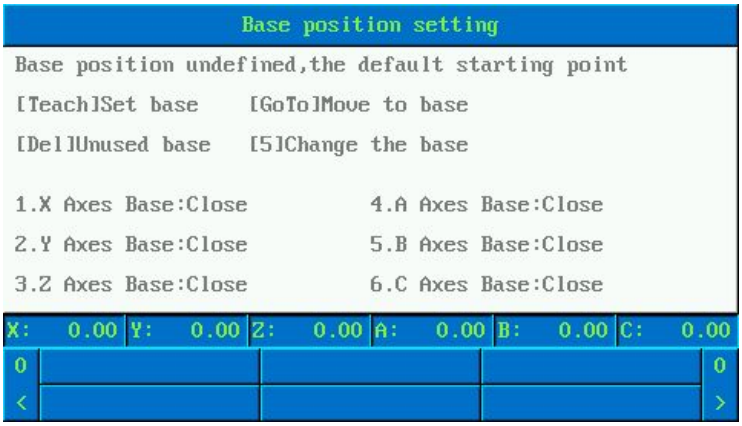


Stop position: processing complete run automatically to the stop position(automatic glue function must be set)

6.03 The Needle Point

——>file parameters under the interface ——>Press【F2 related position Settings】F2—

—>  Select“of needle point”——>>Enter the parameter.



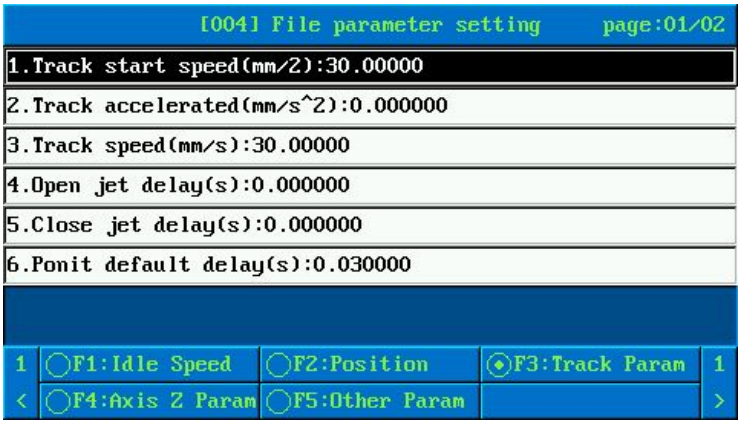
Processing of needle point: set file of needle point, the default for processing file first

Adjust position: if has been set up to adjust the position, then processing point glue path deviation

occurs, each axis offset = adjust position axis coordinate - shafts of needle point coordinate.

6.04 Trajectory velocity correlation Parameter

——>file parameters under the interface——>Press【F3 trajectory parameters】——>>  Enter the parameter——>



Parameter	Function description
Track Related Parameter	1)Trajectory starting speed: 1) the start of processing speed 2)Track speed:interpolation speed when track 3)Track acceleration: the start acceleration speed to track need. If set to 0 to track speed uniform processing

6.05 Switch Adhesive Related Parameter

— — >File parameters under the interface — — >Press 【 F3 trajectory parameters 】 — —>>  Enter the parameter——>

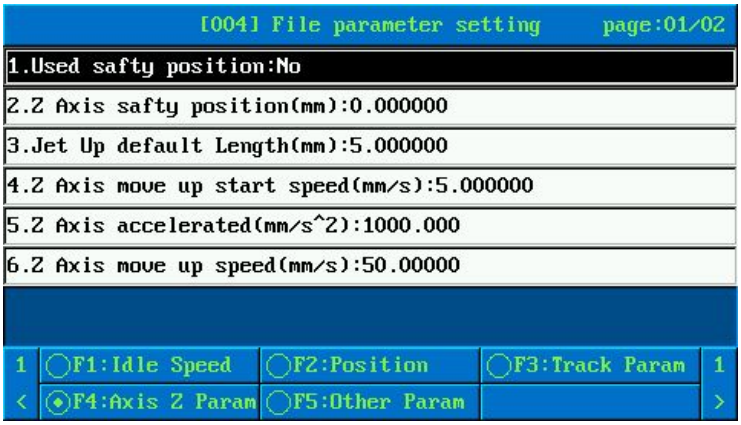
Parameter	Function description
Switch adhesive related	1) Glue delay: glue guns opened needs certain response time. Does starting point glue after wait for the time and then axial movement to the next point. 2) Customs glue delay: glue guns closed needs certain response time. Wait for the

parameters	time after finish off glue and then axial movement to the next point (if under no processing complete). 3) the default single point of time: single point shot commands default duration. 4) Does lag glue delay: does start using lag glue function as glue guns lag time, open the needle leave the starting location in a downward motion does after the time after the glue. ※Note: the delay time Settings (such as delay is very big, even if the dispensing path time has not yet to) can result in a certain period of trajectory does not glue. 5)Distance for customs in advance: the end use in advance clearance glue glue guns close distance ahead of time, when the needles are not movement to the finish line is to turn off the glue. ※Note: the distance Settings (such as the value is greater than the point glue path) can lead to a section of the track does not glue.

6.06 Z Axis Related Parameter

1、——>holding a box of parameter interface file——>Press【F4 related parameters Z axis】 

——>>Enter the parameter



Parameter	Function description
Z Axis related parameter	1) whether the use of safe height function: refers to the Z axis safety height function is enabled 2) safety height: Z axis Z the safe height in processing 3) the default lift needle height: the finish and single point instruction carried needle height by default. 4) the Z axis is raised starting speed: Z axis running up starting speed 5) Z axis raise acceleration: Z axis running upward acceleration The Z axis raise speed: the speed of the Z axis running up

6.07 Drawing Related Parameter

———> file parameters under the interface———>Press【 F4 Z axis related parameters】 

—>

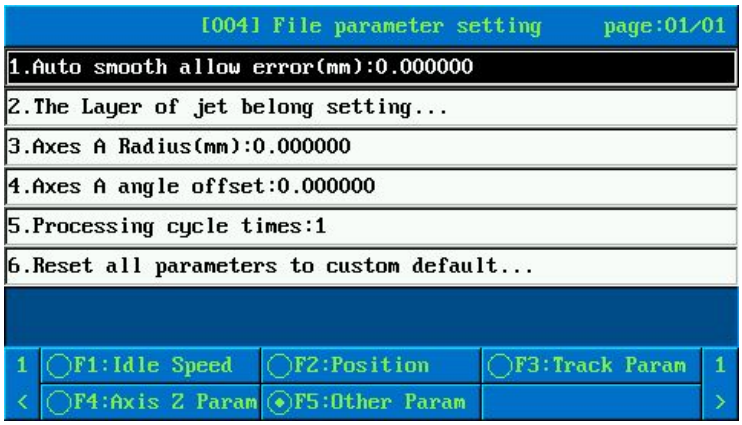
turn lift or right the page——>>Enter the parameter

Parameter	Function description
Drawing related parameter	1) drawing height: shot back with a small raise a short distance and the speed of the gun back again, if set to 0, close the drawing function 2) drawing speed: the speed setting is small, generally used for slow wire drawing 3) drawing delay: residence time after drawing.

6.08 Circulation Processing Times

——>file parameters under the interface——>Press【F5 to other parameters】 

——>> 
Enter the parameter——>



Circulation processing times: the current file cycle number of processed products. Is set to 0 means unlimited times. If you want to achieve circulation processing also need to set the processing mode to circulation processing mode.

6.09 Glue Gun Rotation Radius Compensation

——>file parameters under the interface——>Press【F5 to other parameters】 

——>> 
Enter the parameter——>

Parameter	Function description
Other parameters	1)Rotation radius of glue gun, glue gun tilt, R a rotation axis painted circle radius of the circle a needle 2) glue gun rotary offset Angle: R axis after reset, needles and the Angle of X direction

6.10 Automatic Round Corner Error Range

——>file parameters under the interface——>Press【F5 to other parameters】 

——>>  Enter the parameter———>Automatic round error range: processing to realize automatically after the rounded corner, biggest the distance between the edges and corners rounded corners.

6.11 Restore Default Value

——>file parameters under the interface——>Press【 F5 to other parameters】 

——>>  Enter the parameter——>

Parameters to restore the default value: if set up a file parameter a default value, restores the default values, and restore the factory Settings

※Note: set the current file parameter as the default value function in the "system Settings" - > "other parameters".

6.12 Glue Gun Layer and Related Setting

——>file parameters under the interface——>Press【F5 to other parameters】 

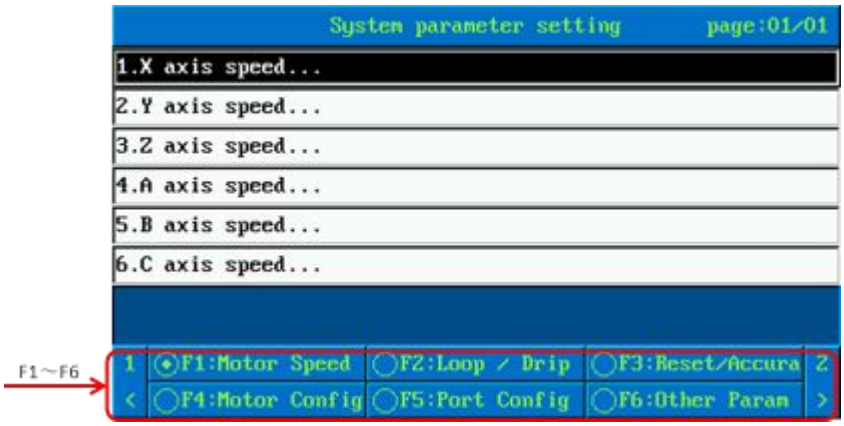
——>  Enter the parameter———>Glue guns layer corresponding Settings: plastic moment use this parameter to select the glue guns layer (layer 1 ~ 8), through the vendor input port configuration parameters can be set in the corresponding input signal to select a single processing of a layer

Chapter 7
System Setting

As a glue dispensing equipment, has its for equipment and the processing parameters of the operation, we call the system parameters. After the installed equipment, the primary operation is systematically setting.

———>Press 【system】button 

———>interface, enter the system parameter setting parameters explanation is as follows:

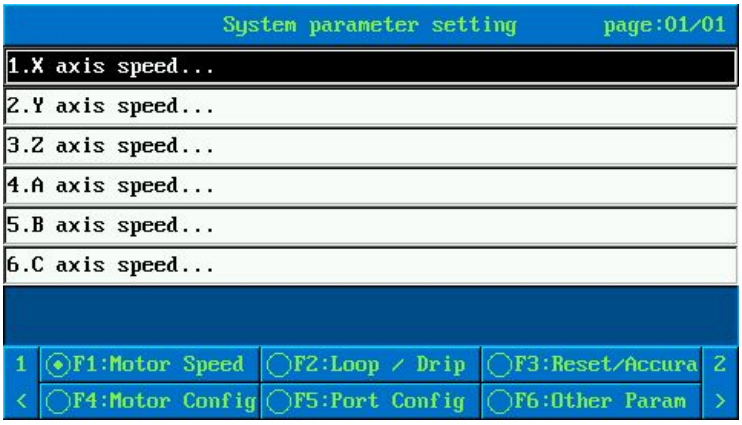


System parameter Settings are divided into nine categories: motor speed setting, cycle/glue and reset/precision, motor characteristics, port configuration, other parameters, password management, advanced features, color Settings, etc. Details are shown in table below.

7.01 Motor Speed Related Parameter

———>system parameters under the interface———>Press【F1 motor speed】 

———>  Enter the parameter———>

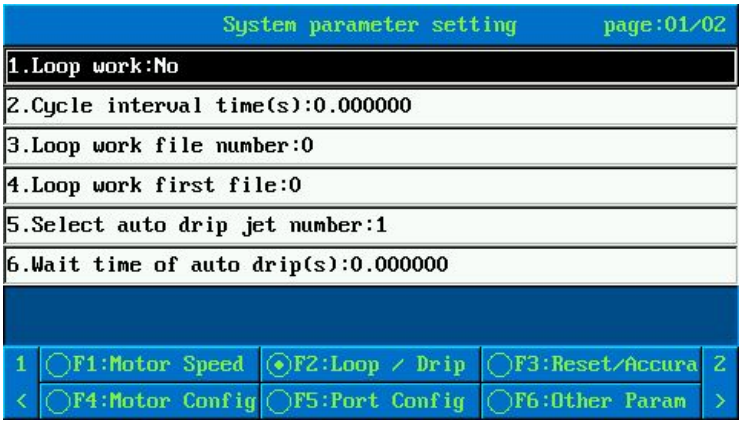


Parameter	Function description
Motor Speed	1) start speed: general stepping motor starting speed should be less than 3 revolutions per second, servo motor is less than 5 r/s 2) manual low: manual teaches when used for accurate positioning 3) manual high-speed: manual used to quickly locate when teaching 4)Orientation speed: the speed of the movement 5) acceleration: the value, the greater the empty by starting speed change to move the faster speed velocity changes. If set to 0 is uniform 6) reset: at low speed near the mechanical origin of reset the speed 7) reset high-speed: away from mechanical origin of reset the speed 8) reset acceleration: reset the faster speed. If set to 0 is uniform.

7.02 Cycle Related Parameter

——> system parameters under the interface——>Press【F2 cycle/glue】 

——>  Enter the parameter——>



Parameter	Function description
Cycle related parameter	1) whether the circulation processing: whether open loop processing function 2) circulation processing time interval: the wait time after each processing a product 3) circulation processing file number: connection machining the file number (file number must be connected) 4) circulation processing starting file number: continuous processing file Numbers of the first file

7.03 Automatic Glue Related Parameter

——>system parameters under the interface——>Press【F2 cycle/glue】 

——> 

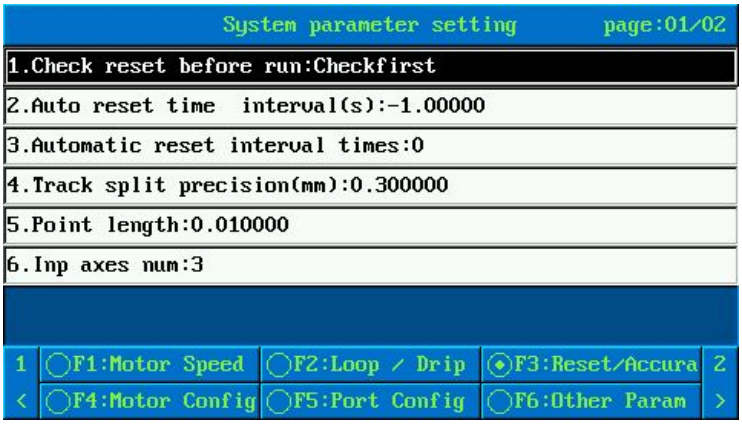
Enter the parameter

Parameter	Function description
Glue related parameter	1) automatic glue glue gun rotation: choose need automatic glue glue guns 2) automatic glue wait time: wait for setting time no operations into automatic glue 3) automatic glue shot time: automatic glue glue gun open time. Note: automatic glue need to set the stop position, and must be in stop position will glue.

7.04 Automatic Reset Related Parameter

— — >system parameters under the interface — — >Press 【 F3 reset/precision 】 

—>  Enter the parameter——>



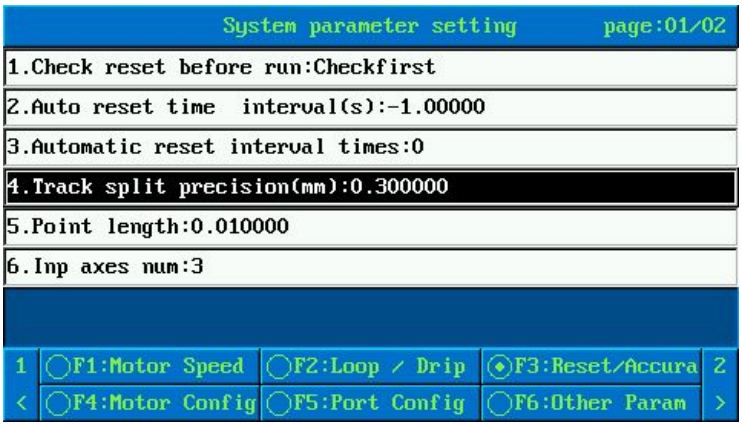
Parameter	Function description
Auto reset related parameter	1) Run before the origin detection: with no detection,the first detection and the detection of the three options.No detection is considered to have been reset,the first test is the first time after the first machining will detect reset;every time you will detect whether the original point of view. 2) On the automatic reset interval time:the controller is automatically reset after the delay period of time ,and the parameter is set to a negative value. 3) Automatic reset interval number:the number of products after each processing,the motor automatically reset,eliminate the cumulative error.

7.05 Accuracy related parameter

— — >The system parameter according to interface — — >Press 【 F3precision/reset 】 

—

—>  Enter the parameter——>



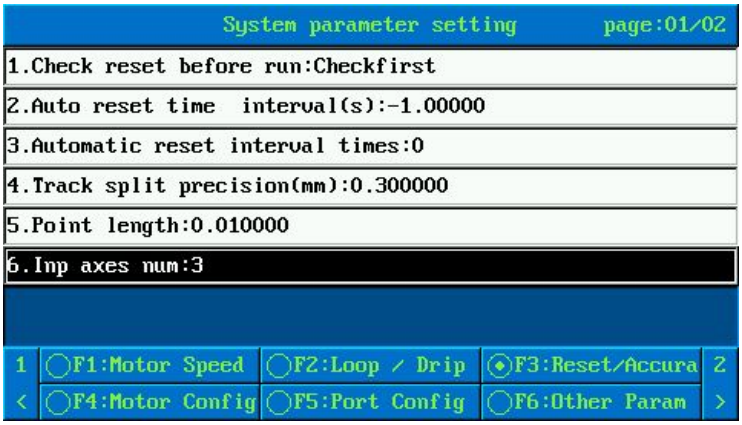
Parameter	Function description
Precision para	1) track splitting accuracy: controllers will all figure into small segments

meters	of equal length to handle, track splitting accuracy that small segment of length, setting too small causes effects and motion effects a large controller operation, generally recommends that the distance is greater than the motor rotation corresponds to 1/50. 2)Point distance:move distance point to point by manual

7.06 Interpolation of axis's number

——>System parameter interface——>Press【F3 reset/accuracy】 

——>  Enter the parameter ——>

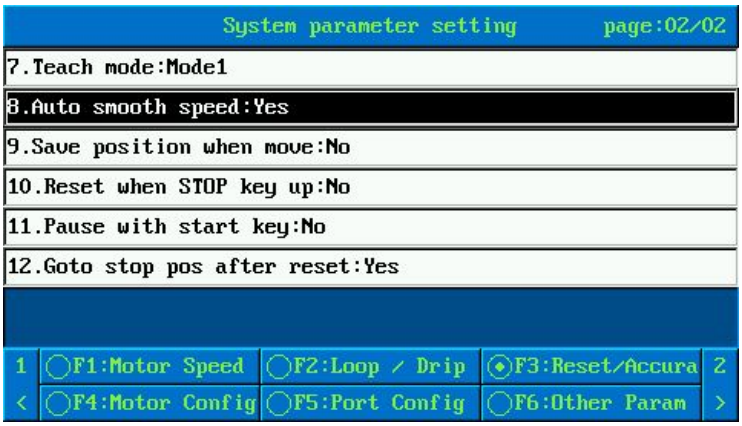


Interpolation of axis's number ： Systems running the interpolated axis. If set to 3 indicates that only editpoint (processing instructions) XYZ axis interpolation, or motion, othershafts do not participate in sports.

7.07 Auto speed smooth

——>System parameter interface——>Press【F3reset/accuracy】 

——>  Enter the parameter——>

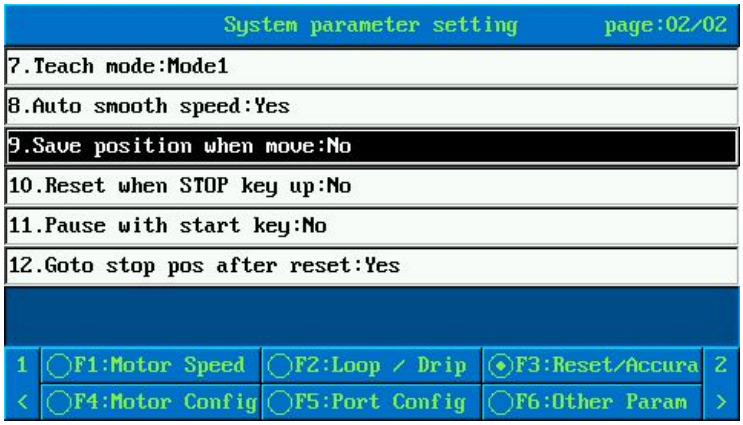


Auto speed smooth：Movements smooth.

7.08 Memory function

——>System parameter interface——>Press【F3 】reset/accuracy 

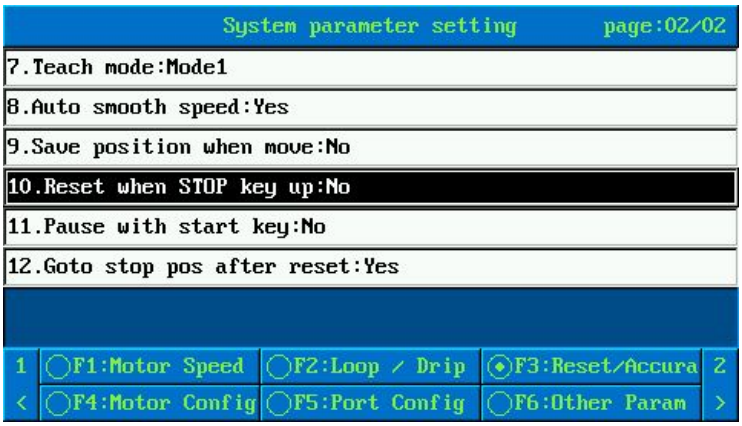
——>  Enter the parameter——>



7.09 stop button lift Reset

1、——>Holding a box with system parameter interface——>Press【F3reset/accuracy】 

—>  Enter the parameter——>

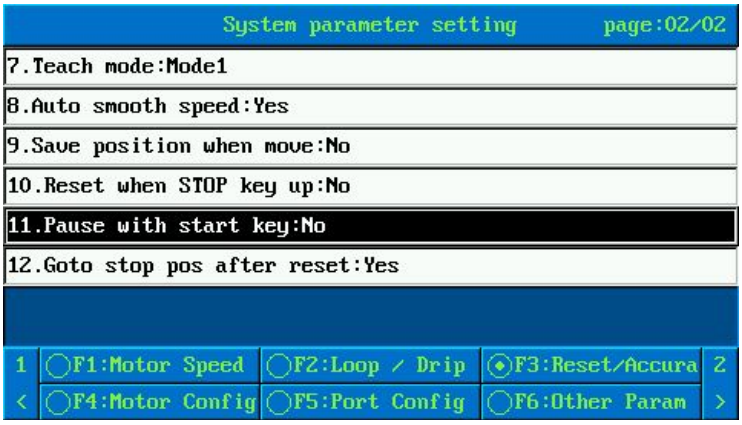


Lift the stop button Reset: sets the stop button also reset when liftingmotor, generally refers to external emergency stop lock button.

7.10 Start button and pause function

——>System parameter interface——>Press【F3reset/accuracy】 

——>  Enter the parameter——>



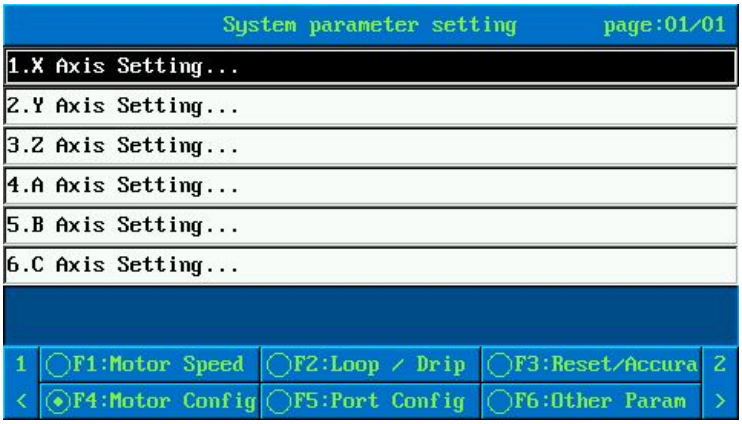
Start button and pause function: sets whether pressing the start key in therunning pause, generally refers to an external start button.

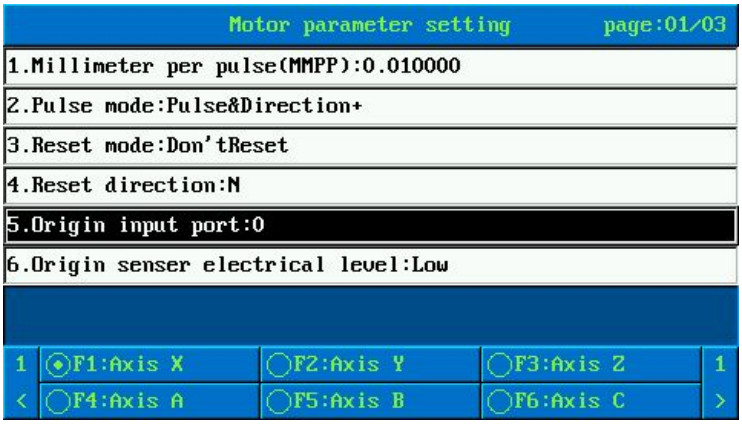
7.11 motor characteristic parameters

——>System parameter——>Press【F4 motor characteristic】 

——> 

Go into selected axis characteristic of motor——>  Enter the parameter——>



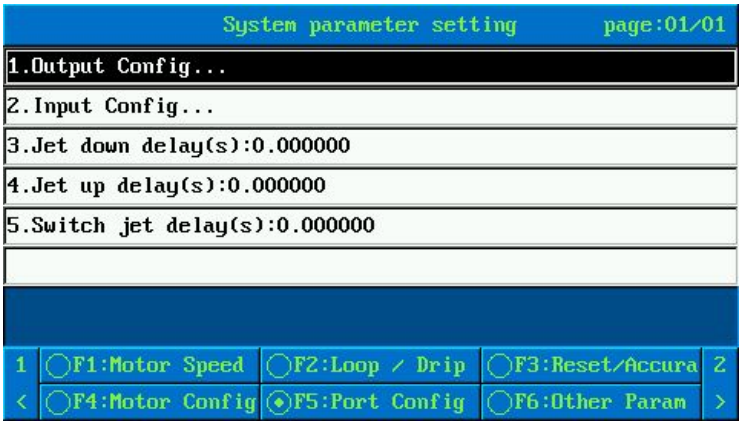


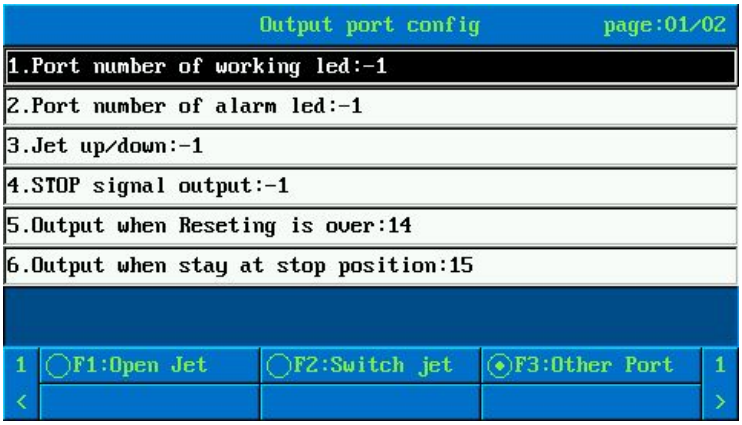
Parameter	Function description
Motor characteristic	1) pulse equivalent: refers to the distance a pulse corresponding to actual. 2) pulse delivery mode: depending on how your drive settings, pulse + pulse pulse + direction and can be divided into two kinds. 3) reset: with five models: reciprocating reduction and circumferential reduction, do not reset, reset logic, z-level reset. Cyclic reduction generally used for screw, belt drive; Circumferential reduction generally used a rotating disk, cam drive, select no longer is reset when the current location as the starting point, logic is reset back to 0 position and then reset back and forth. Z reset reset back and forth is completed using servo z signal reset again. 4) reset directions: when setting this parameter determines to teach before motor sport direction and holding motor manual button on the box in the same direction. 5) enter the origin port: specify the origin corresponds to the sensor input port (default XYZABC axis corresponding to the input 0, 1, 2, 3, 17, 18). 6) switch active: check the origin of the effective level in a hardware test, when the motor is not in the original point, if the origin of the corresponding input signal level at the end of, the origin of the effective level of high, and vice versa for the bottom level. 7) limit using the origin: the running process using the origin of the detection limit. 8) using positive and negative limit mode: set which limit effective as needed. 9) limit switch active: in the effective level of hardware tests to check the limit, when the motor is not at the limit, if the corresponding limit for the bottom level of the input signal, limiting the effective level of high, and vice versa for the bottom level. To restart the controller after the parameter changes to take effect. 10) software-negative limit: it can affect teaching graphic interface range and motor sport to the area, if not predetermine the effective movement of the motor, can enter the file editor to manually control the motor moves,and then by looking at the coordinates to determine the effective movement of the motor. 11) maximum speed: maximum speed of step motor at 15 revolutions per second,s

	ervo motor maximum speed at 50 cycles/second, the actual value to be tested to determine. 12) servo alarm input: servo alarm input signal 13) servo alarm level: servo motor alarms active 14) location: whether positioning action 15) is consistent with the Cartesian coordinate system: motor operation the positive and negative direction is consistent with the Cartesian coordinates Support guidance: whether a corresponding axis guidance into command parameters 16)Support guidance: whether a corresponding axis guidance into command parameters

7.12 output port configuration

— — >System parameter interface — — >Press 【 F5 port settings 】 F5 — — >select "output port configuration"——>



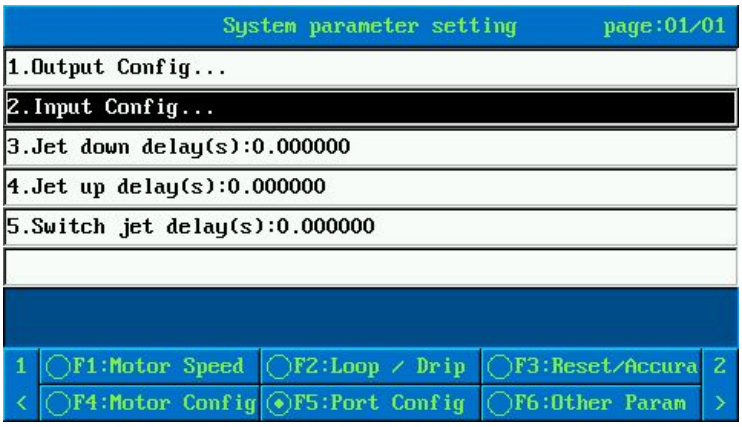


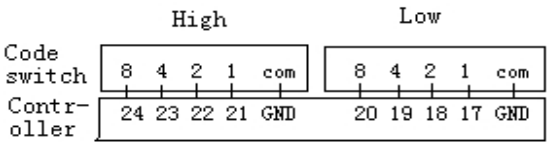
Parameter	Function description
Output port configuration	※ Note: the output corresponds to the port number that can be set, it is set to-1 to turn off this feature. 1) run indicates that port: Epoxy program is stopped or when the output

	signal low level, the run time output high 2) alarm indicates that the port: indicates the parameter sets the exception status 3) cylinder stick gun output: cylinder into the gun when you need to configure this parameter, if set to-1. 4) emergency stop output: after the emergency stop button is pressed, the signal output high, wait until the reset output low again, this signal can be used to lock the shaft 5) reset completed output: motor output high after a reset, press thee mergency stop signal output after the low level 6) stops output: the signal output high when the motor is in the stop position, moving the output low. 7) motor: motor control ports 8) glue gun switch 1-8 output: glue gun 1-8 opens and closes Glue gun-for-gun 1-8 output: glue gun 1-8 gun signals

7.13 Input port configuration

——>System parameter interface——>Press【F5 Port setting】F5——>elect “Input port configuration”——>



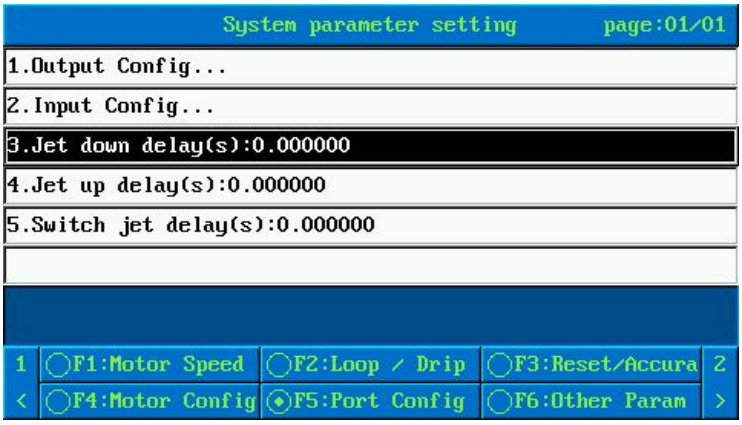
Parameter	Function description
Input port configuration	※ Note: common input corresponds to the port number that can be set, it is set to-1 to turn off this feature 1) start: an external start button port 2) reset: an external reset button port 3) suspended: an external pause button port 4) single-step button: the button to perform a single step process 5) external alarm input: when this signal is low level, stop processing and alarm output. 6) pin buttons add-ins: the XY movements when the button is pressed for the first time to the needle position, again within 3 seconds press the z axis while moving to the needle position. 7) back to the stop button: movement when the button is pressed the epoxy to set position (set in the file parameter) 8) recycling toggle button: this button is pressed in the processing loop,lift it into a single State. 9) external glue gun control button: manual switch control 10) BCD dial switch input the starting point: the BCD8421 of two dips witches can be used to select the file, two continuous dip switch occupiesa total of 8 input, for example enter starting point 17, the wiring is as follows:  11) into gun signal: when using a cylinder into the gun, the corresponding signal into a gun. 12) back signal to the gun: when using a cylinder into the gun, the corresponding back signal to the gun. 13) retreat gun signal active low level or high level 14) glue gun to shoot eight signal: If you use a glue gun in the open when the signals detect the signal is valid until the signal is valid only for further action. 15) glue gun to eight levels a gun signal: If you use a glue gun when closing the signals will detect the signal is valid until the signal is valid only for further action. 16) glue gun switch signal active low level or high level 17) glue gun one to eight for the gun into the signal: when using more than one glue gun in a plastic, the gun moves into the gun detects the signal is valid until the signal is valid only for further action. 18) glue gun a signal back to eight-for-gun: plastic drop when you use more than one glue gun, the gun moves back when the gun detects the signal is valid until the signal is valid only for further action. 19) glue gun-for-gun signal active low level or high level

	20) 1-8 start signal: on multiple layered glue gun plastic operation, use one of the designated start signal to select the separate processing layer,glue gun layer selected settings in the file parameters "tier set where the glue gun". 21) stop button effective power: external active stop button is pressed(fixed stop button input ports, 13th)

7.14 Retreat for the gun time delay parameters

———>System parameter interface———>Press【F5 Port setting】 

———>  Enter the parameter ——>

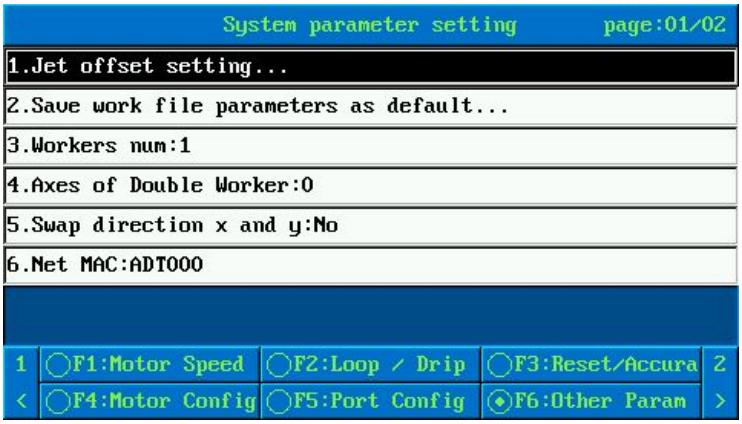


Parameter	Function description
Return gun delayed	1)delay, shot back delay: If "output port configuration" in the "advance and retreat of the cylinder output" set to a non-negative number, delay and delay back into a gun becomes valid. Limits the cylinder together with the retreat gun signal retreat gun action, waiting to stick guns in place signals and waiting time less than the set delay time before the next advance and retreat of a gun. 2)Gun time delay: cylinders for the gun to the time required to complete gun.

7.15 glue gun offset setting

———>System parameter interface———>Press【F6 other parameter】 

———>  Enter the parameter——>

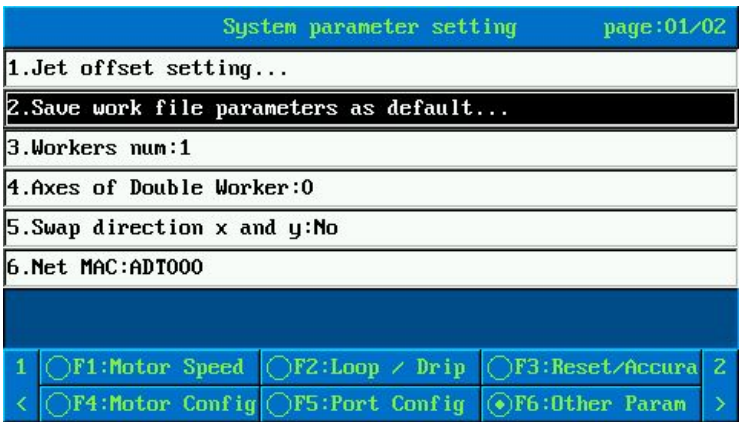


Glue gun offset: eight relative position deviation of the glue gun, which function to set the position error.

7.16 Set file parameters default values

——>System parameter interface——>Press【F6 other parameter】 

——>  Enter the parameter——>



Saves the current processing file parameters to their default values:default values is saved as a new file.

7.17 Passwords Managements

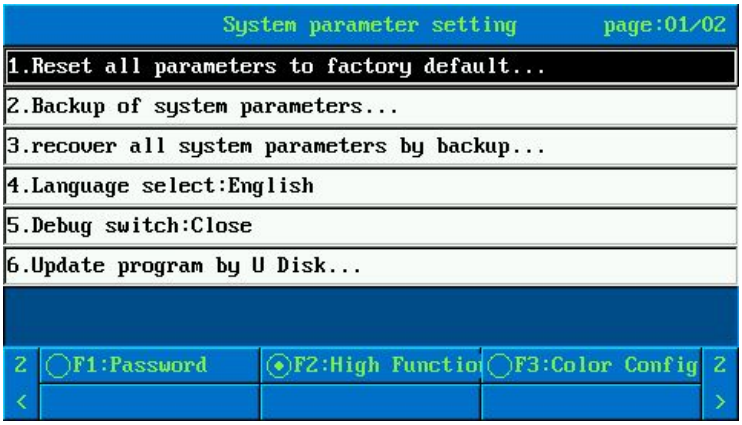
——>System parameter interface——>Press function key  into function menu——>【F1Passwords managements】 

——>

Parameter	Function description
Passwords managements	Can set vendor parameter password and administrator password, first level, two level, three level password. The password level by high in the end is: vendor parameter password, password, password, three level password, system parameter settings and file management requires two password, text file conversion requires two password, PLT file conversion requires two password.

7.18 Backup and initialization function

——>System parameter interface——>Press function key  into function menu——>【F2 Advance function】  ——>



Parameter	Function description
Advance	1) Restore the parameters to the factory value: restore the system parameters to

function	the factory settings default 2) Backup system parameters: the current system parameters for backup 3) Restore the system parameters of the backup: restore the original system parameters 4) Language choice: Currently there are two ways in Chinese and English; 5) Debug switch: used in serial port Print debug information (engineering debug personnel 6) U Disk update program: TV5600 handheld box insert U disk, can complete the packing list u update placed two folder, a file named "motion" placed controller application "adtrom.bin"; another file called "Gui" placed handheld box applications adtrom.bin. Update step hand box that can be completed in accordance with.

7.19 User trial setting function

——>Under the system parameter interface——>According to function keys  function menu——>

【F2 advanced features】  ——>  Enter the parameter

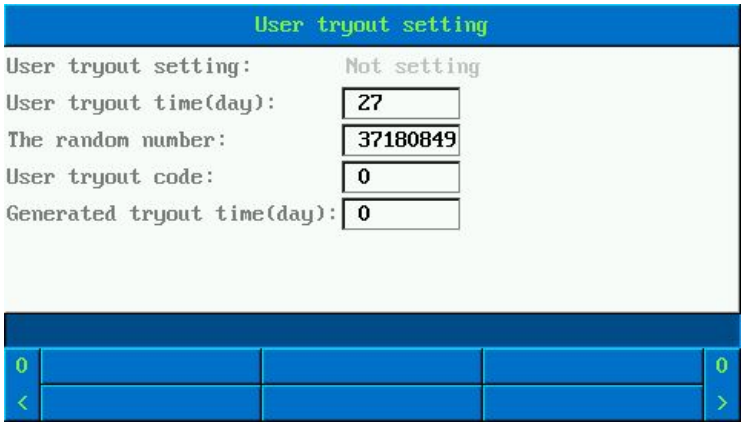
Set user trial password：

1.Through computer corner “start” -> “all program” -> “accessories” -> “calculator” lock t he randomly generated code and code 12345678 first as ^ exclusive or operation, I will set the number of days with you exclusive or operation again (do not use the probation functionalityd-ays is zero), it is concluded that the number of from right to left to fill in the user deadline generated code box, enter only eight, eight back fill enough 0 (exclusive or key is Xor key).

Note: 1, the probation period, 1 day, for example: 21201168 12345678 ^ ^ 1 = 33546335, enter the number 5 3364533.

2.Use button  move to “The user deadline generated code”， need to press  after waiting for input box black can be input.

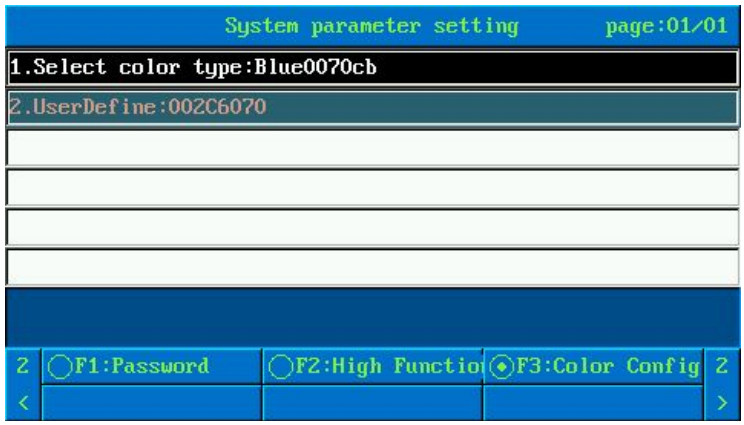
3.Set after a successful reboot the controller, and once again into the interface, according to the following figure, at this point the user deadline set success, users use period is " user deadline" box shows the time.



Remove users probation password just locked interface shows the generated code and code 1234 5678 for ^ exclusive or operation, it is concluded that the number of from right to left to fill i nto the remove password box, enter only eight, eight bit behind fill enough 0, which lifted the user trial password.

7.20 interface color settings

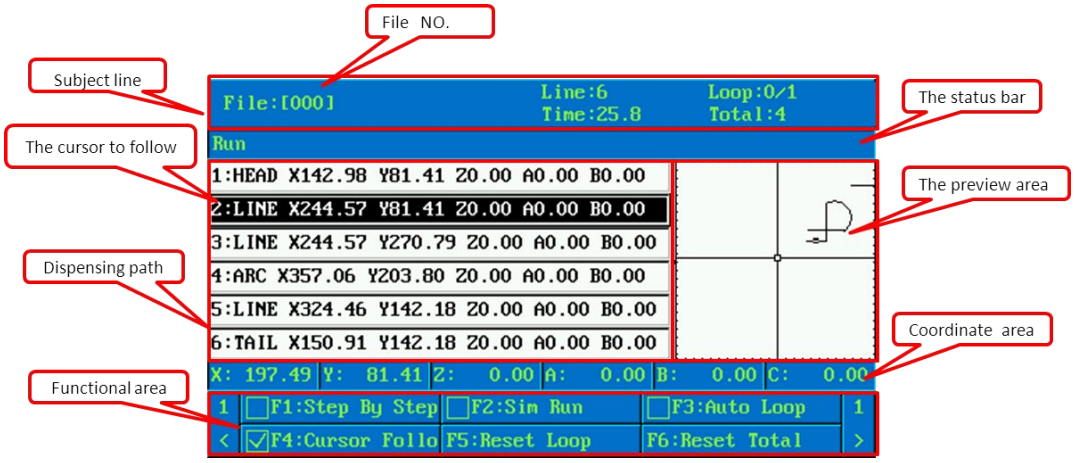
1、——>System parameter interface——>Press function key  into function menu——>【F3 Color setting】  ——>



Interface color choices: select an existing color or custom color.

Chapter 8
Monitor Operation

Before we have completed resetting,dispensing path editing ,system setting ,file parameter setting,the next step is to monitor operation ,observe the actual physical effect——>Press【Monitor/Edit】button——>enter into Monitoring interface (if wrong ,press again)——>



Parameter	Function description
File No.	“File[000]”show current file is 0
Processing duration	Show current program by completion of processing time
Error Code	Current Errors like “err=21”， Specific please see the appendix "error code list"
Batch production	"/" in front of the digital representation the number of products that have already been processed, "/" behind the digital representation the number of planned production.
total output	Show the current processing volume
No.of lines	Show the current file instruction number.
Prompt information	Content includes current work state and system error, the current working state has a "run" "stop" "pause" "reset" "cycle" state "glue" and so on.
F1single step process	checked single-step processing mode, this mode only run a programming each time you press the start button
F2 chip forbidden	Checked，chip forbidden
F3circular	Checked， circular processing mode,note need to set the cycle index in file

processing	parameter setting
F4 cursor follow	checked， when processing, the cursor to edit point with the current processing (instruction)
F5 batch production reset	After pressing，delete all circulation processing batch production to 0
F6 total output reset	After pressing,delete total current output

Chapter 9
Notes and maintenance

9.01 Note

- Security aspects of attention：
  a) Do not open the case without permission.
  b) When the controller is not used for a long time, please cut off the power supply.
  c) Special attention should not be made to dust, iron powder into the controller.
  d) Be careful when carrying, don't pay attention to don't cause controller damage.
- Correct use of attention:

  a) The use of the wrong way can lead to abnormal operation, the worst case and even damage the controller.
  b) Check the power supply controller meets the requirements, put an end to burn out.
  c) The life of the controller has a great relationship with the ambient temperature. If the temperature is too high, the cooling fan can be installed, and the temperature range of the controller is allowed to be between 0 and -60.
  e) Avoid using in the environment of high temperature, humidity, dust or corrosive gas.
  f) In the strong vibration of the place, should be added to the rubber buffer cushion.
- Correct operation of attention：
  a) If the file is not saved after being modified, the upper left corner will have a "*" prompt, you can save the file.
  b) After the transformation of the PLT file generated by the DJJ processing file, will generate an empty command at the beginning and end of the command statement, it is recommended to manually delete, so as not to affect the processing.

c) In the case of the edit file, the external shortcut selection file and the processing switch failure,

d) Manual control of the main interface under the control of the shaft movement.

e) Soldering gun position signal, soldering gun delay parameters, in cylinder retreat before the effective gun signal is effective

f) Pay attention to the monitor interface and edit interface, the monitor interface can only see the programming point can not be edited.

9.02 Maintenance

Matters for attention during maintenance and inspection：

a) To begin with the main circuit of the power supply and then carry out the maintenance of the controller.

b) The operator must be sure that the power has been completely disconnected, to prevent accidents.

Check items and cycles：

Under the general conditions of use (environmental conditions: 30 degrees Celsius, the load rate of 12, the operating rate of 80% hours per day), please press the following items for daily inspection and regular inspection.

Daily check	Daily	● Confirmation of ambient temperature, temperature, dust foreign body ● There is no abnormal vibration, sound 通风孔有 Without being plugged yarn
Regular check 查	1 years	● Loose parts are loose ● Terminal damage

Chapter 10
Common failure analysis

System common faults and solutions are as follows, please refer to：

1) The normal condition of the system is that the Power lamp is bright, the ADT-8830/8848 of the LED0 or the Run of the ADT8860 is normal, and the program is abnormal or the software is not activated.

2) To load system parameters=-27 Failed, which shows that the controller is not connected with the hand-held box, or the controller and the hand-held box procedures do not match, please check the software version, and check whether the wiring is strong, if the connection is damaged, please contact the supplier.

3) If the manual is reversing the motor, the motor will only take one direction, the motor line direction may not be connected, please check the line.

4) If the manual motor, the motor does not move and in the "processing interface" axis coordinates have been changed, the motor line is a problem, please check the line.

5) If the system reset, reset failed, please determine whether the reset signal is present and whether the level is set correctly.

6) If the system is reset, reset fails, it reduces the reset acceleration time, increase the low speed.

7) If the system is reset, reset the direction is wrong, then set the reset direction in the motor characteristic parameters.

8) If the system is processed, the time shift is too large or the motor is out of step.

9) If the system goes on track, the litter is too large or the motor is lost, then the acceleration of the trajectory is reduced.

Appendix I: System error code definition list

Error code	Error message	Error code	Error message
15	Linear instruction error	51	The file number for the current instruction is in error
16	Circular error	52	Number of calls to exceed the limit
17	Ellipse instruction error	53	Error file loading
18	No end instruction	54	Label weight definition
19	No starting instruction	55	Unknown error
20	Circular arc instruction is short of arc end	56	Cross-border instruction
21	The ellipse is short of an ellipse	128	Real time clock fault
22	Circular arc instruction cannot form an arc	129	Press stop button press
23	Ellipse instruction error	130	Probation period expires
24	Non normal stop	131	Parameter setting error
25	Spline curve point is too little	132	Alarm input
32	X axis is out of the forward stroke	133	Error updating program
33	Y axis is out of the forward stroke	144	X axis forward limit
34	Z axis is out of the forward stroke	145	Y axis forward limit
35	A axis is out of the forward stroke	146	Z axis forward limit
36	B axis is out of the forward stroke	147	A axis forward limit
37	C axis is out of the forward stroke	148	B axis forward limit
40	X axis is beyond the negative direction	149	C axis forward limit

41	Y axis is beyond the negative direction	152	X axis negative limit
42	Z axis is beyond the negative direction	153	Y axis negative limit
43	A axis is beyond the negative direction	154	Z axis negative limit
44	B axis is beyond the negative direction	155	A axis negative limit
45	C axis is beyond the negative direction	156	B axis negative limit
48	Gets the current instruction label address error	157	C axis negative limit
49	The number of tags defined exceeds the upper limit	160	Error processing file loading
50	Coordinate system number beyond the maximum number	161	LUA script error

Appendix II：Processing instruction list

Instruction ID	Instruction name	command function
1	Head	Other than the Z axis is set to the starting point, and then the Z axis is reduced to the starting point and the rubber valve is opened. 1) XYZABC coordinates: axis coordinates 2) XYZABC enable: whether the axis is involved in the movement 3) Instruction execution: if this programming point (processing instruction) is executed in the process 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used. 6) Open mode: default lag lag time parameter is used in the open file, or use the following set time. 7) The lag time lag model for plastic: Plastic hysteresis model, use this time, and this value is meaningless. 8) Ahead of time: delay model for glue glue advance mode, use this time, and this value is meaningless.
2	End	XYZ movement to the end, the closure of the plastic valve, Z axis to lift the needle height.

		1) XYZABC coordinates: axis coordinates 2) XYZABC enable: whether the axis is involved in the movement 3) Instruction execution: if this programming point (processing instruction) is executed in the process 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used. 6) Use the default in advance to close the glue distance: the election is the use of the file parameters in advance of the gun distance, the selection of the following in advance of the use of the following 7) In advance of the distance: the value is not used when the default value is not used, this value is meaningful 8) The default is to lift the needle height: the choice is to use the file parameters in the height of the needle, or use the following lift needle height 9) Lift pin height: when the default value is not used, the value is significant
3	Straight line	1) XYZ moves to the specified position in a straight line interpolation, and the other axis follows the movement to the specified position. 2) XYZABC coordinates: axis coordinates 3) XYZABC enable: whether the axis is involved in the movement 4) Instruction execution: if this programming point (processing instruction) is executed in the process 5) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 6) Speed ratio (%): this value is meaningful only if the default value is not used.
4	Single point	In addition to the Z axis of the other axis first to single point position, and Z axis down to the starting position and open the valve rubber, delay specified dispensing time off after the rubber valve, Z axis came to lift needle height. 1) XYZABC coordinates: axis coordinates 2) XYZABC enable: whether the axis is involved in the movement 3) Instruction execution: if this programming point (processing instruction) is executed in the process 4) Use the default speed: the selection is running at a speed that is

		set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used. 6) Open mode: default lag lag time parameter is used in the open file, or use the following set time 7) The lag time lag model for plastic: Plastic hysteresis model, use this time, and this value is meaningless 8) Ahead of time: delay model for glue glue advance mode, use this time, and this value is meaningless 9) The default is to lift the needle height: the choice is to use the file parameters in the height of the needle, or use the following lift needle height 10) Lift pin height: when the default value is not used, the value is significant 11) Default single point of time: the selection is the use of the file parameters in a single point of time, or use the following single point 12) Single point time: when the default value is not used, the value is meaningful
5	Clockwise Arc	XYZ to specify the location of the circular arc interpolation, the need to give the radius of the circular, the end point, other axis synchronization to follow the movement to the specified position. 1) Arc type: arc size. 2) Arc in the plane: determine the circular interpolation axis. 3) Radius of circular arc. 4) Instruction execution: if this programming point (processing instruction) is executed in the process.
6	Counterclockwise Arc	XYZ to specify the location of the circular arc interpolation, the need to give the radius of the circular, the end point, other axis synchronization to follow the movement to the specified position. 1) Arc type: arc size. 2) Arc in the plane: determine the circular interpolation axis. 3) Radius of circular arc. 4) Instruction execution: if this programming point (processing instruction) is executed in the process.
7	Arc	XYZ the way of circular interpolation by a point to reach the specified point, the other axis synchronous motion to the specified position. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process.

8	The whole circle	XYZ in the way of circular interpolation to go back to the starting point of two points, the other axis synchronization to follow the movement to the specified position. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process.
9	Arc end	Specify the end point of the three point circular interpolation. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process. 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used.
10	Clockwise ellipse	XYZ to shun the elliptical arc interpolation movement to the designated location, are given for elliptical long axis and short axis of the radius, the coordinates of the center, end coordinates, the other axis synchronous follow the movement to the specified location. 1) Ellipse in the plane: ellipse interpolation axis. 2) The center coordinates of 1 elliptical plane: first axis coordinates. 3) The center coordinates of 2 elliptical plane: second axis coordinates. 4) The radius of the ellipse is 1: the plane of the ellipse is first axis radius. 5) The radius of the ellipse is 2: the plane of the ellipse is second axis radius. 6) Instruction execution: if this programming point (processing instruction) is executed in the process.
11	Counter clockwise	XYZ to inverse interpolation of ellipse arc movement to the designated location, need to give elliptic segment of the radius of the shaft, the coordinates of the center, end coordinates, the other axis synchronous follow the movement to the specified location. 1) Ellipse in the plane: ellipse interpolation axis. 2) The center coordinates of 1 elliptical plane: first axis coordinates. 3) The center coordinates of 2 elliptical plane: second axis coordinates.

		4) The radius of the ellipse is 1: the plane of the ellipse is first axis radius. 5) The radius of the ellipse is 2: the plane of the ellipse is second axis radius. Instruction execution: if this programming point (processing instruction) is executed in the process.
12	Oval end	Specify the end point of an ellipse. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process. 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used.
13	Empty shift	Each axis moves to the specified position with an empty motion velocity. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. 5) Speed ratio (%): this value is meaningful only if the default value is not used.
14	User single point instruction	Motor movement is similar to IT_POINT, but the XYZ is not open to open the valve, but the user defined script function, the name of the script function is fixed to user_xxx and check_user_xxx where XXX represents the specified script number.See in detail 《OMC series development manual》
16	Spline	Motion to the specified position with the interpolation method of Bessel spline curve. 1) XYZABC coordinates: axis coordinates. 2) XYZABC enable: whether the axis is involved in the movement. 3) Instruction execution: if this programming point (processing instruction) is executed in the process. 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio.

		5) Speed ratio (%): this value is meaningful only if the default value is not used.
17	Spline end	The end of the Bessel curve. 1) XYZABC coordinates: axis coordinates 2) XYZABC enable: whether the axis is involved in the movement 3) Instruction execution: if this programming point (processing instruction) is executed in the process 4) Use the default speed: the selection is running at a speed that is set in the file parameter, and the speed is run at the speed that is set up by the use of the following speed ratio. Speed ratio (%): this value is meaningful only if the default value is not used.
32	Motor reset	The specified axis is reset. 1) XYZABC reset: set reset shaft. 2) Instruction execution: if this programming point (processing instruction) is executed in the process.
48	Port output	Specified port output level. 1) Port number: port of control output. 2) Output value: open or close the port. 3) Output time: port output this time after the action is completed. 4) Instruction execution: if this programming point (processing instruction) is executed in the process.
49	Wait for input	The next step is to wait for the specified input port to perform the next action as an offline instruction can specify a jump to the specified tag and can set the waiting time. 1) Port number: Port waiting for the input. 2) Waiting value: high or low. 3) Waiting time: waiting for the time.0 to express unlimited wait, the non 0 said it was waiting for the time to jump to the following label. 4) Timeout jump label: jump to the label after timeout. 5) Instruction execution: if this programming point (processing instruction) is executed in the process.
50	Time delay	Delay time, set to 0, said the suspension processing, until again press the start button. 1) Delay time: at the beginning of this instruction, time delay. 2) Instruction execution: if this programming point (processing instruction) is executed in the process
51	Select plastic gun	Select the specified glue gun for processing. 1) 1 ~ 8 glue gun is involved in dispensing. 2) Instruction execution: if this programming point (processing instruction) is executed in the process.

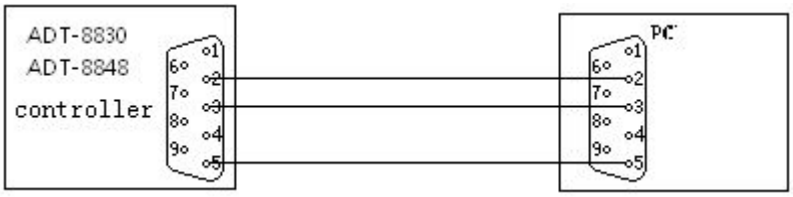
52	Glue gun control	Control the specified plastic valve to open or close. 1) Open or close the glue gun. 2) Instruction execution: if this programming point (processing instruction) is executed in the process.
53	User defined instruction	Call the specified script function, you can specify the tag after the execution is completed, the script function name is fixed to user_xxx and check_user_xxx where XXX represents the specified script number,See in detail《OMC series development manual》.
57	User defined instruction 2	Call the specified script function, the script function name is fixed to user_xxx and check_user_xxx where XXX represents the specified script number，See in detail《OMC series development manual》
128	Definition tags	The program calls or programs that need to be used to jump 1) Tag name: define the name of the tag 2) Instruction execution: if this programming point (processing instruction) is executed in the process
129	Set track speed	Set track processing speed 1) Set speed: set the track processing speed 2) Instruction execution: if this programming point (processing instruction) is executed in the process
130	Processing end	Stop instruction parsing, waiting for all instructions to execute.
160	Set offset	Set coordinate offset 1) XYZABC offset: set the offset of the XYZABC after the instruction 2) XYZABC enable: whether the axis is involved in the offset 3) Instruction execution: if this programming point (processing instruction) is executed in the process
161	Increase offset	Set to a positive value for the offset, and the offset is reduced 1) XYZABC offset: set the increase or decrease of the XYZABC axis offset. 2) XYZABC enable: whether the axis is involved in the offset. Instruction execution: if this programming point (processing instruction) is executed in the process.
162	Set reference point	The reference point is only used as a marker, and can't be used to make a position. 1) XYZABC coordinates: axis coordinates 2) XYZABC enable: if the axis is valid 3) Instruction execution: if this programming point (processing instruction) is executed in the process
163	Set the starting point	Set the starting point of the call to set the starting point to start the movement, to resume the original starting point to use the cancel starting point to set up the starting point. 1) XYZABC coordinates: axis coordinates 2) XYZABC enable: if the axis is valid

		3) Instruction execution: if this programming point (processing instruction) is executed in the process
164	radius of turn	The function can be used to modify the radius of the rotating shaft of a plastic gun.
167	Cancel starting point	Cancel the starting point for setting up the starting point for setting the starting point
208	User coordinate system	The processing procedure can be converted to a coordinate system, using the instruction to switch, up to 255 coordinate system.
224	Procedure call	Call between two tags, the number of calls can be set 1) Call this file: check that the call is to call this file label, or call the following file label 2) Call file number: the number value of the file is significant when the above check 3) Call number: the number of times the two tags are executed directly 4) Start tag: the jump to the program call starts at the beginning of the label. 5) End of the label: the program is executed to the end of the call. 6) Instruction execution: if this programming point (processing instruction) is executed in the process
225	File call	Call the specified file between the two procedures, the label is not specified to call the entire file, can set the number of calls
226	Jump label	Jump to the specified label 1) Tag name: the program jumps to the label name. 2) Instruction execution: if this programming point (processing instruction) is executed in the process
227	User defined call	All the moving instructions are converted to a IT_USER_PT instruction and then executed, and the non movement instruction does not translate.
64-95	User defined instruction	The instruction within the scope is open to the customer's own definition of use, the execution will call the corresponding script function execution, the name is fixed to command_xxx and check_command_xxx in which XXX represents the ID value of the instruction,See in detail《OMC series development manual》, Instruction within the range of instructions to allow for.
96-127	User defined instruction	The instruction within the scope is open to the customer's own definition of use, the execution will call the corresponding script function execution, the name is fixed to command_xxx and check_command_xxx in which XXX represents the ID value of the instruction,See in detail《OMC series development manual》, The instruction within the range is not to be taught, and the location is not.

Appendix III： ADT-8830/8848Program update method

① The serial port controller and PC connection

The controller connected to the PC serial port lines sequence diagram is as follows：



Without, but PC computer generally without a 9-pin serial interface, the need to insert a USB t o turn on the computer serial port, and then connect the controller. Worth to remind is turn the USB serial port is 9 needle head, while the controller is also a 9-pin male head, between the need to another female head of female head ofthe wiring.

Attention：Turn the USB serial connected to the computer after, need to drive, the computer can identify the device.Can be in the “my computer”-- --administration-- --device manager to see

② The controller and PC connected with USB cable

As shown above, the controller through the product comes with USB cable, connect the PC. U SB cable type D head controller, flat mouth after PC USB port.

Open the serial debugging assistants (online download) to update the program

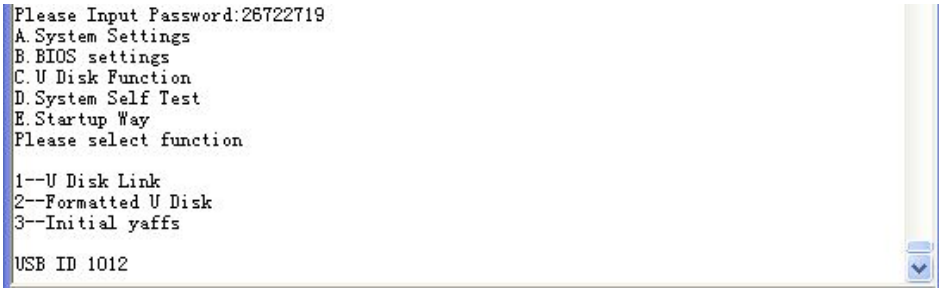
Step1：Open the serial debugging assistant software, set the parameters. Select connected to the controller serial number, set the baud rate to 115200, set up data bits of 8, set the stop bit is 1, inspection to None.

Step 2: open the serial port. Click to open the serial keys to open the serial port, after the suc cess of the open goes on, if a serial port are occupied by the other software or computer do n ot have a serial port will be an error.

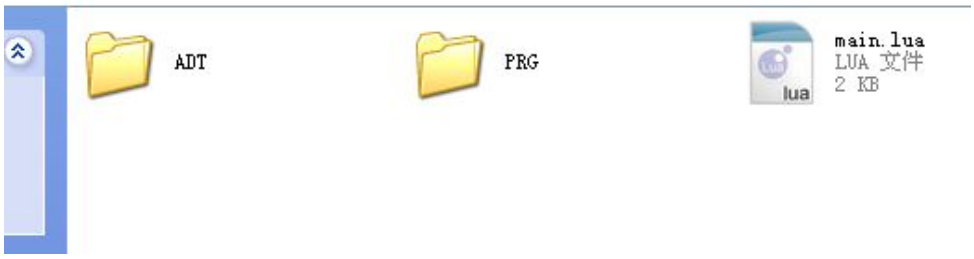
Step 3: the controller is powered on restart, serial port will be controller hardware information and controller of the original application information, if not, explain the selected wrong serial p ort or serial port connection has a problem

Step 4: step 3 normal after the selected serial debugging tools, and restart the controller, electri city within 1 second of press "ESC" key on the computer keyboard, enter the password 267227 19 to enter the BIOS interface:

Step 5: a computer keyboard press the "C" selected "U disk function", and then continue to pre ss the keyboard "1", perform the function of usb connection, as shown in figure.

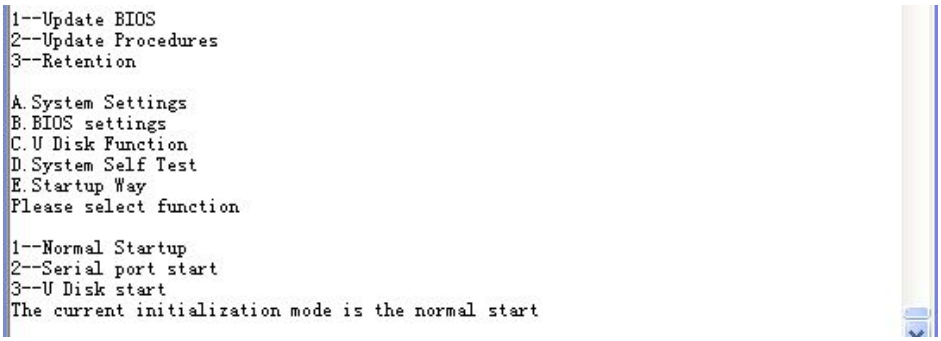


Step 6: after execution, the controller on the computer to display a U disk, the client (file nam e: adtrom. Bin) is copied to the controller through a computer "\ ADT \" directory.



Step 7: by ESC to return to the main menu, according to clew to choose "b. set BIOS" (" 2. To update the program.

Step 8: update is complete, press ESC to return to the main menu, according to clew to view "e. startup mode" is "normal" start if not set to normal boot. Complete update after restart the controller program updates.

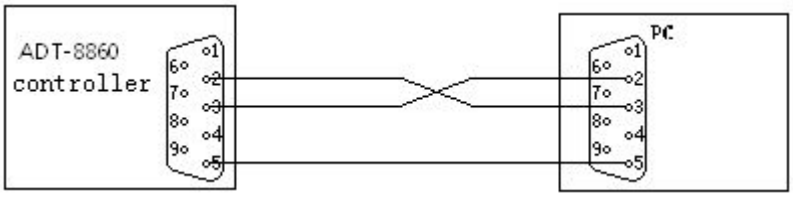


Step 9: restart the controller, and view controller output application information (item number and version) is correct.

Appendix IV： ADT-8860 program update method

① The serial port controller and PC connection

Controller is connected to the PC serial port lines sequence diagram is as follows (note the diff erence between the ADT - 8830 / / 8848 a serial port cable, 23 order to cross line) :



But without a desktop notebook，Computer generally no 9-pin serial interface.

- Need to insert a USB to turn on the computer serial port, then the connection is the controller.Worth to remind is turn the USB serial port is 9 needle head, while the controller is also a 9-pin male head, between the need to another female head of female head of the wiring.
- Attention：Turn the USB serial port connected to the computer after, need to drive, the computer can identify the device. Can be in the “my computer”-- --administration-- --device manager to see.

② The controller and PC connected with USB cable

As shown above, the controller through the product comes with USB cable, connect the PC. USB cable type D head controller, flat mouth after PC USB port.

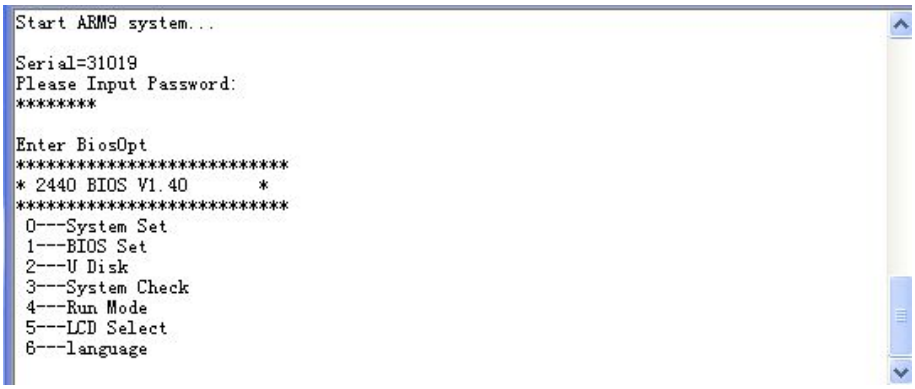
Open the serial debugging assistants (online download) to update the program

Step 1: open the serial debugging assistant software, set the parameters. Select connected to the controller serial number, set the baud rate to 115200, set up data bits of 8, set the stop bit is 1, inspection to None.

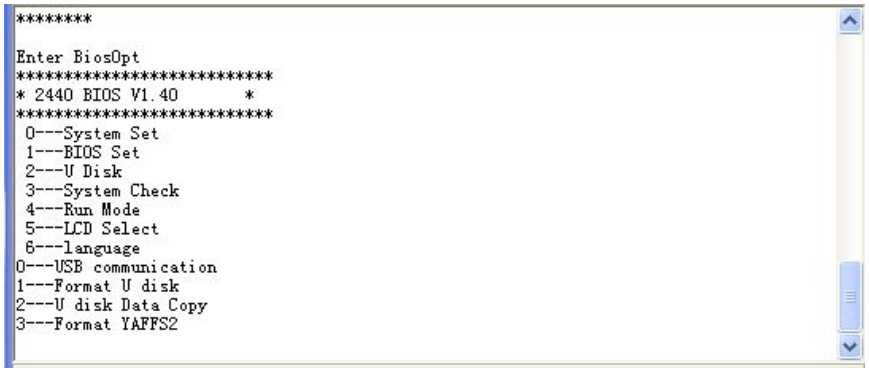
Step 2: open the serial port. Click to open the serial keys to open the serial port, after the suc cess of the open goes on, if a serial port are occupied by the other software or computer do n ot have a serial port will be an error.

Step 3: the controller is powered on restart, serial port will be controller hardware information and controller of the original application information, if not, explain the selected wrong serial p ort or serial port connection has a problem.

Step 4: step 3 normal after the selected serial debugging tools, and restart the controller, electri city within 1 second of press "ESC" key on the computer keyboard, enter the password 267227 19 to enter the BIOS interface:

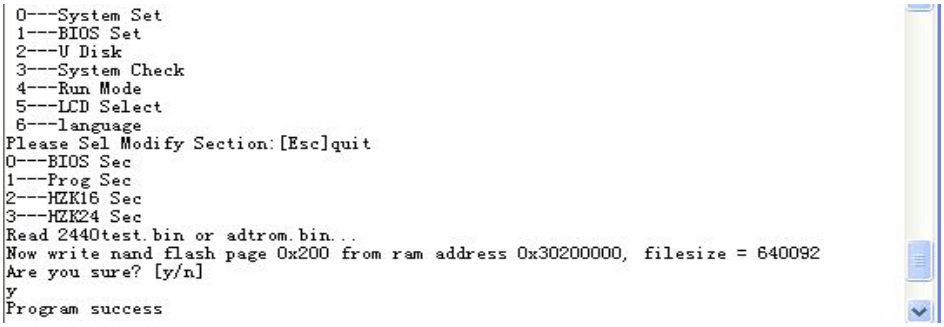


Step 5: a computer keyboard press "2" selected "U disk operation", and then continue to press the keyboard "0", implement the "USB communication" function, as shown in figure.

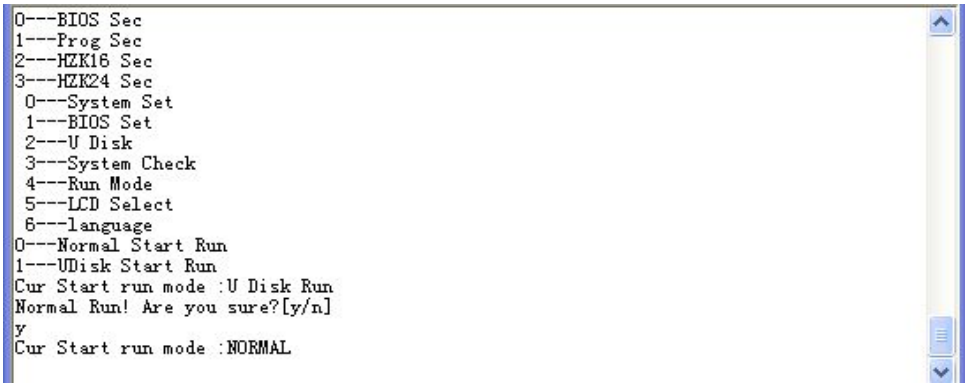


Step 6: after execution, the controller on the computer to display a U disk, the client (file nam e: adtrom. Bin) is copied to the controller through a computer "\ ADT \" directory.

Step 7: by ESC to return to the main menu, according to clew to choose "1 - set the BIOS" (" 1 -- program area ".



Step 8: update is complete, press ESC to return to the main menu, according to clew to see "4 - startup mode" is "normal" start if not set to normal boot. Complete update after restart the c ontroller program updates.



Step 9: restart the controller, and view controller output application information (item number a nd version) is correct.

Appendix V： TV5600 Holding a box program update method

① **Update TV5600 through computer**

——>Use TV5600 "D" USB interface connected to the computer USB interface.Restart the controller，Electricity within 1 second of press 【ESC】 

key 1 to 2 seconds.

——>Enter the password 26722719 to enter the BIOS interface，By selecting "2 - U disk operation"——>“0—USB communication”，TV5600 at this time as a U disk connected to the computer，——>Can be TV5600 client (adtrom. Bin) is copied to the controller through a computer "\ADT \" directory——>Press the【ESC】button 

go back to BIOS interface.——>Press the【ESC】button 

go back to BIOS interface.——>By selecting "1 - the BIOS Setting".——>By selecting "1 - program area".——>Press the【Enter】button 

Determine the update——>Update holding a box——>Restart the handhold box.

Appendix VI： Holding a box of U disk to update the program method

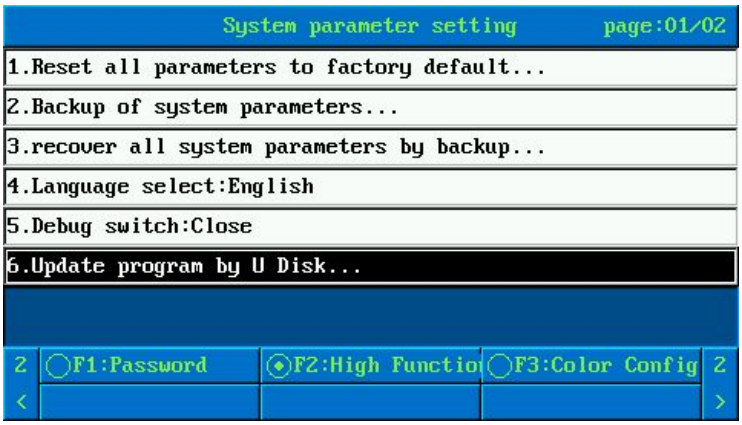
① U disk was admitted to program files inside

U packing directory placed two folders, a folder named "motion", the controller application "adtrom. Bin"; Another folder named "GUI", where "adtrom. Bin" holding a box applications. A nd then insert U disk on the handheld box TV5600.

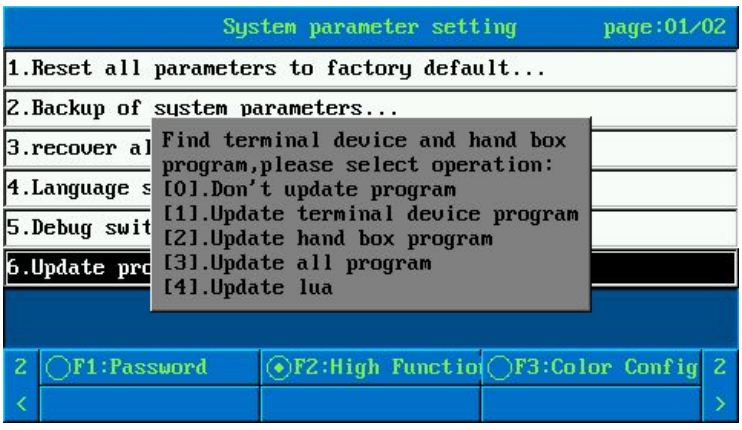
② Update program

———>Under the system parameter interface——>According to the function keys  Flip function menu——>【F2 Advanced Functions】  ——>

——>Press  Enter the parameters“U disk to update the program...”——>

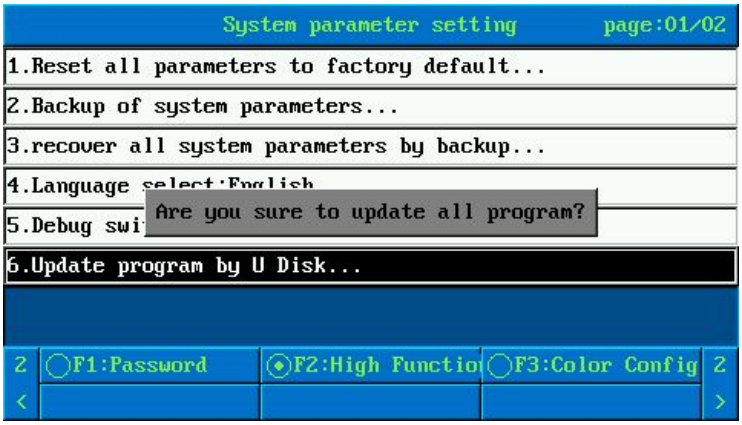


——>Press【ENTER】button  ——>System testing U disk，Then appeared the following updates：



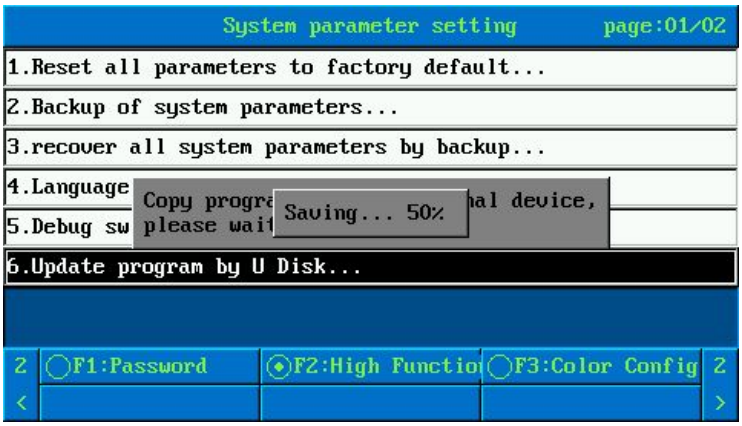
——>Press【3】button 

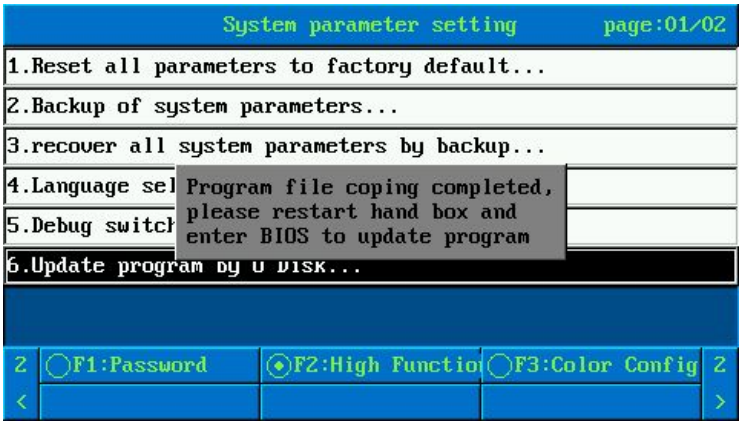
——>Choice for holding a box and controller update：



——>Press 【ENTRE】button 

——>System upgrade to holding a box and the controller：





——>Controller update is complete，Holding a box to enter BIOS refresh program：

① **Into the holding a box of BIOS update carrying a box:**

——>Restart the controller，Within 1 second press on electricity【Cancel】button 

1 to 2 seconds，

——>Enter the password 26722719 to enter the BIOS interface——>By choosing"1 - the BIOS Settings" ——>By selecting the "1 - application area"——>Press 【ENTER】button 

Dete rmine the update——>Update holding a box——>Restart the handhold box.

② **Check the program version**

——>Holding a box of press【Diagnose】 

The key of diagnosis into the interface——>Then press the【F4】 

button，Version information into the interface，The following figure：