ADT-TV5500DJ

Three-axis Dispenser Control System

User Manual

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Adtech (Shenzhen) CNC Technology Co., Ltd
Version Upgrading Instruction

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Version Number</th>
<th>Modification Date</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>XT20101228</td>
<td>V2.0</td>
<td>2011-1-10</td>
<td>The First Version</td>
</tr>
</tbody>
</table>

Remarks: the meanings of the three codes in the version number are as follows:

Main Version Number/ Secondary Version Number/ Reservation

Remark:
1. This manual has been strictly carried out carefully and checked the collation by Adtech (Shenzhen) CNC Technology Co., Ltd, but we cannot guarantee that this manual has no errors and frequent.
2. Adtech (Shenzhen) CNC Technology Co., Ltd is committed to continuous improvement of product functions; improve service quality, therefore, reserves the handbook described in any of the products and software programs, as well as the content of this manual to change without prior notice.
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Chapter I  System Overview

TV5500DJ 3-axis dispensing controlling system (TV5500DJ for short) is a separate, 3-dimension, and high precision motion control system consisting of TV5500 handheld box and ADT-8848 Offline Motion Control Card, which are connected in the way of serial communicating. TV5500 performs the operation of human-machine interface, and ADT-8848 performs the motion control and IO interface operations. This system supports 3 motion axes and 8 dispensing output controls, providing users with abundant instruction set, which includes motion instructions such as straight line, circular arc, single point, and oval. In addition, instructions like port output, standby input, delay pause, selecting glue gun, motor reset, file call, offset increase, and program jumping are provided, as well as many other advanced editorial functions, including batch modification, array copy, figure translation, figure zoom, auto fillet, and common figure library. Except inputting coordinates manually and in regulation way, the system also supports importing PC figures. PC figures can be converted to PLT file or G-code files, which will be further converted to processing files of dispensing machine by controller for processing. Each processing file can save 100 thousand processing points. ADT-8848 has a 16M memory, while TV5500 has 128M. This system also supports U disk reading and writing functions, which allow user to read and write the processing files on U disk.

Hardware Features

- Motor axis No.: 3 axes (XYZ)
- Pulse frequency: 2MHz; if the pulse of motor per turn is 25600, the maximum speed can then reach 5000 turn/min
- Numbers of IO interface: 13-line special inputs (XYZ origin, positive & negative limit, start-up, stop, reset and pause key), 22-line general input, 16-line special output (8 glue gun switch controls; 8 glue gun switching controls, can be used as general output when glue gun is not used), and 2-line general output;
- IO input type: OC Isolation input
- IO output type: NPN open collector 5-24VDC, rated current 0.5A; Maximum current of single path can reach 1A.
- Screen pixel of handheld box: 320 X 240, full color
- Key No. of handheld box: 36
- USB Function: Handheld box can be used as USB master and slave equipment; offline card can be used as USB slave.
- Memory space: 128M handheld box, 16M offline card; a processing file can occupy a space of as large as 3M (100 thousand processing points)
- Operating voltage: 24V DC
- Operating temperature: 45°C
- Storage temperature: -40°C — 55°C
- Operating humidity: 40%—80%
- Storage humidity: 0%—95%
Software Features

- Support the line interpolation, and arc interpolation and elliptical arc interpolation of any two axes in the 3-axis space.
- Speed look-ahead algorithm is adopted to smooth the turning speed automatically.
- PC picture import is supported. PLT files and G code files can be imported.
- Feature the delay opening glue-gun and advance closing glue-gun for track, resolving the glue piling at the starting point and the end-point.
- Contain abundant motion instructions and auxiliary instruction sets.
- With user-friendly file instruction and edition functions, offering many advanced editorial functions such as batch modification, array copy, picture translation, picture zoom, and auto fillet; common figure library is provided for users for their convenient use.
- Graphical display function enables to show the shape of graphics in the processing files clearly.
- Processing track is shown in real time dynamically.
- Convenient and swift help system is provided. Help files can be shown by pressing Shift+F1 in any interface.
- Cycle processing, single processing, auto processing, and single step processing are supported.

Fittings List

<table>
<thead>
<tr>
<th>Fitting Name</th>
<th>Model</th>
<th>Qty.</th>
<th>Profile</th>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handheld box</td>
<td>TV5500</td>
<td>1</td>
<td>Human machine interface</td>
<td></td>
</tr>
<tr>
<td>Offline card</td>
<td>ADT-8848</td>
<td>1</td>
<td>Motion and IO control</td>
<td></td>
</tr>
<tr>
<td>Data transmission line</td>
<td>L01-202D9GG1</td>
<td>1</td>
<td>Used for the communication between handheld box and offline card</td>
<td></td>
</tr>
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</table>
Structural Dimensions:

正面视图: Front View
侧面视图: Side View
ADT-8848 结构尺寸图: ADT-8848 Structural Dimensions Chart
正面视图：Front View；
背面视图：Rear View；
侧面视图：Side View；
底部视图：Bottom View；
TV5500 结构尺寸图：TV5500 Structural Dimensions Chart
Keyboard layout

菜单：Menu；启动：Start；停止：Stop；
线：Line；圆：Circular；点：Point；类型：Type；
教导：Regulation
对针/平移：Needle correction/Coordinate Translation
针高/深度：Needle Height/Depth Adjustment
定位/最近：Positioning/Closest Point
插入/复制：Insert/Copy
保存/查找：Save/Search
删除/清空：Delete/Empty
复位：RESET
<table>
<thead>
<tr>
<th>Name</th>
<th>Icon</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function key</td>
<td>![Function Key Icon]</td>
<td>Perform a special function in an interface – the up left one is generally used as Selection and OK, and the up right one is generally used as Cancel and Exit.</td>
</tr>
<tr>
<td>Direction control Key</td>
<td>![Direction Control Key Icon]</td>
<td>1. Control Upward, Downward, Leftward, and Rightward directions; 2. “Menu” key is used as menu options and control folder up.</td>
</tr>
<tr>
<td>Start key</td>
<td>![Start Key Icon]</td>
<td>Perform the start and pause functions</td>
</tr>
<tr>
<td>Stop key</td>
<td>![Stop Key Icon]</td>
<td>1. Perform stop function; 2. Perform the exit menu function.</td>
</tr>
<tr>
<td>Reset key</td>
<td>![Reset Key Icon]</td>
<td>Reset function</td>
</tr>
<tr>
<td>Special function key</td>
<td>![Special Function Key Icon]</td>
<td>Complete a special function in an interface.</td>
</tr>
<tr>
<td>Function shift key</td>
<td>![Function Shift Key Icon]</td>
<td>1. Shift the motor to be manual, high speed, and low speed; 2. Complete different functions with other keys, e.g. Shift+F1 perform to revoke HELP file.</td>
</tr>
<tr>
<td>Edit key</td>
<td>![Edit Key Icon]</td>
<td>Used to edit various parameters of processing point in File edition. Below keys are used with SHIFT: Needle Height: Needle height of final point and single point; Insert: Insert a point before the current point; Delete: Delete the current point; Positioning: Position motor quickly to the current point coordinate; Needle correction: Adjust needles points; Save: Save function; Following functions are completed with SHIFT: Depth: Adjust depth of Z-axis; Copy: used for array copy; Empty: Erase whole points of file edition; Translation: Coordinate translation; Closest point: Search the closest point away from the current coordinate;</td>
</tr>
<tr>
<td>Number key</td>
<td>Used to enter numbers or letters, select menu, or used with Shift key to perform a special function</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
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<tr>
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<table>
<thead>
<tr>
<th>Manual key</th>
<th>X-axis motor to move leftwards or rightwards</th>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Manual key</th>
<th>Y-axis motor to move forwards or backwards</th>
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<tbody>
<tr>
<td><img src="image" alt="Manual key image" /></td>
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</table>

<table>
<thead>
<tr>
<th>Manual key</th>
<th>Z-axis motor to move upwards or downwards</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Manual key image" /></td>
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<table>
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<tr>
<th>Manual key</th>
<th>Not in use</th>
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<tr>
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<table>
<thead>
<tr>
<th>Manual key</th>
<th>XYZ coordinates regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Manual key image" /></td>
<td></td>
</tr>
</tbody>
</table>
Chapter II Operating Instructions

Step 1: Entering into the main interface

When the machine is connected to the power supply and powered on, it enters the main interface as below:

Preparing of start-up picture and the background picture of main interface
You can draw a 320*240 black & white picture using the self-contained “Graph” program of the Windows. The start-up picture is named as “logo.bmp”, and the background picture of main interface is named as “back.bmp”, both of which are saved in “\ADT\” catalog of TV5500.

Step 2: Menu interface:

Press “Menu” key on the main interface to enter the menu interface:
The meanings of icons from left to right, and up to down are as follows:

- Manufacturer parameter settings
- Motor speed setting
- File parameter setting
- User parameter setting
- File edition
- File management
- Hardware detection
- Advanced function
- Processing interface

Number keys from 1 to 9 correspond the above menu in turn, for convenient and quick selection.

**Step 2: Viewing software version**

In “Menu” interface, press “8” or move to to press “Select” to enter advanced function setting interface:

```
Advanced Function
0. USB connection …
1. Disk U update …
2. Version information …
3. G code file conversion …
4. PLT conversion …
5. TCF conversion …
```

Then select version to view the current version information, as it shown:

```
Version Information
Handheld box main program version: 1.40
Handheld box communication program version: 1.40
Generation date of handheld box program: 27/5/2010
Generation time of handheld box program: 15:19:12
Terminal main program Version: 1.40
Terminal motion library version: 1.40
Terminal communication program version: 1.40
Generation date of terminal communication program: 27/5/2010
Generation time of terminal program: 15:16:55
Edited by: Tang Gongyi
```

Generally only handheld box main program version and terminal main program version need to be focused.
Step 3: Updating the programs

The program updating is required for non-latest version of control. Program updating includes the updating of ADT-8848 and TV5500. ADT-8848 programs should be updated prior to those of TV5500.

- There are two ways of updating ADT-8848 programs:
  1) Updated via PC (The first time of updating must use this method.)
  Connect the D-shape USB interface of ADT-8848 to the USB port of PC, and connect the second serial Series2 of ADT-8848 with the PC serial; then, select “All programs → Accessories → Communications → Hyper Terminal” in Start menu of Windows:

  Create a new connection

  ![Hyper Terminal Connection Setup](image)

  连接描述：Connection description；新建连接：New connection；
  输入名称并为该连接选择图标：Enter a name and select a icon for the connection；
  图标：Icon
  确定：OK；取消：Cancel

  Select the serial

  ![Serial Port Selection](image)

  连接到：Connecting to；输入待拨电话的详细信息：Enter the telephone details to be dialed；
  国家（地区）：Country(Region)；区号：Area code；电话号码：Telephone number；
  连接时使用：Connecting use；确定：OK；取消：Cancel

  Set the serial attribute following the picture below
COM1 属性：COM1 attribute; 每秒位数：BPS；数据位：Data bits；奇偶校验：Parity check；
停止位：Stop bit；数据流控制：Data flow control；还原为默认值：Restore defaults；确定：OK；
取消：Cancel；应用：Application

Select the new Hyper Terminal window, and then re-electrify the controller. Press “ESC” key on the PC
keyboard within 1 second while re-starting, and enter the password to go to the BIOS interface:

超级终端：Hyper Terminal
A. 设置系统：System setting; B. BIOS 设置：BIOS setting; C. U 盘功能：USB disk;
D. 系统自检：System self-test; E. 启动方式：Start method; 请选择功能：Please select the function.

Follow the prompt to select “C.U Disk Function”→“1.U Disk Connection”. At this point, the ADT-8848 is
used as U disk connecting the PC. You can copy the client programs of ADT-8848 (File name: adtrom.bin) to
“ADT” catalog of the controller via PC, and restart the controller. Press “ESC” key within 1 second while
restarting, input password to enter into BIOS interface, and then follow the prompts to choose “B. BIOS
2) Updated via TV5500 (Used when ADT-8848 has installed version 1.11 or higher master program)

Connect the USB interface of ADT-8848 to the USB port of PC. The ADT-8848 will be used as a U disk connecting the PC. You can copy the client programs of ADT-8848 (File name: adtrom.bin) to “ADT” catalog of the controller via PC (or via the file management function of handheld box), and then use TV5500 to enter manufacturer parameter settings interface to select “Updating ADT-8848 Programs”. Then, restart the controller to finish the program update.

- There are two ways of updating TV5500 programs:
  1) Updated via U disk

Insert the U disk contained with TV5500 client programs into the flat USB interface of TV5500; then, enter the main interface of controller and go to file management interface. You can then copy the TV5500 client programs (File name: adtrom.bin) in portable drive to “ADT” catalog of the local disk, and restart the controller. Press “Cancel” key for 1~2 seconds within 1 second while restarting, and input password to enter BIOS interface, then use the Up/Down key to select “B. BIOS Settings” → “2. Updating the programs” to finish. Restart the controller to finish the program update.

2) Updated via PC

Connect the D-shape USB interface of TV5500 to the USB port of PC, and restart the controller. Then, press “Cancel” key for 1~2 seconds within 1 second while restarting, and input password to enter BIOS interface, then use the Up/Down key to select “C. U Disk Function” → “1. Communication connecting” to complete; in this way, TV5500 is worked as a U disk. You can copy the TV5500 client programs (adtrom.bin) to “ADT” catalog of the controller via PC. Restart the controller. Press “Cancel” key for 1~2 seconds within 1 second while restarting, and input password to enter BIOS interface, then use the Up/Down key to select “B. BIOS Settings” → “2. Updating the programs” to finish. After that, restart the controller to finish the program update.

Program after V1.40 version with U disk auto-updating feature: client programs of ADT-8848 and TV5500 are saved in the catalogs of “\MOTION\” and “\GUI\” in U-Disk, insert into U-Disk interface of TV5500, and enter “Advanced Function” interface to select “U-disk Updating Program”. Then the control shall auto-detect the above two files in U disk, and prompt whether updating needs to performed or not.

Enter the corresponding number keys to complete auto-updating which shall last approx. 1~2 minutes. Please note that other operations are forbidden during the updating.

If handheld box requires updating, please re-enter BIOS of TV5500 for program updating when power connection again after the first updating. The method is shown as follows: press “Cancel” key within one second after connect TV5500 with power, input password into BIOS, select “Set BIOS” → “Update program”, and re-electrify after updating, and then check whether the program versions of upper and lower computers are latest or not.
Step 4: Connecting and testing hardware

In menu interface, select to enter the interface of hardware testing:

<table>
<thead>
<tr>
<th>DI00</th>
<th>DI01</th>
<th>DI02</th>
<th>DI03</th>
<th>DI04</th>
<th>DI05</th>
<th>DI06</th>
<th>DI07</th>
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<tbody>
<tr>
<td>DI08</td>
<td>DI09</td>
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</tbody>
</table>

DI is input signal, and DO is output signal. Please follow the wiring diagram below to test whether the positive inversion of motor is normal, and whether the input signal and output signal are one-to-one corresponding.
公共端: Common end; X 原点: X origin; Y 原点: Y origin; Z 原点: Z origin; X 正限位: X positive limit; X 负限位: X negative limit; Y 正限位: Y positive limit; Y 负限位: Y negative limit; Z 正限位: Z positive limit; Z 负限位: Z negative limit; 启动: Start; 停止: Stop; 复位: Reset; 暂停: Pause; 外接直流 5~24V: External DC 5~24V; X 轴驱动器: X-axis drive; Y 轴驱动器: Y-axis drive; Z 轴驱动器: Z-axis drive; VCCA 为 X, Y 轴的共阳极接法公共端: VCCA is the common end of X & Y-axis co-anode connection; ACCB 为 Z, U 轴的共阳极接法公共端: VCCB is the common end of Z & U-axis co-anode connection; 外接直流 24V: External DC 24V.
Step 5: Setting manufacturer parameters

In menu interface, press to enter the interface of manufacturer parameters setting:

Password for manufacturer parameter settings: This password is required when entering into the manufacturer parameter settings interface. You can enter the interface directly if it is empty.

Motor characteristic settings: Including some parameters related to motor hardware

Select motor characteristic settings, and press OK key to enter:

Password for manufacturer parameter settings: 19704

Motor Characteristic Settings:
X-axis characteristic: 0.010000
Y-axis characteristic: 0.010000
Z-axis characteristic: 0.010000
Pulse per turning (Pulse): 3200
1. Pulse Equivalent (mm/Pulse): 0.010000
2. Setup Wizard of Pulse Equivalent:
3. Reset Mode:
4. Reset Direction: Left  
5. Effective Level of Origin Switch: Low level  
6. Effective Level of Limit Switch: Low level  
7. Effective Stroke (mm): 1000,000  
8. Maximum Speed (mm/s): 300,000

Motor Characteristic Settings:
- X-axis characteristic  
- Y-axis characteristic  
- Z-axis characteristic

0. Positive and negative limits method: use positive and negative limits
1. Whether use origin limit: Yes

Setup Wizard of X-axis Pulse Equivalent:
This wizard regulates the two points on the platform, and calculates the pulse equivalent automatically according to the measured distance of these two points (Appointed axis).

Step 1: Move the motor to the first point and mark it, then press right direction key to go to the next step.

- X-axis speed (HZ): 01000  
- Y-axis speed (HZ): 01000  
- Z-axis speed (HZ): 01000  

Speed key + Motor Direction key to modify the speed

Step 2: Move the motor to the second point, and mark this position. Press right direction key to the next step, and press left direction key to return the last step.

- X-axis speed (Hz): 01000  
- Y-axis speed (Hz): 01000  
- Z-axis speed (Hz): 01000  

Speed key + Motor Direction key to modify the speed

1) Pulse per Turning: It is the pulse numbers required per each motor turning.
2) Pulse Equivalent: It refers to the moving distance of a pulse corresponding to motor.
3) Setup Wizard of Pulse Equivalent: Select two points on the platform, and calculate the pulse equivalent according to the measured distance of these two points.
Setup Wizard of X-axis Pulse Equivalent:

Step 3: Measure the distance between the first point to the second point, and press right direction key to the next step, press left direction key to return the last step.

X-axis speed (Hz): 01000
Y-axis speed (Hz): 01000
Z-axis speed (Hz): 01000
Speed key + Motor Direction key to modify the speed

Setup Wizard of X-axis Pulse Equivalent:

Step 4: Enter the distance measured and press “OK” to complete the setting, press “Cancel” to exist.

Please enter the distance between the first point and second point (mm): 2
Input method: number

X-axis speed (Hz): 01000
Y-axis speed (Hz): 01000
Z-axis speed (Hz): 01000
Speed key + Motor Direction key to modify the speed

1) Reset mode: three types in reset mode: to-and-fro reset, circle reset, and negative reset. To-and-fro reset is usually used in lead screw and belt driving mode; circle reset is used in rotary and cam driving mode; and negative reset is selected to directly return the current position to be origin.

2) Reset Direction: Before setting this parameter, please make sure whether the motor moving direction while in regulating is corresponding to that of the motor manual button on the handheld box.

3) Effective Level of Origin Switch: You can check the effective level of origin in hardware testing. When the motor is not in origin position, if the corresponding origin input signal is low level, the effective level of origin will be the high level; otherwise, it will be the low level.

4) Effective Level of Limit Switch: You can check the effective level of limit in hardware testing. When the motor is not in limit position, if the corresponding limit input signal is low level, the effective level of limit will be the high level; otherwise, it will be the low level. The modified parameter goes into effect only after the restart of the controller.

5) Effective Stroke: This parameter will affect the range of picture display when programming, and the reachable area of motor movement. If you cannot ensure the effective stroke of motor in advance, you can enter the file editorial interface to control the motor motion manually, and view the coordinates to confirm the effective stroke of motor.

6) Maximum Speed: The maximum speed of stepping motor is usually 15 turning/s; and the servo motor is 50 turning/s. The actual value should be determined by the test.

7) Positive and negative limits modes have four types: (1) use both; (2) use positive limit; (3) only use negative limit; (4) do not use positive and negative limits. The input port not being used can used as other general input ports.

8) Whether use origin limit: origin limit is used under the situation of default, and direction shall be determined upon the movement direction of this axis. If the effective stroke of this axis is on the positive direction of the origin, limit shall be used when touching the origin moving to the negative direction; if the effective stroke of this axis is on the negative direction of the origin, limit shall be used when touching the origin moving to the positive direction;

- Track split accuracy: the control splits all figures to be small section with the same length for processing. Track split accuracy is the length of small section, and the length of setting shall cause control’s computation to be too big to affect movement outcome. It is generally recommended that the value larger motor rotation
1/50 circles corresponds movement distance.

- **Stop key up reset:** whether motor reset simultaneously occurs with Stop key up setting.
- **Whether power-down memory function starts:** When this function starts, the position before power-down can be memorized. After restart, processing can continue from the position of power-down (in the processing interface, press Shift+1 to continue processing from last power-down position). This function has the certain impact on track display and external key respond speed.
- **Start key withPause function:** re-press Start key to enter pause function during the processing.
- **Output port setting:** The corresponding port number of common output function can be preset, and if preset to be -1, this function can be closed.
  1. **Operation indicative port:** this signal outputs low level when the program stops or under the situation of glue dropping; this signal outputs high level under the operative situation.
  2. **Alarm indicative port:** indicate the states of parameter setting abnormal etc.
  3. **Output of cylinder gun-in and gun-out:** when cylinder gun-in method is used, this parameter should be preset; otherwise this parameter should be preset as -1.
  4. **Output of emergency stop:** After pressing “Emergency stop” key, this signal outputs high level, and then outputs low level after reset. This signal can be used to lock the axis.
  5. **Reset completion output:** this signal outputs high level after motor completes one reset, and outputs low level after Emergency stop key is pressed.
  6. **Stop position output:** this signal outputs high level when motor stops; this signal outputs low level when motor moves.
  7. **Glue gun switch 1-8 output:** the signal corresponds start and stop of 1-8 glue guns;
  8. **Switching 1-8 guns output:** the signal corresponds 1-8 guns switching.
- **Input port setting:** The corresponding port number of common input function can be preset, and if preset to be -1, this function can be closed.
  1. **Externally connect single step key:** single step key is to perform single step processing;
  2. **Externally alarm input:** when this signal is low level, the processing will stop and alarm;
  3. **Externally needle correction key:** when first time pressing this key, XY move to the needle correction position, and pressing this key again within 3 seconds, Z-axis moves to the needle correction position.
  4. **Back to Stop key:** Press this key and move to the schedule Stop position (preset it in the system parameters);
  5. **Cycling process and switch key:** Press this key to the mode of cycling process, and pop the key up to the mode of single process;
  6. **Gun-in-place signal:** Cylinder is used to force gun in corresponding the gun-in-place signal;
  7. **Gun-out-place signal:** Cylinder is used to force gun out corresponding the gun-out-place signal;
  8. **Effective electric level of gun-in-place and gun-out-place signals:** low level or high level;
  9. **Well-placed signal of starting glue gun 1~8:** If this signal is used, the glue gun will detect whether this signal is valid when it starts, and it will continue the next movement until the signal is valid;
  10. **Well-placed signal of stopping glue gun 1~8:** If this signal is used, the glue gun will detect whether this signal is valid when it stops, and it will continue the next movement until the signal is valid;
  11. **Effective electric level of glue gun switch well-placed:** low level or high level;
  12. **Well-placed signal of switching glue gun-in 1~8:** When multiply glue guns are used during the plastic dripping, this signal shall be detected whether it is valid when switching and feeding glue guns, and the next movement will continue until the signal is valid;
  13. **Well-placed signal of switching glue gun-out 1~8:** When multiply glue guns are used during the plastic dripping, this signal shall be detected whether it is valid when switching and withdrawing glue guns, and the next movement will continue until the signal is valid;
  14. **Effective electric level of well-placed signal for glue guns switch:** low level or high level;
  15. **Start signal of layer 1~8:** Multiply glue guns are operated hierarchically during plastic dripping, and specific start signal is used to select certain layer for individual process. Glue gun hierarchical setting can be selected in “File parameters” – “Corresponding setting of glue gun location layer”.
  16. **Quick file option key 1~8:** The specific start signal is used for quick file option, and the corresponding file number can be selected in “System parameters” – “Quick file option setting”.
  17. **BCD dip switch inputting start and end points:** Double-bit BCD8421 dip switch can be used to select file. Double-bit dip switch occupies continuous 8 input points together, e.g. if the input of start point is preset to be 17, the wiring method is as follows:
Language selection: Chinese and English;
Regulation mode: two modes are available: 1. Press Speed key to be high speed, and pop it up to be low speed; 2. Press Speed key once to switch to high speed, and press again to switch to low speed;
Restore factory defaults: Restore manufacturer parameter, system parameter, and user parameter to the factory defaults;
Terminal equipment program updating: Client program atdrom.bin of 8848 is copied to ADT catalog of 8848, and then calls this function to update 8848 programs.

Step 6: Setting user parameters

In menu interface, select to enter the interface of user parameters setting:

User Parameters Setting
1. Cycling process number: 3
   1. Time interval of cycling process (Sec): 0.000000
   2. Interval number of auto reset: 0
   3. Whether use cycling process: No
   4. File number of cycling process: 0
   5. Origin inspection before operation: No
   6. Auto reset time interval after power connection (Sec): -1.000000
   7. Stop position setting …
   8. Back to Stop position after reset: No
   9. Gun-in time delay (Sec): 0.000000

User Parameters Setting
1. Gun-out time delay (Sec): 0.000000
   1. Gun switch time delay (Sec): 0.000000
   2. Auto glue dripping waiting time (Sec): 0.000000
   3. Auto glue dripping gun open time (Sec): 2.000000
   4. Auto glue dripping gun selection …
   5. Glue gun offset setting …
   6. PLT file conversion ratio: 0.002900
   7. PLT gun pen corresponding relation setting …
   8. G-code knife pen corresponding relation setting …
   9. File number matching …
User Parameters Setting

0. Initialization file number matching …
1. Switch debugging: turn off
2. Quick file option setting …
3. User password management …

User Passwords Management

0. Administrator password: **
1. Class I password: **
2. Class II password: ******
3. Class III password:

Glue Gun Offset Setting

0. Regulate the reference point of glue gun …
1. Offset setting of glue gun 1 …
2. Offset setting of glue gun 2 …
3. Offset setting of glue gun 3 …
4. Offset setting of glue gun 4 …
5. Offset setting of glue gun 5 …
6. Offset setting of glue gun 6 …
7. Offset setting of glue gun 7 …
8. Offset setting of glue gun 8 …

- Cycling process number: it can be preset;
- Time interval of cycling process: it can be preset;
- Interval number of auto reset: it can be preset;
- Whether use cycling process: it can be preset;
- File number of cycling process: it can be preset.

User password management: Administrator password and Class I, II, and III passwords can be set with password secure level from high to low as follows: administrator password, Class I, Class II, and Class III passwords. System parameters setting and file management need administrator password, process parameter setting requires Class I password, file parameter setting and file edition need Class II password, PLT file conversion requires Class II password, and process file selection requires Class III password.

The relative position of the eight glue-guns has offsetting. You can use this function to preset the position offset.
A reference point is preset firstly, and every glue gun is moved manually to the reference point for comparison and respective offsetting values can be obtained.

<table>
<thead>
<tr>
<th>Regulate the Reference Point of Glue Gun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control glue gun manually to move to the reference point, and press “Regulation” key for regulation, and press “Cancel” key for zero clearing.</td>
</tr>
<tr>
<td>Reference point X-Coordinate: 0.00000</td>
</tr>
<tr>
<td>Reference point Y-Coordinate: 0.00000</td>
</tr>
<tr>
<td>Reference point Z-Coordinate: 0.00000</td>
</tr>
</tbody>
</table>

- PLT conversion proportion: Because the coordinate unit of PLT file is different from that of the processing file, you need to multiply the conversion proportion to adjust it. The actual value is related to the settings of software generating PLT files.
- Settings of corresponding relationship of PLT gun pen: Pen of each color in PLT file corresponds to a pen number. There are eight glue guns, glue gun 1 to 8, in the processing files. This function is used to set the corresponding relationship of pen number and glue gun number.
- Settings of corresponding relationship of G-code knife pen: Set the corresponding relationship of G-code knife number and glue gun.
- File number matching: There are 100 file numbers in total, each of which is corresponding to a processing file. When using expanded display panel, you can select the corresponding processing file by selecting the file number.
- Initialization file number matching: Re-arrangement of file number;
- Debug switch: In general processing, please set this parameter to off; otherwise, it will influence the processing effect.
- Reset test before running: Three options: “No test”, “Test for first time”, and “Test for every time”, in which, “No test” refers to reset completion; “Test for first time” refers to test reset for the first process after power connection; and “Test for every time” refers to test every process whether it returns the origin. During process, pressing “Emergency stop” key is regarded as requiring a new reset.
- Time interval of auto reset once electrified: The controller is reset automatically after a while once electrified. Auto reset is not performed if this parameter is of negative value.
- Gun-in and Gun-out delay: If “Output of cylinder gun-in and gun-out” in the catalog of “Output port setting” under “Manufacturer parameters setting” is set to be negative number, gun-in delay and gun-out delay become valid, which will limit cylinder gun-in and gun-out movements with well-placed signal of gun-in and gun-out. Then wait for well-placed signal of gun-in and gun-out, with the waiting time more than set-up gun-in and gun-out delay time, and then enable to implement the next movement.
- Gun switching delay: Respond time of gun switching movement, and well-placed signals of switching glue gun-in and gun-out limit the switching movement together and wait for the well-placed signals of switching gun-in and gun-out, with waiting time more than set gun switching delay time, to enable for the next movement.
- Auto glue dripping waiting time: Wait for the set time and enter the auto glue dripping state until the operation stops;
- Auto glue dripping gun open time: The open time for glue gun when auto glue dripping;
- Auto glue dripping glue gun selection: Select the glue gun requiring auto glue dripping;
- Back to Stop position after reset: If “Yes” is set, the set Stop position will be reached automatically;
- Stop position setting: A stop position can be set. “Back to Stop position” key specified under “Input port setting” of “Manufacturer parameters settings” is used to run back to Stop position;
- Quick file option setting: There are total 8 quick file numbers, each of which matches a process file. The corresponding input signal set under “Input port setting” of “Manufacturer parameter settings” can be used to quickly select matching process files.
Step 7: Setting motor speed parameters:

In menu interface, select to enter the interface of motor speed parameters settings:

<table>
<thead>
<tr>
<th>Motor Speed Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X-axis speed</strong>/<strong>Y-axis speed</strong>/<strong>Z-axis speed</strong></td>
</tr>
<tr>
<td><strong>0. Starting speed (mm/s): 10.0000</strong></td>
</tr>
<tr>
<td>1. Manual low speed (mm/s): 10.0000</td>
</tr>
<tr>
<td>2. Manual high speed (mm/s): 70.0000</td>
</tr>
<tr>
<td>3. Acceleration time of Travel (s): 0.050000</td>
</tr>
<tr>
<td>4. Low speed reset (mm/s): 10.0000</td>
</tr>
<tr>
<td>5. High speed reset (mm/s): 100.0000</td>
</tr>
<tr>
<td>6. Acceleration time of reset (s): 0.050000</td>
</tr>
<tr>
<td>7. Manual fine tuning pulse number: 5</td>
</tr>
<tr>
<td>8. Travel speed (mm/s): 150.0000</td>
</tr>
</tbody>
</table>

Motor speed parameters settings: set the parameters relating to motor speed.

- **Starting Speed**: Generally, the starting speed of stepping motor should not exceed 3 turnings per second, and in case of servomotor, it should not exceed 5 turnings per second.
- **Manual low speed**: Used to locate the position accurately in manual regulation
- **Manual high speed**: Used to locate the position swiftly in manual regulation
- **Acceleration time of Travel**: It is the time required by changing from starting speed to travel speed. The smaller the value is, and the faster of speed change will be. If it is set to be 0, it means the uniform velocity.
- **Low speed reset**: Used to locate the position accurately when resetting
- **High speed reset**: Used to locate the position swiftly when resetting
- **Acceleration time of reset**: It is the time required by changing from low speed reset to high speed reset. The smaller the value is, and the faster of speed change will be. If it is set to be 0, it means the uniform velocity.
- **Manual fine tuning pulse number**: The system sends the pulse number out when every axis movement key is pressed quickly every time for manual control axis' movement;
- **X-axis travel speed**: Quick positioning speed of X-axis;
- **Y-axis travel speed**: Quick positioning speed of Y-axis;
- **Z-axis descending speed**: Quick positioning speed when Z-axis descends;
- **Z-axis lift speed**: Quick positioning speed when Z-axis lifts;
- **Speed acceleration time of Z-axis lift**: The required time from starting speed to quick positioning speed. This value is set smaller resulted in faster speed change, and if the value is set to be 0, the speed will be constant.
Step 8: File management:

In menu interface, select 📂 to enter file management interface:

<table>
<thead>
<tr>
<th>File management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy [1]</td>
</tr>
<tr>
<td>Paste [2]</td>
</tr>
<tr>
<td>Delete [3]</td>
</tr>
<tr>
<td>New [4]</td>
</tr>
<tr>
<td>Preview [5]</td>
</tr>
</tbody>
</table>

Current directory: T:\PRG

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1=1.DJJ</td>
<td>256B</td>
<td>-1=10.DJJ</td>
</tr>
<tr>
<td>11=11.DJJ</td>
<td>256B-1=11111111.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>12=12.DJJ</td>
<td>256B-1=123.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>-1=1234.DJJ</td>
<td>256B 13=13.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>14=14.DJJ</td>
<td>256B 2=2.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>23=23.DJJ</td>
<td>736B 3=3.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>31=31.DJJ</td>
<td>256B 4=4.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>10=4321.DJJ</td>
<td>256B 5=5.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>6=6.DJJ</td>
<td>256B 7=7.DJJ</td>
<td>256B</td>
</tr>
</tbody>
</table>

Interpretation for list items:
1=1.DJJ: Front of ‘=’ is file number (1), and behind of ‘=’ is file name (1.DJJ);
256B: B refers to byte, i.e. 256 bytes.

Use Up/Down/Left/Right key to select your desired file, press OK to select, and press number key (5) to preview the selected file:

Processing file preview

X Left: View point is moved leftwards;
X Right: View point is moved rightwards;
Y Front: View point is moved forwards;
Y Back: View point is moved backwards;
Z up: Figure zoom out
Z Down: Figure zoom in
Speed: Restore default size

In the interface of selecting processing file, press number key (4) to create a new file:
Press Shift to select Chinese with Pinyin input method.

Press Left/Right and number key to select your desired Chinese characters:

### File management

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1=1.DJJ</td>
<td>1.0.DJJ</td>
<td>11=11.DJJ</td>
<td>1.3.DJJ</td>
<td>13=13.DJJ</td>
</tr>
<tr>
<td>12=12.DJJ</td>
<td>2.0.DJJ</td>
<td>-1=123.DJJ</td>
<td>12=12.DJJ</td>
<td>12=12.DJJ</td>
</tr>
<tr>
<td>1=11111111.DJJ</td>
<td>11=11111111.DJJ</td>
<td>13=13.DJJ</td>
<td>13=13.DJJ</td>
<td>13=13.DJJ</td>
</tr>
<tr>
<td>14=14.DJJ</td>
<td>23=23.DJJ</td>
<td>256B 3=3.DJJ</td>
<td>256B 3=3.DJJ</td>
<td>256B 3=3.DJJ</td>
</tr>
<tr>
<td>1=1.DJJ</td>
<td>1.0.DJJ</td>
<td>11=11.DJJ</td>
<td>1.3.DJJ</td>
<td>13=13.DJJ</td>
</tr>
</tbody>
</table>

Please input the name of new file:

Input method: Chinese
When the input method is in Chinese or letter input mode, you can press decimal point (.) key to input the punctuation:

When you have finished the input, you can press OK to generate a processing file with a “.DJJ” suffix name. In the interface of processing operation, press “Select” key to enter the interface of processing file select.
Note: The operation of processing file selection only applies to the files in remote equipment (ADT-8848). To process files in local disk (TV5500) or removable disk (U disk), please copy the files to remote equipment using file manager.

### Step 9: Setting file parameters

In menu interface, select 📋 to enter the interface of file parameters settings.

<table>
<thead>
<tr>
<th>File Parameters Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Needle correction point …</td>
</tr>
<tr>
<td>1. Track speed (mm/s): 80.00000</td>
</tr>
<tr>
<td>2. Track acceleration time (s): 0.000000</td>
</tr>
<tr>
<td>3. Dispensing delay (s): 0.000000</td>
</tr>
<tr>
<td>4. Closing glue gun delay (s): 0.000000</td>
</tr>
<tr>
<td>5. Delay of opening glue gun (s): 0.000000</td>
</tr>
<tr>
<td>6. Distance of closing glue gun in advance (mm): 0.000000</td>
</tr>
<tr>
<td>7. Drawing height (mm): 0.000000</td>
</tr>
<tr>
<td>8. Drawing speed (s): 0.001000</td>
</tr>
<tr>
<td>9. Drawing delay (s): 0.000000</td>
</tr>
</tbody>
</table>
Each file has independent file parameters.

- Needle correction point: Set the needle correction point for processing file, which is defaulted as the first point of processing file.

- Track speed: The speed of track processing
- Track acceleration time: It is the time needed to change from starting speed to track speed. The smaller the value is, the faster the speed change will be. If it is set to be 0, it is processed evenly with the track speed.
- Dispensing delay: A responding time of opening the glue gun
- Closing glue gun delay: A responding time of closing glue gun
- Delay of opening glue gun: It is the delay time of opening glue gun when delay opening glue gun is used.
- Distance of closing glue gun in advance: It is the distance of closing glue gun in advance when the advance closing function is used.
- Drawing height: Glue gun will lift a small distance with a very small speed for gun-out, and then withdraw the gun. Setting number to be 0 to close drawing function;
- Drawing speed: This speed is generally set to be small for slow drawing;
- Drawing delay: Glue gun will stay for a while when reaching the drawing height, and then continue withdrawing gun.
- Corresponding location on the layer where glue gun: During plastic dripping, this parameter is always used to select the layer where the glue gun is (Layer 1 ~8). The corresponding input signal set under “Input port setting” of “Manufacturer parameter setting” can be used to select the layer for individual processing;
- Back to Stop position after processing: Press “Yes” to return set Stop position after file processing
Step 10: Editing files

In menu interface, select [ ] or enter main interface to select “Cancel” to enter the interface of editing files.

For detailed functions of file edition, please see Chapter III “Details of File Edition”.

Step 11: Processing operation

In menu interface, select [ ] or enter the main interface to select “OK” to enter the interface of processing operation.
File name: 23=23, i.e. front of ‘=’ is file number, and behind of ‘=’ is file name – 23.DDJ.

- Select file: press “Select” key to enter the interface of file select.

- Search file: press “SHIFT+ Search” and input file name to search file automatically.

<table>
<thead>
<tr>
<th>Select processing file</th>
<th>DJJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current directory: T:\PRG</td>
<td></td>
</tr>
<tr>
<td>1=1. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>11=11. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>12=12. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>-1=1234.DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>14=14. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>23=23. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>31=31. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>10=431. DJJ</td>
<td>256B</td>
</tr>
<tr>
<td>6=6. DJJ</td>
<td>256B</td>
</tr>
</tbody>
</table>

Select the file requiring for processing

Please enter the file name to search

Input method: Number
- 34 -


Current processing point: the current processing point
- Reset: Press "Reset" to reset
- Start: Press "Start" to start operation.
- Stop: Press "Stop" to stop operation
- Pause: Press "Start" to pause during operating status

Cycle processing: Press "1" to switch between cycle processing and single processing. Cycle processing means to process following the set cycle time. Single processing means to process once after the start, without cycle processing.

Single step processing: Press "2" to switch between auto processing and single step processing. Single step processing means to run a processing point per each operation. Auto processing means to run the processing points in sequence automatically.

Dispensing enable: You can press "3" key to enable or disable dispensing.

Cycle processing times: Show the set cycle times of processing; you can press "7" to enter user parameter setting to set the cycle processing times.
- Current cycle: Show the cycle times of current processing; you can press "8" to clear the number.
- Total of current processing: Show the total of current processing; you can press "9" to clear the number.
- You can press Shift +Z to preview the processing files
- You can press Shift +2 to select to start processing from any point of file

Needle correction: Press “Needle correction” to set the current coordinate location to be needle correction point;

Quick setting: Press “4” to enter the interface of quick setting and set the common parameters;


Step 12: Advanced features:

In menu interface, select or select “8” to enter the interface of advanced features.

<table>
<thead>
<tr>
<th>Advanced Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. USB connecting…</td>
</tr>
<tr>
<td>1. U-disk updating program …</td>
</tr>
<tr>
<td>2. Version information …</td>
</tr>
<tr>
<td>3. G-code file conversion …</td>
</tr>
<tr>
<td>4. PLT conversion …</td>
</tr>
<tr>
<td>5. TCF conversion …</td>
</tr>
</tbody>
</table>

- USB connecting: USB wire is used to communicate with PC, i.e. TV5500 is deemed as U-disk to connect with PC;
- U-disk updating program: U-disk is inserted into flat port of TV5500 for auto updating program;
- Version information: View version information;
- G-code file conversion: G-code file is converted to be .DJJ file;
- PLT conversion: PLT file is converted to be .DJJ file;
- TCF conversion: TCF file is converted to be .DJJ file.
Chapter III  Details of File Edition

1. File editorial interface:

2. Selecting instruction type of processing

In file editorial interface, use Up/Down key to move the cursor to “Type” column, and press OK, an interface for selecting type of processing point appears:

<table>
<thead>
<tr>
<th>Select the Type of Processing</th>
<th>Select the Type of Processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Motor reset</td>
<td>0. File call: process file from the new start point</td>
</tr>
<tr>
<td>1. Port output</td>
<td>1. Program jumping: jump to the specified tag.</td>
</tr>
<tr>
<td>2. Waiting for input: Continue processing after receiving input signal;</td>
<td>2. Offsetting setting: actual coordinate = original coordinate + offsetting value</td>
</tr>
<tr>
<td>3. Delay pause</td>
<td>3. Offsetting increase: increase or reduce offsetting value</td>
</tr>
<tr>
<td>4. Select glue gun</td>
<td>4. Reference point: no action with the general purpose for needle correction</td>
</tr>
<tr>
<td>5. Glue gun control</td>
<td>5. Start point setting: adjust start point to current position</td>
</tr>
<tr>
<td>6. Tag definition: used for program call and program jumping</td>
<td>6. Start point: dispensing at start point</td>
</tr>
<tr>
<td>7. Speed setting: Set to 0 to return initial value</td>
<td>7. End point: closing glue gun at end point</td>
</tr>
<tr>
<td>8. Processing end: stop processing</td>
<td>8. Straight line</td>
</tr>
</tbody>
</table>

Page 1 of 3
Select the Type of Processing

0. Travel
1. Clockwise circular arc
2. Anti-clockwise circular arc
3. Circular arc
4. Circular
5. Circular arc end-point
6. Clockwise oval
7. Anti-clockwise oval
8. Oval end-point

- Motor reset: Specifying one or some motors to reset; the appointed motor go on performing the next instruction after the reset
- Port output: Specifying some port outputs to switch on or off signal, and keep performing the next instruction after the set delay time
- Standby input: Wait for some input ports to open/close to perform the next action; a standby delay time can be set. If the delay time is set to be 0, waiting for receiving this single and then continue the next processing; if the delay time is not set to be 0, receiving delay time and jump to the specified tag to start processing.
- Delay pause: Keep on performing the next step after the set delay time; if the delay time is 0, the program is paused until Start or Pause key is pressed again.
- Select glue gun: Select the operating glue gun. It is default to be the first one.
- Glue gun control: It is capable of controlling a glue gun to open and close independently. This instruction is usually used in figure importing function. Generally, “Starting point” and “End point” or “Single point” instructions are used to control the open/close of glue gun.
- Tag definition: Tag’s name can use numbers, letters, symbols, or Chinese characters. Input corresponding tag name when program is invoking or jumping to revoke or jump to this position;
- Speed setting: unit is mm/s, and only track speed can be set instead of travel speed. If setting to be 0, it means to restore the track speed to the initial setting for file.
- Processing end: when program executes this instruction, processing stops.
- Program call: “File number”, “Start tag”, “End tag”, and “Call times” can be set.
  - File number: when the program needs to call the content of a file, it can be set to be blank (directly press “OK” when input), it indicates to call the content of this file. File number and file corresponding relation can be set through “File number matching” of system parameters or “File number matching” of file parameters;
  - Start and end tags: they must be the defined tags which can be placed in front of this line or behind of this line. Or set the file number specified to be called to be blank which means to call the file from start line to the end line.
  - Call times: if it is set to be 0, it indicates to call unlimitedly.
- File call: “File number”, “Call times”, “Whether use start point”, and “Start point coordinate” can be set.
  - File number: if program needs to call the content of a file, file number here cannot be set to be blank. File number and file corresponding relation can set through “File number matching” of system parameters or “File number matching” of file parameters;
  - Call times: setting to be 0 means to call unlimitedly;
  - Whether use start point: if start point is used, the called file will be adjusted to the set start position for processing from original start position.
- Program jumping: jump to the specified tag position. If tag name is set to be blank (directly press “OK” when input), it will jump to the end of program.
- Offsetting setting: actual processing location: set coordinate location + set offsetting value;
- Offsetting increase: increase or reduce the offsetting value
- Reference point: it is only used for graphic correction without any actions. Generally it is defined at the start of a file in order to correct start point.
- Start point setting: Adjust the start point of graph called by the program to the current position. It is usually used with program call instruction;
● Start point:
  ● Starting point: It is the starting point of track. When processing, insert the glue gun at Z-axis of the starting point and open the gun. You can set whether to delay opening the glue gun at the starting point. If so, it does not open the glue gun when moved to the starting point, but opening it after the set delay time.
  ● End-point: It is the end-point of track. When processing, close the glue gun at the end-point, and make Z-axis return to the needle height position. A figure can have several starting points and end-points. You can set whether to close the glue gun in advance at the endpoint. If so, it will close the glue gun in advance at the set distance before the endpoint. This function is used to avoid the piling glue at the endpoint.
● Straight line: Run to this coordinate at the straight-line mode.
● Single point: Locate the XY quickly first, and then insert the glue gun at Z-axis. After that, open the glue gun for a while, and then close it; then, Z-axis returns to the needle height position.
● Travel: XYZ is located to this point quickly.
● Clockwise & Anti-clockwise circular arc: The previous point and next point must be bonded, forming a circular arc by specifying circular arc starting point, semi-diameter, and circular arc end-point.
● Circular arc: The previous point and next point must be bonded, forming a circular arc by specifying the starting point of circular arc, a point on the arc, and the circular arc end-point.
● Circle: The previous point and next point must be bonded, forming a circular arc by specifying the starting point of circular arc, a point on the arc, and the circular arc end-point.
● Circular arc end-point: This point should follow the instruction of circular arc, clockwise circular arc, anti-clockwise circular arc, and circle to bind with the previous two points to form a circular arc. If the end-point of circular arc is the end-point of track, the end-point of circular arc can be replaced by “End-point” instruction.
● Clockwise & Anti-clockwise oval: The previous point and next point must be bonded, forming an oval by specifying the starting point of oval, oval center, semi-diameter of long/short axis, and the oval end-point.
● Oval end-point: This point should follow the instruction of clockwise oval and anti-clockwise oval to bind with the previous two points to form an oval. If the end-point of oval is the end-point of track, the end-point of oval can be replaced by “End-point” instruction.

3. Modifying data of processing point

There are two ways of modifying data of processing point, manual input, and regulation.

1) Manual input

Use Up/Down key to move the cursor to the data column needs to be modified. If the format of this data column is numeric values, please directly input numbers to modify content; if the format is multi-option, please press “OK” to switch selection.
You can use Left/Right to select the previous/next processing point, Shift +Left to select the first processing point, Shift +Right to select the last processing point. You can also use Up/Down key to move the cursor to “Point number”, and input the number of point directly to select the point. (Shortcut key: Shift +0)

Note: If the file is not saved after the modification, there will be a “*” prompt next to the type column. You can press “Save” key to save the file. To run or debug the file, you have to save the file first; otherwise, it will run the data before saving.

2) Regulation

Except being able to be input directly, the coordinates of processing point can also be input in the regulation way. First, select the processing type. Only the coordinates of such types as “Origin”, “Straight line”, “End point”, “Single point”, “Travel”, “Circular arc”, “Circle”, “Circular arc end point”, “Clockwise oval”, “Anti-clockwise oval”, and “Oval end point” can be regulated. Only the needle height of “Origin” and “End point” can be regulated.

Once the processing point is selected, use the motor manual key to move the motor to the aim position, and press “Regulation” key, the current coordinate will be saved in the processing point and point number will move to the next point automatically. If you want to check the result of last point regulation, please use left key to return and view the last point.

When regulating the needle height, select the processing type (must be “End point” or “Single point”), move Z-axis to the proper needle height, and press “Needle height” key to save the current Z-Coordinate in “Needle height” parameters of processing point.

4. Constraint condition for the type of processing point

- A continuous track should be started with a “Starting point”, and ended with an “End point”, which may
contain processing point types such as straight line, circular arc, and oval midway.

- “Clockwise circular arc”, “Anti-clockwise circular arc”, “Circular arc”, “Circle”, “Clockwise oval”, and “Anti-clockwise oval” instructions should not be used independently, and should be combined with the previous point and the next point to form a figure.

- The End Point of “Circle” is superposed with the starting point. The “End Point” is for auxiliary effect only.

- The oval center and semi-diameter of long and short axes are given out by “Clockwise oval”, and “Anti-clockwise oval”. The coordinates of oval Starting and End Points are given out by the previous point and the next point (Because the oval starting point, end-point, and center are not convenient to regulate, you can use the “Common figure” in advanced edition to regulate a rectangle to help complete the regulation of an oval).

- “Anti-clockwise circular arc” and “Clockwise circular arc” instructions only specify the arc semi-diameter, and the coordinates of arc starting point and end-point. They are given out by the previous and next points.
The semi-diameter of the “Anti-clockwise circular arc” and “Clockwise circular arc” should not be set to be less than half of distance between these two points; otherwise, it cannot form a circular arc.

The regulation of “Single point” is much easier; however, “Single point” cannot be used combining with circular arc or oval instruction.

“Travel” instruction means to locate the XYZ axes to the appointed coordinates swiftly at the same time without opening or closing the glue gun. “Starting point” instruction is to locate XY axes swiftly to the appointed position, and then locate the Z-axis, together with opening the glue gun.

Only “End-point” and “Single point” can regulate the “Needle height”.

5. Skills for Continuous Regulation

To easy and convenient to finish the regulation of a figure, three switching shortcuts are set:
F1 key: Switch the type of current processing point to Origin, Straight line, and End-point.
F2 key: Switch the type of current processing point to Circular arc, Circle, and Circular arc end-point.
F3 key: Switch the type of current processing point to Single point and Travel.

In addition, the software contains intelligent judgment function; it can generate the type of next point according to the type of previous point. For example, if the previous point is “Starting point”, the next point will be the “Straight line” automatically. If the previous point is “End point”, the next point will be the “Starting point”; if the previous point is “Circular arc”, the next point will be the “Circular arc end-point”; and if the previous point is “Single point”, the next point will be the “Single point”. In addition, the set parameters, such as “Single point time”, “Needle height”, and “Speed”, will be recorded automatically and applied to the next point. When inserting a new processing point, it will generate the processing point of proper type according to the types of processing point before and after.

6. List of Editorial Interface Key Function

- Start: Run/Pause
- Stop: Stop
- Reset: Reset
- XYZ manual key: Move the motor manually
- Speed + manual key for motor of every axis: Switch the high and low speed manually
- Regulation key: Save the current coordinate in the current point and jump to the next point
- Needle height: Save the current Z-axis in the needle height parameters of the current point
- Insert: Insert a point ahead of the current point
- Delete: Delete the current point
- Positioning key: Set the motor to the current point
- Up/Down: Select data need to be modified
- OK: Make the modification
- Left/Right: View the previous/next point
- F1: Type switching (Starting point/straight line/end point)
- F2: Type switching (Circular arc/Circle/Circular arc end point)
- F3: Type switching (Single point/Travel)
- F4: Select point type
- Shift+F1: Call the help files
- Save: Save file
● Menu: Advanced edition function
● Shift+ Delete: Delete all
● Shift+ Left key: Jump to the first point
● Shift+ Right key: Jump to the last point
● Shift + closest: Jump to the closest point to current position
● Shift + translation: Move the picture horizontally
● Shift+ Depth: Adjust the depth of Z-axis uniformly
● Shift+0: Browse the appointed processing point
● F4+Z↓: Select glue gun to feed in
● F4+Z↑: Gun out
● Cancel key: Exit the editorial interface
● Needle correction key: set needle correction point
● Shift +copy: Pattern copy
● Shift + search: Search the point with specified type
● Shift + F2: List mode

7. Function of list mode:

In file edition interface, press Shift + F2 to enter list mode.

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter 1 (X)</th>
<th>Parameter 2 (Y)</th>
<th>Parameter 3 (Z)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start point</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>Straight line</td>
<td>161.6900</td>
<td>110.0500</td>
<td>0.0000</td>
</tr>
<tr>
<td>End point</td>
<td>490.6800</td>
<td>110.0500</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Current point: 1; total points: 3

Return
Chapter IV  Advanced Applications

1. Advanced editorial functions

In file editorial interface, you can press Menu to call the advanced edition functions:

<table>
<thead>
<tr>
<th>Advanced Editorial Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Batch modification …</td>
</tr>
<tr>
<td>1. Array copy…</td>
</tr>
<tr>
<td>2. Figure translation …</td>
</tr>
<tr>
<td>3. Figure zoom …</td>
</tr>
<tr>
<td>4. Z-axis depth …</td>
</tr>
<tr>
<td>5. Needle height …</td>
</tr>
<tr>
<td>6. Batch delete …</td>
</tr>
<tr>
<td>7. Auto fillet …</td>
</tr>
<tr>
<td>8. Program development …</td>
</tr>
<tr>
<td>9. Common figure …</td>
</tr>
</tbody>
</table>

You can press Shift and corresponding number key to select your desired edition function swiftly.

1) Batch Modification

Batch modification is used to modify large amount of data.

<table>
<thead>
<tr>
<th>Batch Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modification range:</td>
</tr>
<tr>
<td>Start point: 00001</td>
</tr>
<tr>
<td>End point: 00003</td>
</tr>
<tr>
<td>Modification content: X- Coordinate</td>
</tr>
<tr>
<td>Modification condition: No</td>
</tr>
<tr>
<td>Modification mode: Specified values</td>
</tr>
</tbody>
</table>

Press Save key for batch modification

- Range of modification: Number of the starting processing point and closing processing point that need to be modified
Content of modification: Following contents are available to modify:

- X-Coordinate
- Y-Coordinate
- Z-Coordinate
- Needle height
- Speed
- Dispensing time
- Delay dispensing
- Dispensing in advance
- Type
- Circular arc radius

Modification condition: You can specify a certain data of the data need to be modified to be equal to, not equal to, more than, or less than an appoint value.

Mode of modification: It includes Appointing Value, Appointing Increment, and Appointing Rate. Appointed Value means to set the modified contents as the appointed value. Appointing Increment means to add a value to the original value (if the appointed value is a negative number, it decreases the value). Appointing Rate means to multiply the original value with a value.

2) Array Copy

Array copy function is used to replicate a single figure to multiple copies in the array way, it can generate a parallelogram array as well.

- Copy range: the numbers of starting processing point and closing processing point of figure needs
Reference point A: It is a certain reference point on the figure needs to be copied. Regulating the distance between X and Y direction needs to take this point as the reference. It is default to select the first point of the figure.

Group numbers in X direction: Group numbers of the array in X direction
Group numbers in Y direction: Group numbers of the array in Y direction; if you just copy once, set the group numbers in XY direction to one.

X-axis end-point (Coordinate B): This coordinate should be the coordinate of last group in X direction that is corresponding to the reference point A. Press Regulation key to directly regulate the current coordinate.

Y-axis end-point (Coordinate C): This coordinate should be the coordinate of last group in Y direction that is corresponding to the reference point A. Press Regulation key to directly regulate the current coordinate.

Initial direction: From A to B, or from A to C
Way of new line: It includes S-shape and Z-shape of changing new line. Z-shape: when the process of a line is finished, it will return to the starting point to start processing the next line. S-shape: It does not return to the starting point, but processing the next line in a turn-back way.

Press Positioning key to position to reference point.

3) Figure Translation
This function is mainly used to adjust the XY coordinates of figure uniformly. First, confirm the starting point of the figure, and then move XY-axis to XY coordinate that the starting point needs to move. After having applied this function, the whole figure is moved horizontally to the current position automatically. This function can be called by pressing Shift +decimal key in the file editorial interface.

4) Figure Zoom
This function is used to zoom in and zoom out the value of XY coordinates. Indifferent from the batch modification way, this function can zoom in and out the semi-diameter of the circular arc and oval.

5) Z-axis Depth
This function is used to adjust the Z-axis coordinate and needle height uniformly. First, confirm the starting point of the figure, and then move Z-axis to Z coordinate that the point needs to adjust. After having applied this function, the Z-axis coordinates and the needle height of the whole figure will be adjusted according to the value of Z-axis. This function can be called out by pressing Shift +Depth key in the file editorial interface.(Please note the needle height after offsetting cannot overrun when this function is used, otherwise the operation will be abnormal and the overrun errors will be produced.)

6) Needle Height
This function changes the value of needle height in relation to Z-axis coordinate.
For example, the processing point type of a point is “Single point”, Z-axis coordinate is -70, if you set the needle lifting height to be 30, the needle height of this point is then changed to (-70+30) = -40.

7) Batch Delete
Select the range of processing points that need to be deleted, and press Shift +OK to delete. To delete all, you can press Shift +Delete in the file editorial interface.

8) Auto Fillet
This function is used to change the break angle to circular arc. The arc length of circular arc can be set. If the side length of these two break angles is not enough for changing to the set arc length, the fillet arc length will be reduced automatically to fit for the side length of break angle.
9) Program development:
This function develops “Program call” and “File call” instructions in the Select range, and directly insert the called content into this instruction position. Please note that call number 0 cannot be developed. Meanwhile, press Shift + 2 to develop an instruction for “Program call” or “File call” in File edition interface. Please note that the instructions out of these two types cannot be developed.
10) Common Figure

- Testing figure
  Step 1: Select the plane where the testing figure is located;
  Step 2: Input the side length of testing figure;
  Step 3: Regulate the coordinate of the third axis;
  Step 4: Generate the figure as below:

You can use the figure translation or batch modification function to move the figure to the appropriate position.

- Oval

Generate Oval

| Regulation +X← | Regulate/cancel left vertex: Not regulated |
| Regulation +X→ | Regulate/cancel right vertex: Not regulated |
| Regulation +Y↑  | Regulate/cancel bottom vertex: Not regulated |
| Regulation +Y↓  | Regulate/cancel up vertex: Not regulated |
| Regulation +Z↓  | Regulate the starting point: Not regulated |
| Regulation +Z↑  | Regulate the end-point: Not regulated |

[1]. Oval direction: Clockwise
Save: Insert the oval to the current point

Press Shift+ XY key in the interface of oval to regulate all vertexes of the oval (To generate an oval, you need to regulate at least one vertex at both X and Y directions). Press the combination key once to regulate the coordinate, and press for the second time to cancel the regulated coordinates. Press Positioning key to move to the middle of regulated coordinates. Once starting point and end point have been regulated, press number key (1) to select the oval direction, and then press Shift +OK to generate the oval. The data of all vertexes in this interface are saved at all times, even you exit the interface. Therefore, you can exit midway while regulating the oval and the data will still be there when you re-enter.
### ADT-TV5500DJ Three-axis Dispenser Digital Control System

- **Type:** Clockwise oval
- **Oval panel:** XY
- **Circular center X:** 129.375
- **Circular center Y:** 143.230
- **Circular center Z:** 0.00000
- **X semi-diameter:** 84.8950
- **Y semi-diameter:** 55.6500
- **Point number:** 00002 /00003

Files are modified and not saved yet!

The final oval

- **Track**

**Generate Track**

- Regulation +X ←: Regulate/cancel left vertex: Not regulated
- Regulation +X →: Regulate/cancel right vertex: Not regulated
- Regulation +Y ↓: Regulate/cancel bottom vertex: Not regulated
- Regulation +Y ↑: Regulate/cancel up vertex: Not regulated
- [0].Starting point: Left/Bottom middle point
- [1].Track direction: Clockwise

Save: Insert track to the current point

[Select] [Return]

Press Shift+ XY key in the interface of generated track to regulate all vertexes of the track. Press the combination key once to regulate the coordinate, and press for the second time to cancel the regulated coordinates. Press Positioning key to move to the middle of regulated coordinates. You can press number key (0) to select the starting point (the starting point can only occur in the middle of the long side), press 1 to select the track direction, and press Shift +OK to generate the track. The data of all vertexes in this interface are saved at all times, even you exit the interface. Therefore, you can exit midway while regulating the oval and the data will still be there when you re-enter.
The generated track figure

- Rectangle filling

**Rectangle Filling**

- Regulation +X Left: Regulate/cancel left vertex: Not regulated
- Regulation +X Right: Regulate/cancel right vertex: Not regulated
- Save: Insert track to the current point

Glue gun diameter: 0.00000

Filling Style: Vertical filling

Two diagonal points of regulation rectangle generate filling figure automatically. When diameter of glue gun fails to be divided evenly by the set edge length, a reminder will pop up to prompt to increase or decrease glue gun diameter and achieve which can be dividable by the edge length.

* Type: Start point

X: 32.1920
Y: 72.8879
Z: 0.00000

Speed: 100 %

Close dispensing in advance: No

Point number: 00001/00071

SHIFT+3 Advanced editing function
Circle filling

Circle Filling

Regulation +X Left: Regulate/cancel first point on the circle: Not regulated
Regulation +X Right: Regulate/cancel second point on the circle: Not regulated
Regulation + Y Up: Regulate/cancel third point on the circle: not regulated
Save: Insert track to the current point

Glue gun diameter: 0.00000

Close dispensing in advance:

* Type: 
  Start point

X: 118.296
Y: 134.635
Z: 0.00000

Speed: 100 %

Point number: 00001 /00044  F3 – Type is switched to single point

Three points on the periphery needing to fill are regulated to auto generate the filling figure similar as spiral shape. When diameter of glue gun fails to be divided evenly by semi-diameter of circle, a reminder will pop up to prompt to increase or decrease the diameter of glue gun and achieve which can be dividable by the semi-diameter of circle.

11）Type search

If you want to search No. N processing point same as specified type, press “Shift + Search” in the interface of file edition to quickly call this function, and then press “Shift + Up” or “Shift + Down” to search last or next point with this type.

12）Local adjustment:

This function is to adjust the coordinate of figure from the current point to the next reference point. The adjustment method is as follows: the first point of figure in this area is adjusted to the current coordinate, and its other parts offset simultaneously. This function mainly applies to the local adjustment of a certain area in graphic array, which needs to start from a reference point, in order to correct needle and ensure to not generate the actual
movement. “Type search” function can be used to find the reference point required to adjust, and then start to implement the local adjustment.

2. PLT Figure Importing Function

Set the PLT file conversion proportion in system parameters, and then press Shift +6 in the main interface to select PLT files to convert them into processing files of the same name ended with .DJJ suffix. After that, press Shift +2 to call file manager to copy the processing files to ADT-8848 for testing and processing. PLT format is a format of printing file containing XY coordinate, starting point, end-point, and color of figure without info about Z-axis coordinate. Therefore, figure after conversion does not have Z-axis coordinate and needle height value. You can use the batch modification function to modify the Z-axis coordinate and needle height. There are many kinds of software generating PLT files. Here, we just introduce the ways of generating PLT files using two kinds of widely used software: CorelDRAW 12 and AutoCAD 2004. The interface may be a little bit different in case of different version.

1) Use CorelDRAW 12 to generate PLT files

<1>. Draw the figure
<2>. Click menu “File” → “Export”, and a dialog box appears as follows:

![Dialog box for exporting CorelDRAW files](image)


<3>. Select PLT—HPGL Plotter File in “Type”, and click “Export”, a dialog appears as follows:
In "Page" tab, select “Bottom left” in “Graphic plotter origin”, and leave other settings as default.
2) Use AutoCAD2004 to generate PLT files

Please check whether there is a printer named “Universal SHPGL” in printer type. If no, follow the following steps to install:

Click menu “File” → “Printer Manager”, and a picture as below appears.

![Printer Manager Interface]

Double click the icon of “Add Printer Wizard”, and click “Next” to enter the following interface:

![Add Plotter Wizard Interface]
机型号：Plotter Model/选择驱动程序：Select Drivers/输入 PCP 或 PC2 端口：Input PCP or PC2 Port/打印名称：Plotter Name/完成：Complete/要配置新打印机，请选择下列选项之一：Please select one of the following options for new plotter configuration/我的电脑：My Computer/所有的设置都由 Autodesk Heidi 打印机驱动程序配置，并且由此计算机管理：All of settings are configured thorough Autodesk Heidi plotter driver and administrated by this computer/网络打印机服务器：Networked Plotter Server/系统打印机：System Plotter/使用已配置的 Windows 系统打印机驱动程序，并对 AutoCAD 2004 使用与其它 Windows 应用程序不同的默认值：Please use configured Windows system plotter driver, and use different default values with other Windows applications for AutoCAD 2004./上一步：Back/下一步：Next/取消（取消）Continue to click “Next”

（添加打印机-打印机型号：Add Plotter – Plotter Model/选择打印机生产商和型号。如果该打印机未列出，请参考打印机文档以配置兼容打印机：Please select plotter manufacturer and model. If your plotter is not on the list, please refer to plotter file and configure the compatible plotter./可选，如果有包含 HDI 驱动程序的安装盘，请选择“从磁盘安装”。将显示“浏览 HIF 文件”对话框，以定位并安装附着到 HDI 驱动程序的 HIF 文件：Optional. If you have Setup disk with HDI driver, please select “Install from disk. The “Browse HIF file” dialog box will display, and position and install HIF file attached HDI driver./生产商：Manufacturer/型号：Model/此型号的供应商为 HPGL – 由 Autodesk, Inc 提供：This model supplier is HPGL – provided by Autodesk, Inc./从磁盘安装：Install from disk

Select “Universal SHPGL” printer of HP, and keep clicking “Next” until the finish of printer installation. After the finish of installation, you can then export the PLT file following the steps as:

<1>. Draw a figure
<2>. Click “File” ➔ “Print”, and the following dialog box appears
3. Select “Universal SHPGL.PC3” printer in “Printer device”, check the “Print to file” check box, and set the path and name of the exported file.
<4>. In “Print setup”, uncheck “Print style” and “Line width of printing object” in the printing options. Pay attention to the selection of “Figure direction”. A wrong selection may lead to wrong direction of the exported figure (Take letter “A” normal display as standards). Select “mm” for unit, select “Range”, “Display” or “Window” for print area, and select 1:40 for print ratio.
<5>. Click “OK” to export PLT file

PLT file can be opened by text editor. The following is a sample of PLT file:

```
_(_l81117;:_N:19;IN;SC;PU;IP;IW;VS20;1;VS20;2;VS20;3;VS20;4;VS20;5;VS20;6;VS20;7;VS20;8;SP1;PU;PA0;0;SP1;LT;PA3985;3940;PD;PA5344;3940;PA5344;2497;PA3985;2497;PA3985;3940;PU;PA0;0;SP;PG1;
```

3) Ways of Changing Sequence of PLT File Track with CorelDRAW12

<1>. The adjustment of point sequence inside the curve
As shown in picture above, we can see that one endpoint of the curve is big and the other one is small. Big endpoint means the starting point, and the small endpoint means the end-point. To change their sequence, use the method below:

Left click on the icon on the second row of the left toolbar, select shape tool (as above picture), right click an endpoint of the curve, and select “Reverse curve”; then, the point sequence within the curve will be changed. (As the following picture)
The figure after reversing is as follows:

<2>. Figure sorting

If a figure is a group, you need to cancel the grouping of the figure. To do this, right click on the figure, and select...
“Cancel all grouping” (As the picture below):

Generate several curves (As picture below):


(To open the object manager on the right side, click “Tool”→“Object manager”)
Select any one of the curves (As picture above), you can name it, and move it to the desired position (as picture below):
Export PLT file when the sequence is arranged. Remember the position of starting point, which is the position when setting the starting point position during the processing.

4) Ways of Importing dxf files with CorelDRAW12

After generating dxf file with AutoCAD, you have to close AutoCAD before importing dxf file into CorelDRAW; otherwise, the import will fail. Pay attention to the unit when using AutoCAD. If you use millimeter, the zoom unit should use “Metric system”; if you use inch, select the “Imperial system”.

(导入 AutoCAD 文件: Import AutoCAD File/三维投影: 3-D Projection/顶部: Top/缩放: Zoom/自动: Auto/英制: Imperial System/1 单位=1 英寸: 1 unit = 1 inch/公制: Metric System/1 单位=1 毫米: 1 unit = 1 mm/自动减少节点: Reduce node automatically/确定: OK/取消: Cancel/帮助: Help)
3. **G-Code Importing Function**

In main interface, you can press Shift +7 to switch the G-code files to processing files with a suffix name of .DJJ.

The supported G codes nowadays include G00, G01, G02, G03, G17, G18, G19, G90, G91, G20, G21, and too change instruction begun with T.

**Appendix I: Functional Description of TV0015 LCD Additional Panel Operation**

The first line displays the current processing file;  
The first letter of the second line indicates the operative status: L: Low speed manually; H: High speed manually; S: Select File  
X+, Y-, Y+, Y-, Z+, and Z- control the motor to revolve in clockwise or counterclockwise.  
“Speed” key is used to switch manual speed;  
“File” key is used to switch file selection status;  
R+ and R- are used to select last file and next file.

Error codes definition:  
018: No end point;  
019: No start point;  
020: No circular arc end point;  
021: No oval end point;  
022: Error in circular arc instruction;  
023: Error in oval instruction;  
024: Abnormal stop;  
032: X positive limit;  
031: Y positive limit;  
032: Z positive limit;
Appendix II: Functional Description of TV5500DJ F2 LED Additional Panel Operation

F2 additional panel comprises four LED displays and four keys input (Up/Down/Left/Right from left to right);

1. When automatically entering the interface of file selection after electrified, LED indicates as follows:
   F=00
   Two digitals behind “=” represents current using file number with range from 00 ~ 99;
   Press Up/Down keys to select file number, and the corresponding relationship of file number should be set in the File parameters;
   Press Left key to enter motor manual function;
   Press Right key to enter LED self-detection function;

2. When entering motor manual function, LED indicates as follows:
   A=0L
   The last letter is L or H, in which, L represents low speed manually, and H represents high speed manually, which can be switched through Right key;
   The penultimate number represents the selected axis number, 0 ~ 2 respectively indicates X, Y, Z axis, which can be switched through Left key.
   Press Up/Down keys to control the selected motor to revolve in clockwise or counterclockwise upon the selected speed.
   Press Left key for 2 seconds and set the current position to be processing start point (needle correction). Please note that this function will be invalid under the state of file edition.
   Press Right key for 2 seconds and exit motor manual function back to the interface of file select function.

Appendix III: Shortcut Keys List and Operative Precautions in interfaces of TV5500

Shift + F1: HELP for current interface;
Stop key: repeatedly used as Exit Menu key in the interface of parameters setting;
File edition interface:
1. Start key: Start/Pause;
2. Stop key: Stop/Reset;
3. Reset key: Reset;
4. XYZ motor manual key: manually move motor;
5. Speed key + axis direction keys: switch high speed and low speed manually;
6. Regulation key: Save current coordinate to the current point and jump to the next point;
7. Needle height key: Save current Z coordinate to the needle height parameters of the current point;
8. Insert key: Insert a point before the current point;
9. Delete key: Delete the current point;
10. Positioning key: Position the motor to the current point;
11. Up/Down keys: Select the data requiring for change;
12. OK key: Make a change;
13. Left/Right Keys: Browse last and next points;
14. F1 key: Switch types (start point/straight line/ end point);
15. F2 key: Switch types (circular arc/circle/circular end point);
16. F3 key: Switch types (single point / travel);
17. F4 key: Select point type;
18. Shift +F1: Call HELP file;
19. Save key: Save files;
20. Menu key: Advanced edition function;
21. Shift + Clear: totally delete;
22. Shift + Left: To the first point;
23. Shift + Right: To the last point;
24. Shift + Closest: To the closest point away from current position;
25. Shift + Translation: Figure translation;
26. Shift + Depth: Uniform adjust Z-axis depth;
27. Shift + 0: Browse specified processing point;
28. Cancel key: Exit edition interface;
29. F4+Z ↓: Select glue gun to feed in;
30. F4 +Z ↑: Gun-out;
31. Cancel key: Exit edition interface;
32. Needle correction key: set the needle correction point;
33. Shift +Copy: Array copy;
34. Shift + Search: Search the point with the specified type;
35. Shift + F2: List mode.

Processing operation interface:
1. Reset key: Reset;
2. Start key: Start/Pause;
3. Stop key: Stop;
4. 1 key: Switch cycling processing and single processing;
5. 2 key: Switch auto and single step;
6. 3 key: Switch dispensing permit and dispensing prohibition;
7. 4 key: Enter quick setting interface;
8. 5 key: Enter file edition interface to set cycling processing;
9. **7 key**: Enter user parameters setting;
10. **8 key**: Zero clearing for current cycling times;
11. **9 key**: Zero clearing for current total processing
12. **Needle correction key**: Set needle correction parameters;
13. **F4 + Z ↓**: Preview processing file;
14. **Shift + 1**: If power-down memory function is on, press this key to continue processing from last power-down position;
15. **Shift + 2**: Select to process from any processing point of the file.

**In the interface of needle correction:**
1. **Shift + Z ↓**: Select glue gun to feed in
2. **Shift + Z ↑**: Gun out

**Precautions:**
1. If the file fails to be saved after change, there is “*” prompt beside Type data column, and press “Save” key to save file. Please save file before file operation or call, otherwise the operative data are the data before save.
2. In interfaces of different parameters setting or advanced edition function: **Shift + corresponding number keys** can quickly select the parameters or functions requiring for edition.
3. After PLT file is converted to be DJJ processing file, the empty commend will generated respectively on the start and end of commend statement, which is suggested to be deleted, so as to not affect processing;
4. When figure fillet function is implemented, please copy first, for the same file only has once fillet opportunity;
5. The quick file and processing switch failure are selected externally, under the situation of editing file;
6. Quickly select layer or quickly select file function and setting are as follows: (1) in the menu interface, enter “Manufacturer parameters settings”, select “Input port settings”, and select various layer or various input point corresponding quick file number; 2. In the menu interface, enter “File parameters settings” interface, and set the layer where glue gun is located or file number corresponding the file.
7. In the main interface, manual control of axis movement is invalid;
8. After TCF file conversion, needle correction or figure translation should be implemented, and then the processing can be started.
9. Relevant parameters of well-placed signals and delay of gun-in and gun-out and gun-in will not be valid until signal of cylinder gun-in and gun-out is valid.
10. Manual fine tuning method: Quickly press axis movement key once, i.e. when pressing movement key once, the corresponding axis will move a preset fine tuning pulse distance.
11. In interfaces of edition and needle correction, when cylinder controls glue gun, gun-in, gun-out, and gun-switch can be realized;
12. Reference steps for cycling processing: (1) in processing interface, press 1 key to start cycling function; (2) set number and times of cycling files, which should respectively correspond with selected files of “Quick file number” in the catalog of “File parameters settings”; (3) Select and preset the processing file requiring cycling, and then cycling processing can be started. If external cycling select switch is set, start and stop functions in the system cycling of handheld box will be invalid.
13. Quickly select file, file corresponding number, and file corresponding layers are completely different concepts, and please do not confuse them.