

## Curve Control Application

category	content
Key words Curve	Control controls the serial port configuration
screen summary	



## revise history

version	date	the reason	prepared by	Examine
V1.0	2016/02/24	Create documents	Chien	
V1.1	2017/06/03	Slightly modify the document, increase the curve line thickness	Chien	



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## 1. Scope

Documentation for budget, basic, were linked, 86 Boxes and other serial-screen products.

## 2. Development Environment version

1. VisualTFT Software version: V3.0.0.636 And above; versions View: Open VisualTFT Click Help -> About VisualTFT You can view the current software version number; the latest version can be found at [www.gz-dc.com](http://www.gz-dc.com) Download



2. Serial screen hardware version: V2.22.649.XXX And above. View version :( 1) Check

the version number sticker on the back screen.

(2) VisualTFT After the success of the online screen, the version number displayed in the lower right corner.



### 3. Functional Overview

Control curve is essentially: microcontroller transmits a series of sampled data over the serial interface screen that displays the specified location. If a steady stream of data updates, a graph on the display by scrolling.

4. Technical realization

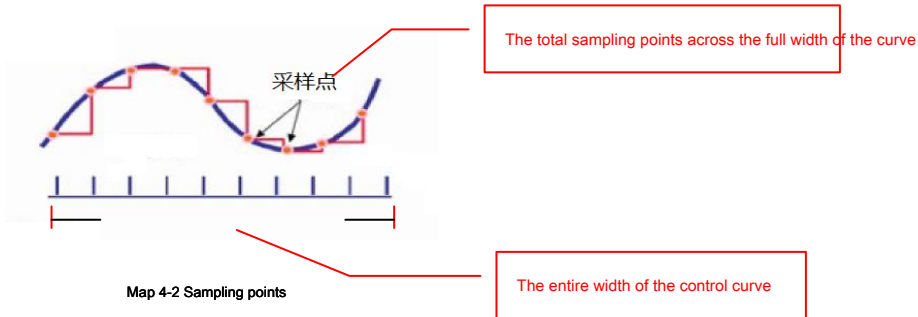
4.1 Properties window

Familiar Properties window may be better to set the control's properties, as 4-1 , The property window of the control curve.

基本	
名称	Graph1
编号	1
位置	
x坐标	157
y坐标	105
宽度	331
高度	265
曲线	
采样点数	100
采样深度	1 Byte
抗锯齿	禁用
显示方向	水平
线条粗细	1
缩放显示	否
通道数	1
通道0	<input type="checkbox"/> 255; 255; 255

Map 4-1 Properties window

1 , Number of samples: FIG. 4-2 As shown, over the entire width of the control range of the curve, from left to right a number of points.



Map 4-2 Sampling points

For example, FIG. 4-3 Shown, the curve width to 512 Pixel sampling points set 512 A, 1 Pixels corresponding to points 1 A sample data curve. Then the entire width of the curve needs to display just finished 512 Data, when 513 Data arrives, updated FIFO Data, the curve shifted to the right display. If the width of the curve 200 Pixels, the number of samples 201 The entire width of the control can only display 200 Sampling points, then the first 201 Data points a curve comes curves displayed on the display screen will begin to pan right.



基本	
名称	Graph1
编号	1
位置	
x坐标	157
y坐标	105
宽度	512
高度	265
曲线	
采样点数	512
采样深度	1 Byte
抗锯齿	禁用
显示方向	水平
线条粗细	1
缩放显示	否
通道数	
通道0	<input type="checkbox"/> 255; 255; 255

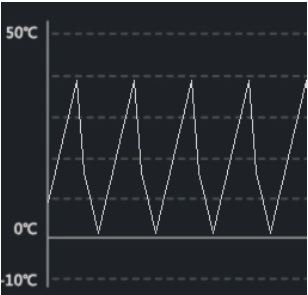
Map 4-3 Property set

2 , Sampling depth: a sample data bytes occupied. " 1Byte " " 2Byte "Optional, defaults 1Byte .

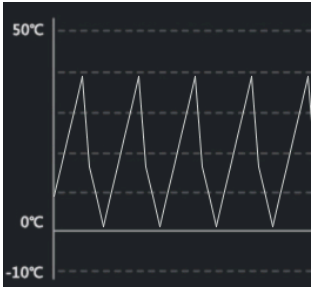
A :select" 1Byte "Hex FF , Occupied 255 Bytes.

B :select" 2Byte "Hex FFFF , Occupied 65535 Bytes.

3 Anti-aliasing: after the anti-aliasing effect, the curve shows smoother. Such as Map 4-4 FIG off antialiasing function, such as Map 4-5 It shows anti-aliasing function.

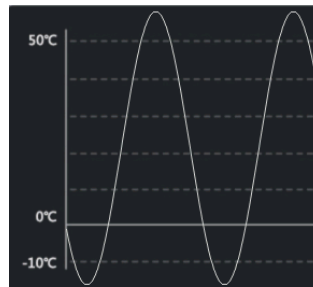


Map 4-4 Turn off anti-aliasing

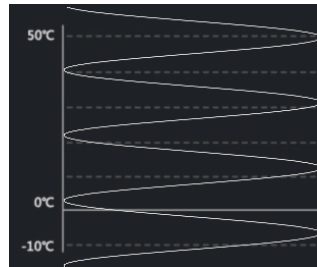


Map 4-5 Anti-aliasing

4 , Display direction: the display direction of the curve, divided into "horizontal", "vertical." Figure 4-6 As shown in the "horizontal" display.



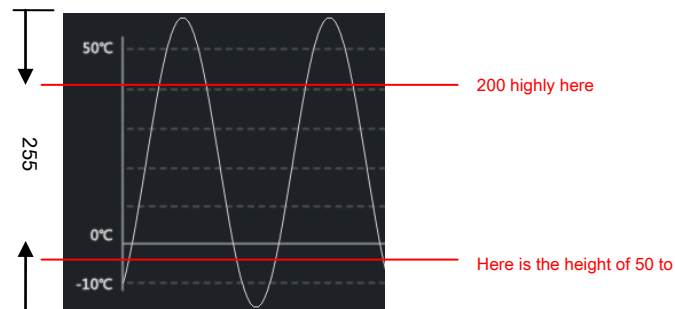
Map 4-6 Level display



Map 4-7 Vertical display

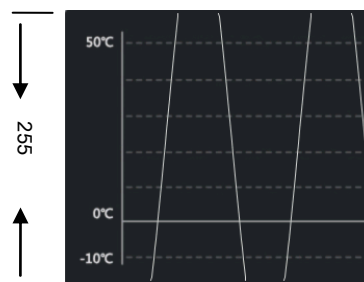
5 , Line thickness: thick line curve is provided with 1 , 2 , 3 , 4 Optional four levels.

6 , Zoom display: Open scaling, scaling the set start value, the value of the termination, according to the value of these two settings, the curve between two values taken were stretched up and down. As for the height of the control is shown in 255 The sinusoidal scaling is not turned on.



Map 4-8 Unopened Zoom

After opening scaling, suppose we start value is set 50 Termination value 200 , Then the display on the screen corresponds to the interception Map 4-8 Curve in the section stretching to a designated height of the control, this is tantamount to 150 Vertical height of the curve section to the stretch 255 Height, after stretching in FIG. 4-9 Fig.



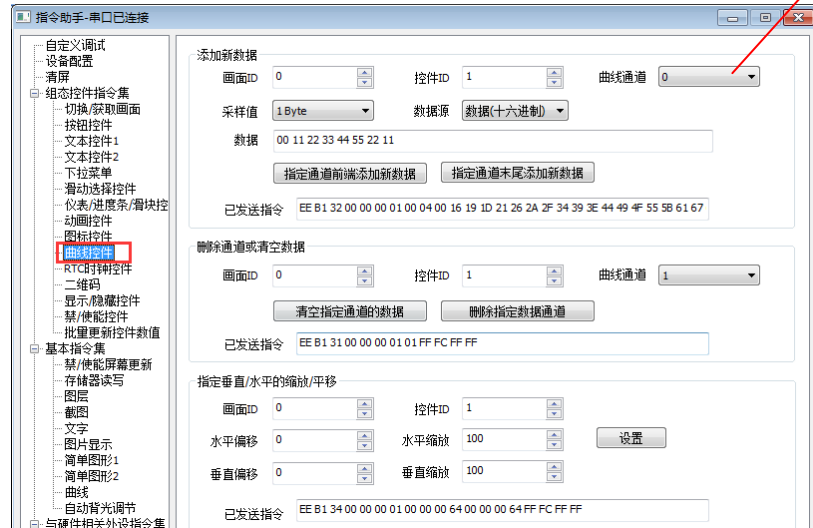
Map 4-9 Zoom open

7 Channel value: You can preset up 8 Channels. Each channel may be provided in different colors, color settings help

To distinguish between different channels, it may be HSB Mode and RGB Color mode setting.

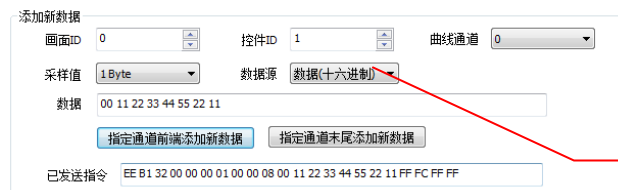
## 4.2 Instruction assistant

To control the depth of use, be sure to skillfully control the usage of each function instruction assistant point. Figure 4-10 , The instruction is a graph assistant control interface.



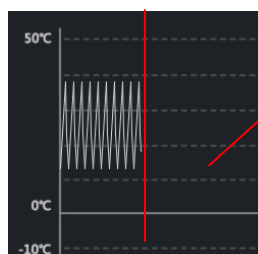
Map 4-10 Instruction assistant

1. Add new data to add new data interface is provided in FIG. 4-11 Fig.



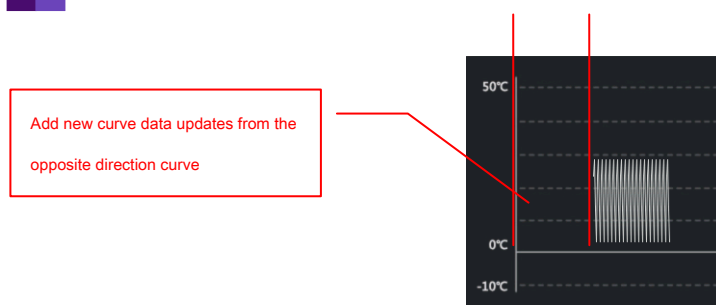
Map 4-11 Add a new data field

( 1 ) Curve of the preset channel, transmit data directly to the display, the same preset a maximum of control 8 Channels. ( 2 ) Data source, 'Data (hex), sine wave, sawtooth, random data "four. ( 3 ) Specified channel distal add new data: the data transmission in the curve direction of the curve updated as 4-12 Fig.



Map 4-12 Add front-end data

( 4 ) The rear end of the specified channel add new data: the data transmission in the opposite direction of the curve profile update, as 4-13 Fig.



Map 4-13 Adding back-end data

2. Remove empty channel or data channel delete or erase data interface is provided in FIG. 4-14 Fig. Set the screen ID Controls ID And the curve channel, you can clear the data specified channel, data specified channel will delete all, but also on the channel to send new data; deletes the specified data channel, the data channel deleted and can not send data to the channel displayed curve .

删除通道或清空数据

画面ID: 0 控件ID: 1 曲线通道: 0

清空指定通道的数据 删除指定数据通道

已发送指令: EE B1 33 00 00 00 01 00 FF FC FF FF

Map 4-14 Clear Channel and delete data

### 3. Zoom and pan

Zoom and pan commands helper FIG setting interface 4-15 Fig.

指定垂直/水平的缩放/平移

画面ID: 0 控件ID: 1

水平偏移: 0 水平缩放: 100 设置

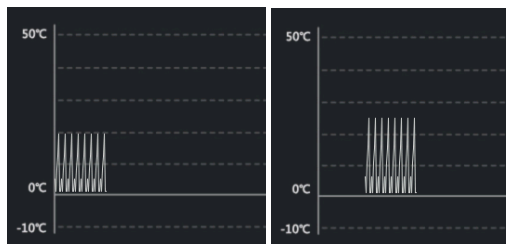
垂直偏移: 0 垂直缩放: 100

已发送指令: EE B1 34 00 00 00 01 00 00 00 64 00 00 00 64 FF FC FF FF

Map 4-15 Zoom and pan

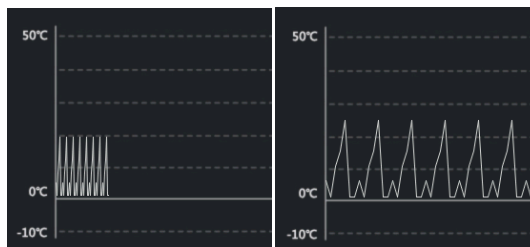
(1) Horizontal offset, as shown in 4-16 As shown in the left section of the curve for the normal undeflected right horizontal offset - 50 .

Note: When the setting value is a positive value, graph shift to the left; when the set value is negative, pan right curve.



Map 4-16 On the left is a normal effect, the right horizontal offset - 50 effect

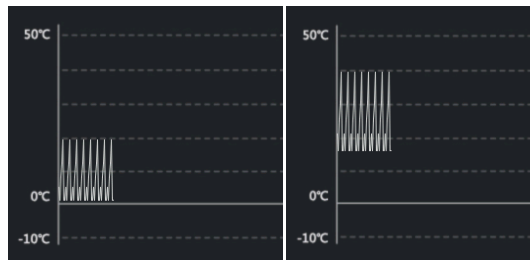
(2) Horizontal scaling as 4-17 As shown in the left section of the unscaled normal curve, to the right of the horizontal scaling 500% .



Map 4-17 On the left is a normal effect, the right horizontal scaling 500% effect

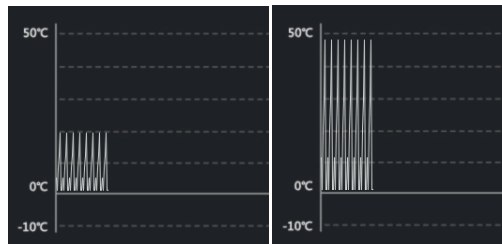
( 3 ) Vertical offset, as shown in 4-16 As shown in the left section of the curve for the normal undeflected right vertical offset - 50 .

NOTE: When setting value is positive, translate downward curve; setting value is negative, the curve upward translation.



Map 4-18 On the left is a normal effect, the right horizontal offset - 50 effect

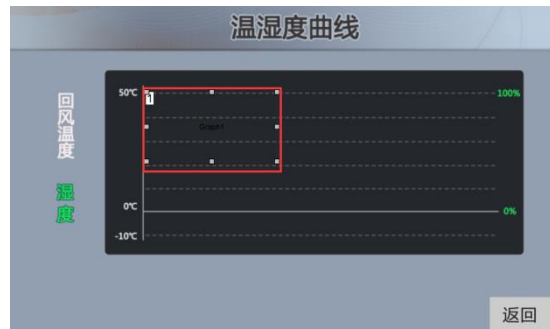
( 4 ) Vertical scaling, as shown in 4-17 As shown in the left section of the curve for the normal non-scaled, the right vertical scale 500% .



Map 4-19 On the left is a normal effect, the right for the vertical scaling 200% effect

### 4.3 Routine Operation

1 , A new screen, set the background screen image, and inserting a control curve, in FIG. 4-20 Fig.



Map 4-20 Set Background

2 , For the newly inserted attribute profile control window settings: → Type Width " 512 "; Height → type" 255 "; The number of samples → type" 512 "; Anti-aliasing enabled → FIG. 4-21 Fig.

基本	
名称	Graph1
编号	1
位置	
x坐标	157
y坐标	105
宽度	512
高度	255
曲线	
采样点数	512
采样深度	1 Byte
抗锯齿	启用
显示方向	水平
线条粗细	1
缩放显示	否
通道数	
通道0	255; 255; 255

Map 4-21 Property set

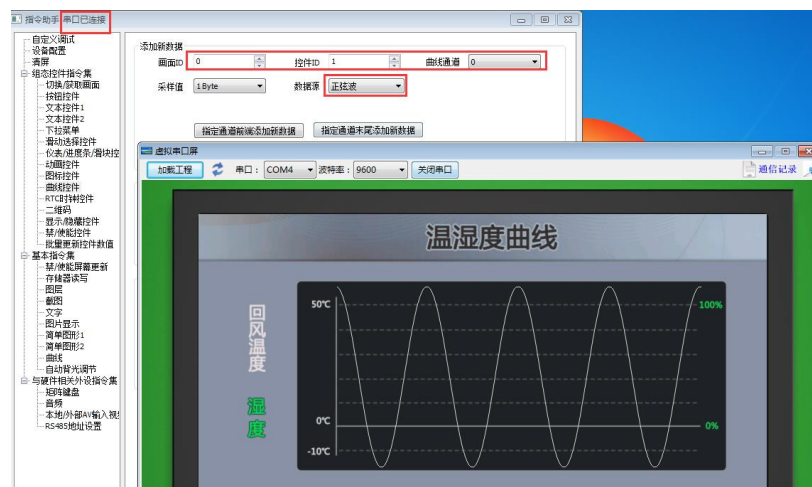
3 Adjusting a position corresponding to the control curve good background UI , As 4-22 Fig.



Map 4-22 Position adjustment controls

4 , Run the project screen or virtual serial port to serial port download screen, and then open the instruction assistant, set parameters, send curve data, virtual serial port input screen will be displayed curve, as 4-23 Fig.

Note: To run a virtual serial port Screen premise software and screen virtual serial port to communicate specific communication refer to our official website "VisualTFT online virtual serial port to communicate with the screen."



Map 4-23 Virtual Serial Port screen