# T5L Platform DMG-25 Series Analog Video Screen

Development Example

1. Introduction

DWIN's new multimedia screen series products are integrated based on the T5L platform, and its GUI development mode and software follow the development of DGUSII. For general functions, please refer to *T5L_DGUS II Application Development Guide*.

This article mainly describes the development process of the DMG-25 series analog video display, picture-in-picture, and floating icon functions of T5L. This series of analog video screens supports two-channel video input. When the two connected video signals are both CVBS signals, the two-channel video images can be displayed on the same screen. When the connected video signal is a 720P AHD camera, it supports switching display of two video signals.

2. T5L Platform Analog Video Display
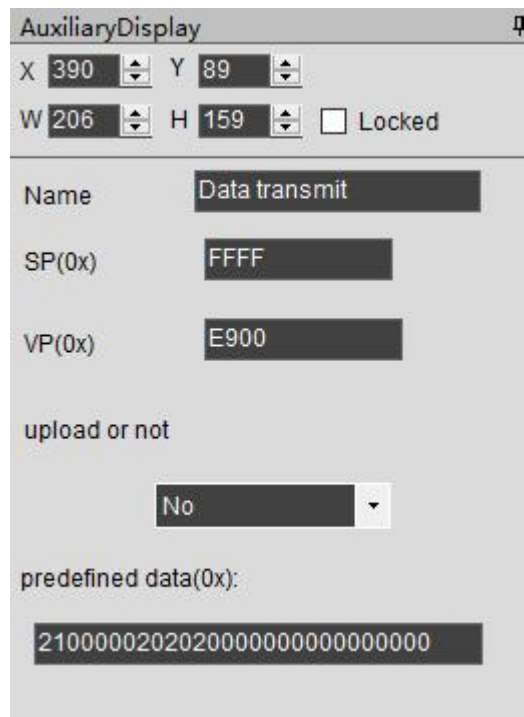
The video display function can be realized directly by using the Auxiliary Display(Data Transmit) in the DGUSII development software, and the usage method is as follows:

1. Select the   Auxiliary Display control, and insert it into the desired position on the page.

2. Configure the starting coordinates (X, Y) of the upper left corner and the width W and height H of the control.

3.   The variable address is set to E900H. If there are multiple display controls, start from E900H, and each variable address should be separated by 16 addresses, such as: E900H, E910H, E920H..., and support up to E9A0H.

4.   Video-related parameters are mainly configured in the column of "predefined data", a total of 14 bytes.

2100 0002 02 02 0000 0000 00000000

Function	Trigger pointer	Trigger value	Channel number	Resolution selection	Intercept position X	Intercept position Y	Reserve
Example	2100	0002	02	02	0000	0000	00000000
Byte	2	2	1	1	2	2	4

Trigger pointer: the address where the trigger value is located. The trigger value is invalid when the default is 0XFFFF. At this time, directly enter the page to control and display the video, and close it when leaving.

Trigger value: When the trigger pointer value is the trigger value, the camera is turned on, and

the other values are turned off.

Channel number: Select the video signal source when there are multiple video interfaces, 1-2 is optional, and the default is 1 when there is a single channel, and the hardware supports up to two camera accesses.

**Resolution selection**: This model does not support resolution selection, the default is 0.

Interception position: The interception position (coordinates of the upper left corner) of the display area at the overall resolution of the camera. Use this coordinate and the coordinate of the lower right corner of the display control to determine the interception area in the corresponding resolution signal and the window size of the video area. If there is no special need, it can be set to 0 by default.

Reserved: must write 00

Note: The area in the base image that needs to display the video image must be configured as all black (0, 0, 0).
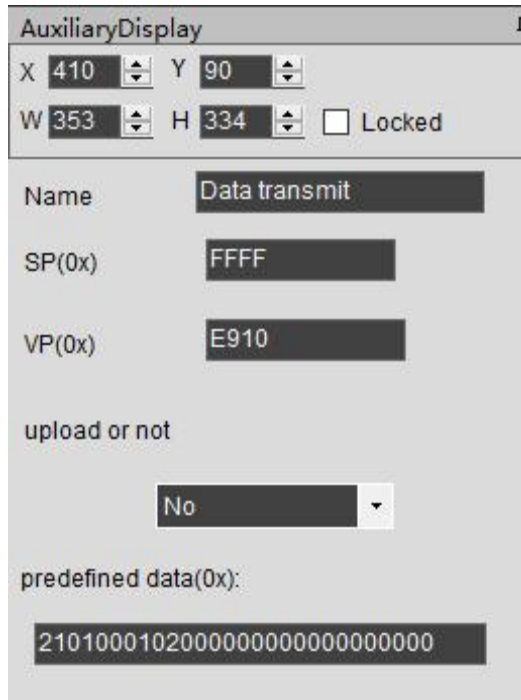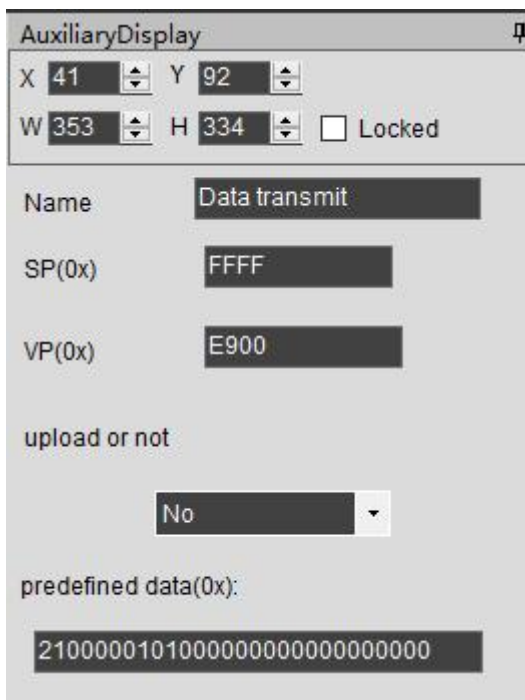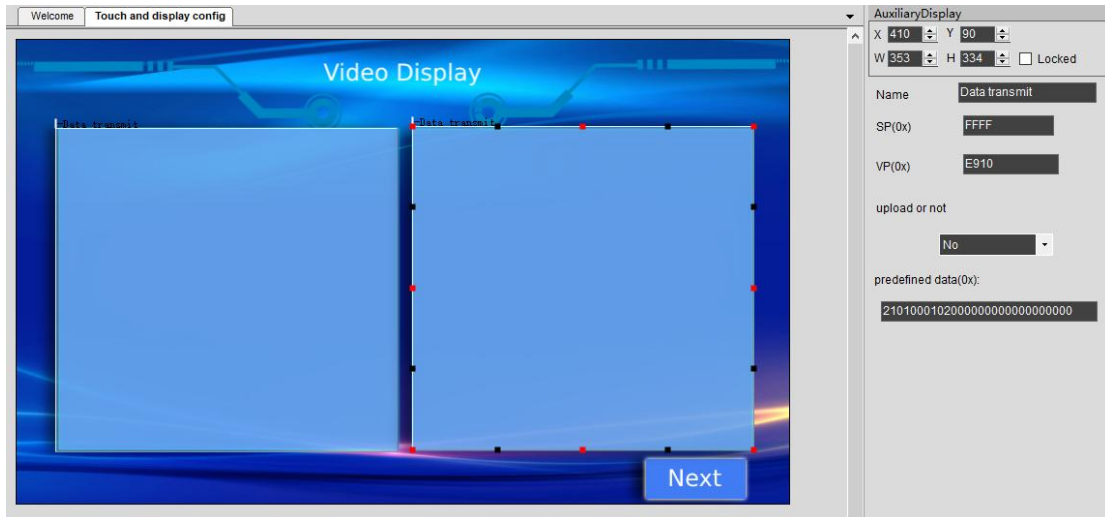
Example 1 Single video display

Use the key value to return to the control, jump to the display interface, and write 1 to the pointer 2100 address to activate the display control
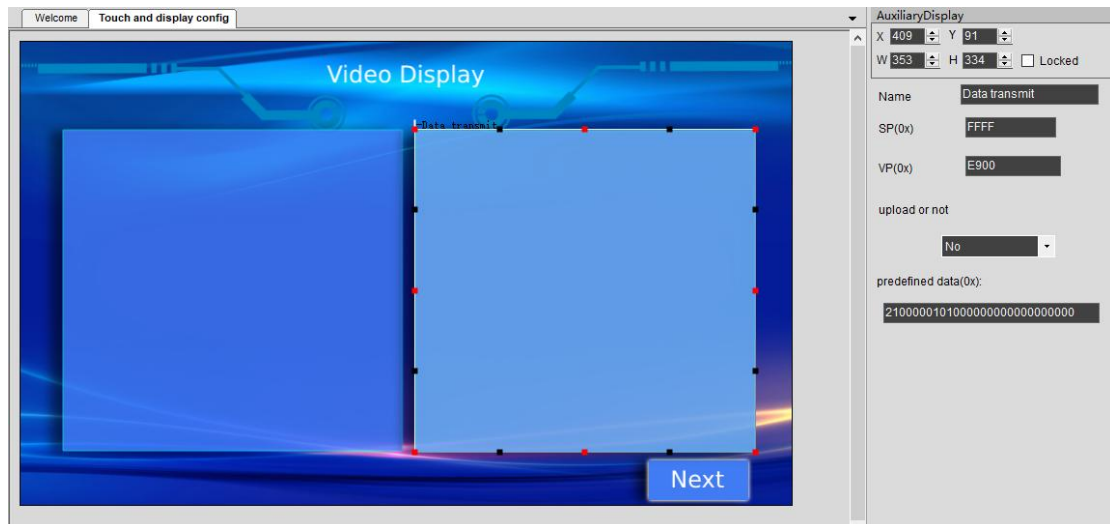
The Predefined data is: 2100 0001 0100 0000 0000 0000 0000

Example 2 Two-way picture-in-picture display

When two video channels need to be displayed at the same time, two display controls can be placed in the display area, and the variable addresses of the two controls cannot be the same, for example, the first one is 0xE900, and the second one is 0xE910. The trigger addresses of the two controls cannot be the same, for example:

The first control data is:
2100 0001 01 00 0000 0000 00000000
0x0001: Activation Value   0x01: Channel Source

The second control data is:
2101 0001 02 00 0000 0000 00000000
0x0001: Activation Value   0x01: Channel Source

You can send 8283 command through the serial port, write 0x0001 to variable address 0x2100 to activate video 1 display, write other non-zero values to close this video 1 display; write 0x0001 to variable address 0x2101 to activate video 2 display, write other non-zero values value off this video2 display;

It is also possible to write different values to the pointer address through the button value return control, activate the video display control, and control the video display.

3. Floating icon function

The floating icon function of analog video products based on the T5L platform is realized by drawing non-black controls or text on the all-black basemap (among them, the camera display control configuration and display configuration are the same as above).

A sample is as follows:
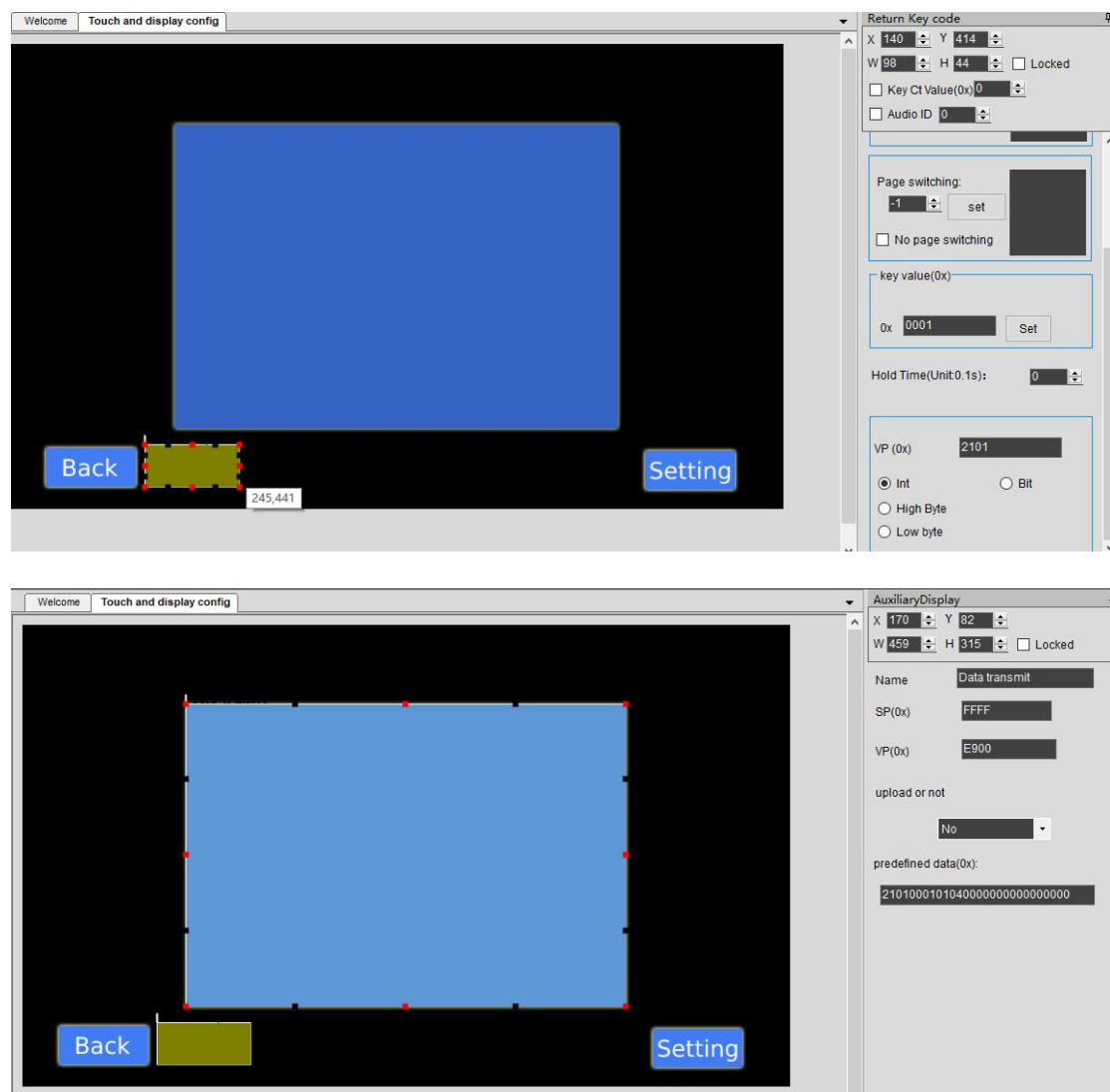
4. Development file description

Refer to the demo file as shown below:
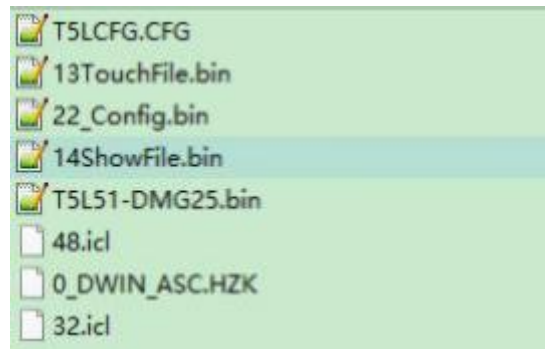
Among them, T5L51-DMG25.bin is a necessary file for custom development, and self-development must be added to the download demo. Other files can be customized.

The T5L51-DMG25.bin file is the OS kernel code, which is used to drive the configuration of the video screen. The OS kernel comes with the 8283 interface of the serial port 2 (115200 baud rate 8N1 mode), which can be used for the development of the 8283 instruction set, and has a touch upload function. Comes with RTC clock display. If you need to develop an OS core for special functions, you need to apply to the company for a source code project, add custom codes in the project, or contact relevant R&D for customization.

5. Instruction set development notes

Instruction set development can be carried out through the 8283 interface of serial port 2 (115200 baud rate 8N1 mode). For specific development, please refer to *T5L_DGUS II Application Development Guide*. When it comes to calling the video screen, please follow the steps below for development:

1. It is necessary to develop the DGUS interface according to the requirements of "2. T5L platform analog video display".

2. Enter the video screen display page, which must have video display controls.

3. Through the 82 write command, when the corresponding trigger value is written to the trigger pointer address, the video screen can be displayed.

4. When writing other non-trigger values (cannot be 0) to the trigger pointer address, the video display will be turned off, or the video display will be automatically turned off when the page is switched.