T31 SNIPE Development Board Usage

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Release history

Date	Revision	Change
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Foreword

This article mainly introduces how to build and use the T31 SNIPE development board, and test the image effects, coding and OSD functions.

1 Use environment preparation

Prepare a computer, if it is a windows system, please install xshell or secureCRT. If it is a linux system, install minicom to connect to the serial port for easy debugging. Please connect the development board as shown in Pic 1-1.
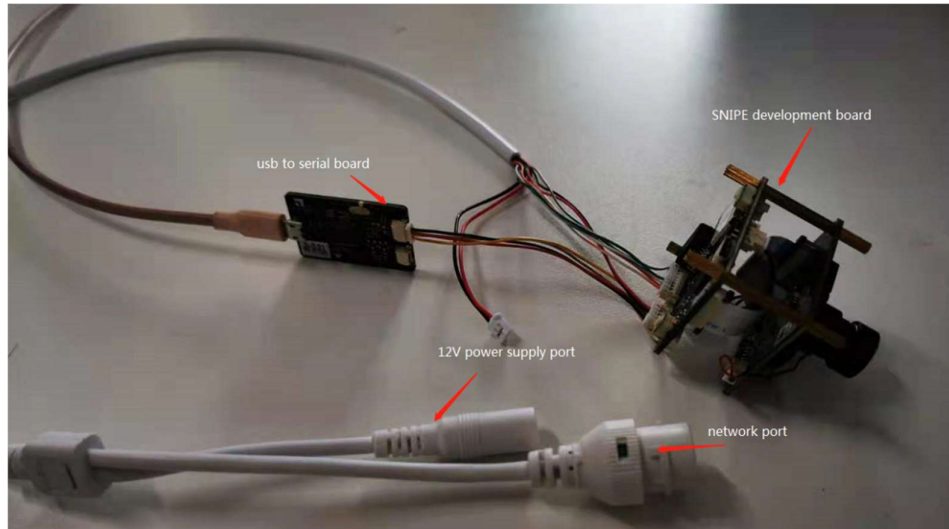
Pic 1-1 development board

1.1 Device connection

Connect to the serial port, select 115200 baud rate, select default for other parameters, power on and wait to enter the system, enter root to enter the system command line.

1.2 Configure IP address

The device uses a static IP by default, such as 192.168.1.135. The user needs to configure the device IP to make sure the device and the PC are on the same network segment, or modify the PC host IP address to make it on the same network segment as the device IP.

As shown in Pic 1-2, modify the device IP in the startup script (/system/init/app_init.sh). The user needs to reboot the development board after modifying the IP.

Pic 1-2 modify device ip

1.3 Run the main process

After the development board is powered on, the system will automatically run the startup script. The script is to execute the main process "./carrier-server --st=jxf23", where jxf23 is the sensor model.

If the main process is killed and you want to run the main process again, you need to access the directory: "/system/bin" directory and execute "./carrier-server --st=jxf23". The following print will appear at the end of the operation:

Play this video stream using the
URL: rtsp://192.168.1.135:8554/main

Play this video stream using the
URL: rtsp://192.168.1.135:8554/second

1.4 Use VLC to browse videos

Open VLC and enter the link address: rtsp://192.168.1.135:8554/main, then click the play button.

1.5 Use the carrier tool to browse the video

Double-click Carrier.exe and the interface shown in Pic 1-3, select T31, and click the OK button to automatically enter the main interface.
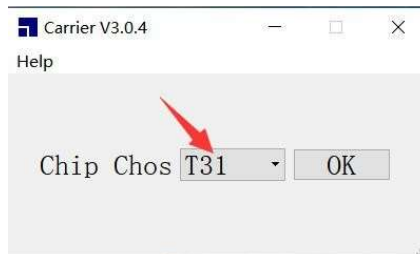
Pic 1-3 carrier tool select interface

As shown in Pic 1-4, after accessing the main interface, click the Scan button to search for devices on the same network segment. If there are multiple devices, you need to manually select one of them to connect. Click on "connect" to connect the PC to the device. After the connection is successful, the real-time streaming of the device will be displayed on the left.
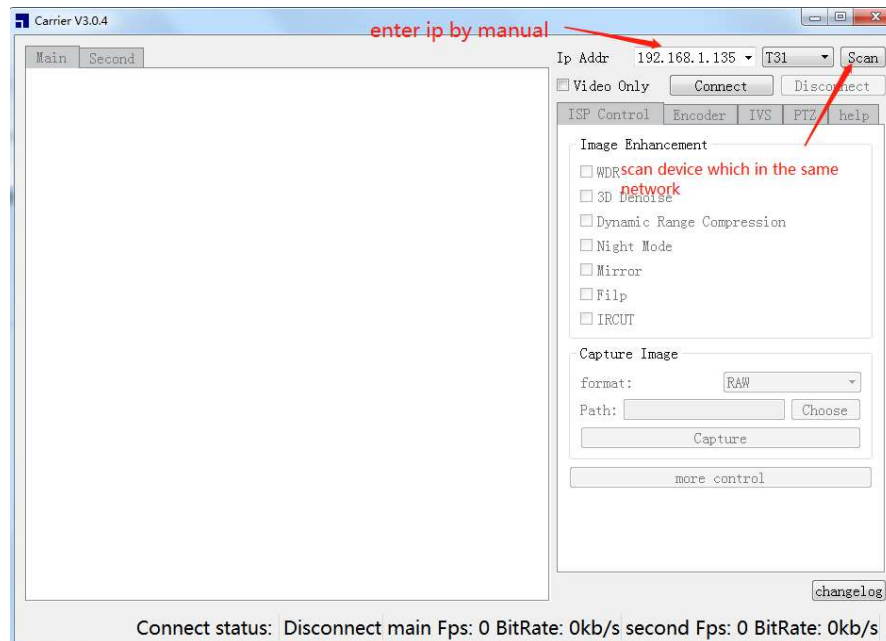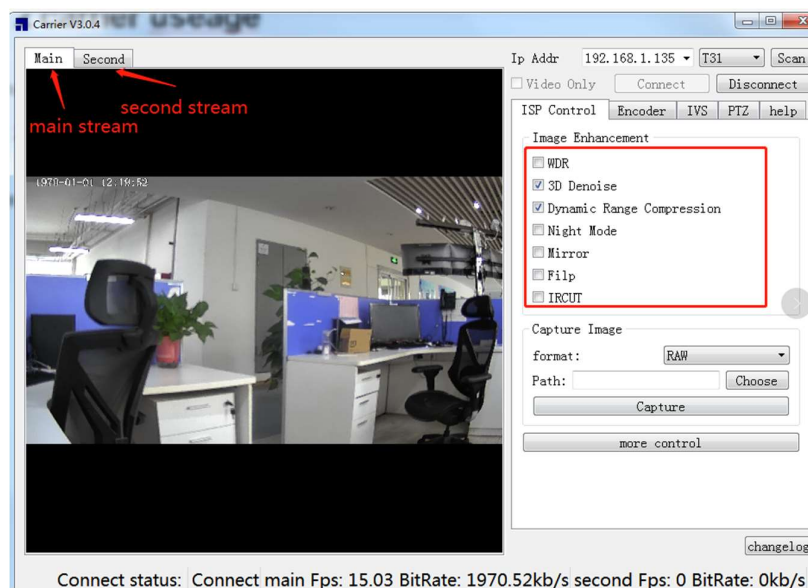
Pic 1-4 connect interface

2 carrier useage

After the device is successfully connected, users can refer to the functions introduced in this chapter to use it.
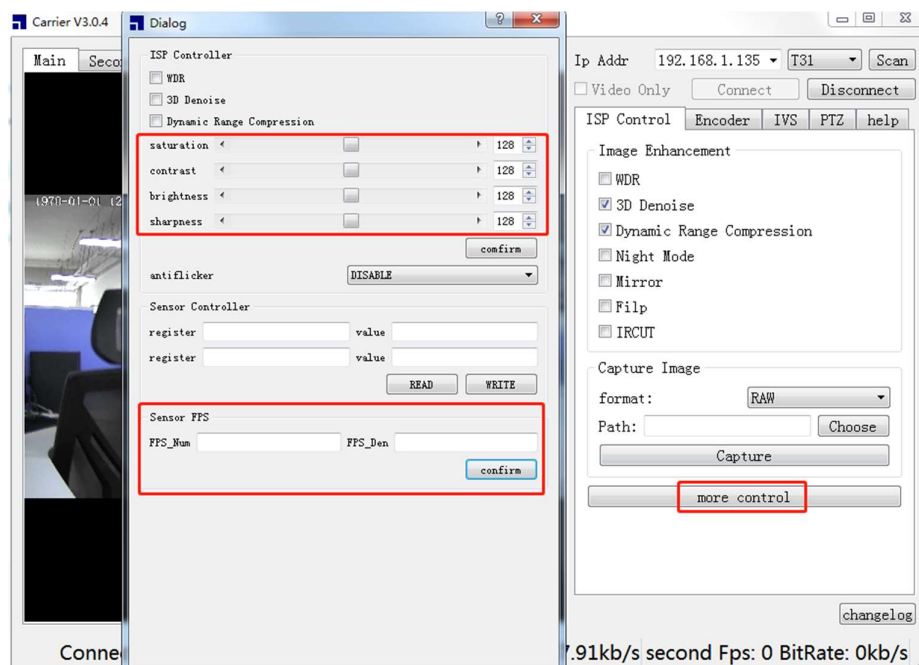
2.1 ISP control

As shown in Pic 2-1, the carrier provides graphical WDR, 3D noise reduction, night mode, mirroring, flipping and IRCUT switches. Users can use these switches to see the basic functions of ISP.


Pic 2-1 ISP function

Click the more control button on the ISP Control interface to enter the ISP controller interface. Pic 2-2 describes the function of the ISP controller, which can adjust the image brightness, saturation, etc., and set the image frame rate, such as setting 20fps, FPS_Num=20, FPS_Den=1.

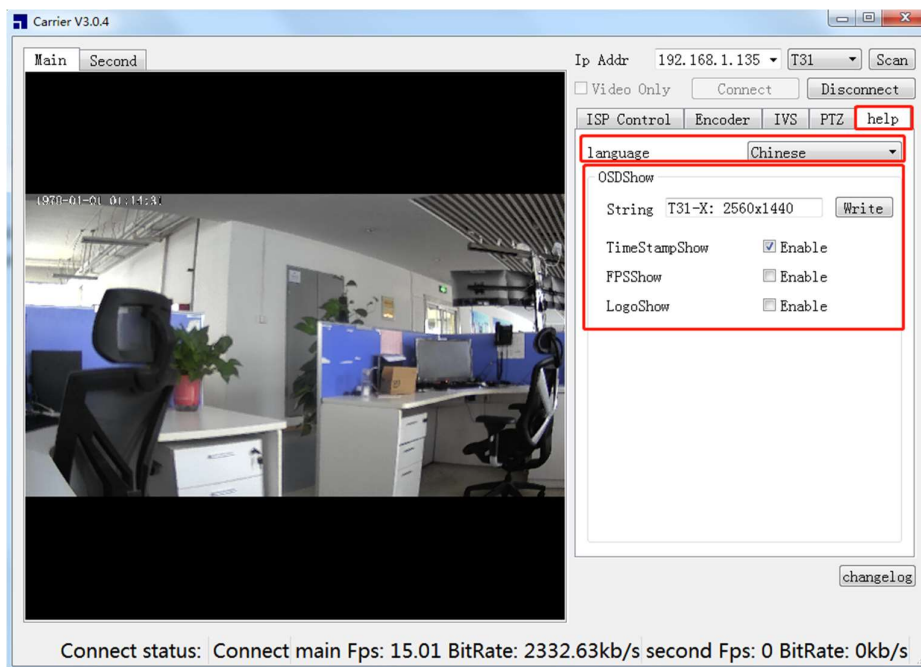Pic 2-2 ISP controller

2.2 Encoding parameter setting

Click the more control button on the Encoder interface to access the stream configuration interface. As show in Pic 2-3，The interface contains the parameters that need to be set for code stream control and the mode of code stream control. You can understand the function of code stream control by adjusting these parameters and comparing the real-time encoding rate displayed on the interface.
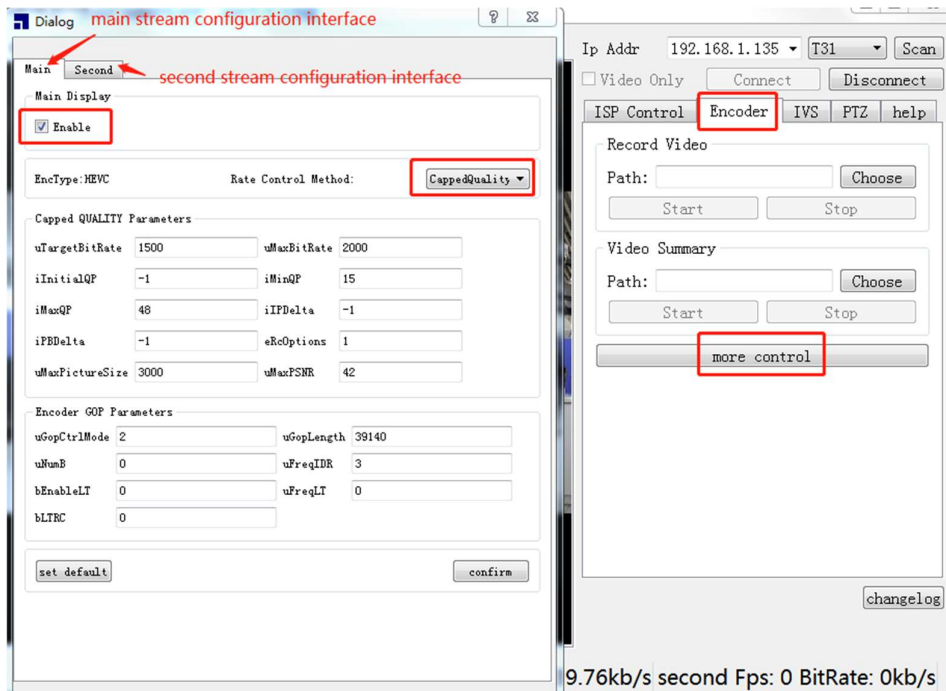
Pic 2-3 Encoding parameter

2.3 Function of the help interface

As shown in Pic 2-4, the main function of help interface is the Chinese and English switching of the carrier tool and the OSD overlay function test. OSD overlay mainly includes string overlay, timestamp overlay, frame rate display overlay and Logo image overlay.

Pic 2-4 help interface