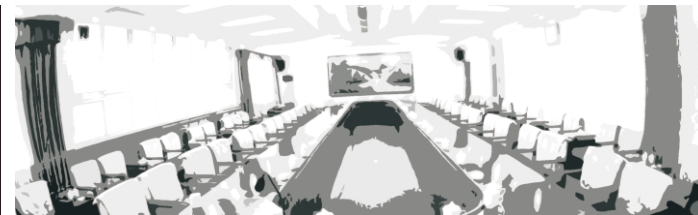





VTS-2000
Optional for Automatic
Video Tracking System



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Instructions

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INTRODUCTION

Thank you for choosing a Automatic Video Tracking System produced by RELACART and welcome you to join our team of tens of thousands of professional users. More than ten years of professional design and production experience ensure the excellent performance of our products in terms of quality, performance and stability.

01 Safety operation and Notice

Please read instructions for safety operation carefully before installation and operation.

Please save your safety operation guide for future reference.

- Do not scratch, bend, twist, stretch or heat the power cord as this may cause damage to the power cord, resulting in a fire or electric shock.
- Do not open the device shell, otherwise it may cause electric shock. If you need to repair, maintain or repair, please contact your local agent.
- Do not touch the power plug with wet hands as this may cause a fire or electric shock.
- Do not attempt to modify this device. Failure to do so may result in personal injury or product malfunction.
- Do not use this equipment near water.
- If the power cord is damaged (such as a broken wire or bare core), obtain replacement parts from your dealer.

Continued use of the equipment with a damaged power cord may result in fire or electric shock.

- To move the device he power, unplug the power cord, and unplug all connecting cables as this may damage the cable, resulting in a fire or electric shock.
- Before cleaning the device, unplug the power cord and unplug all connecting cables. Please clean it with a dry soft cloth.
- If the device is not in use for a long time, turn off the power, it is best to unplug the socket
- With the power plug and appliance coupler as the disconnecting device, it should be kept easy to operate.
- For the safe use of the equipment and adequate ventilation, the minimum clearance around the equipment should be maintained at a distance of 5 cm or more.
- DO NOT cover the Ventilation holes, such as: newspaper / fabric / curtains and other items.
- Equipment should not be placed on a bare flame source, such as: lit candles.
- Battery should not be exposed to sunshine, roasted or other high temperature overheating environment.
- Do not throw the waste battery, please put in the designated bins.
- Water protection rating: IPX0
- The device can be used normally in tropical / temperate climates.
- This product is only suitable for safe use at the altitude of 2000m and below.
- This symbol "⚡" indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
- All Relacart products will be afforded one year free maintenance except for man-made damage, such as:
 - the device is damaged by man-made factors.
 - the device is damaged by improper operation.
 - some components are damaged or loss after the self-disassembly.

02 System Overview

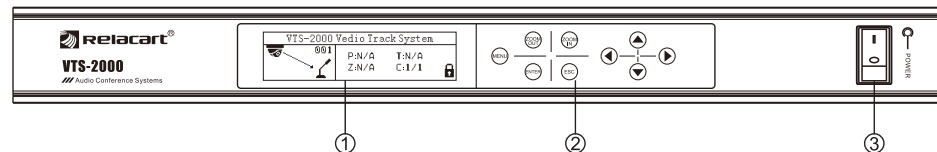
VTS-2000 Video tracking system can be used with any one Relacart video conferencing system to achieve video tracking function. When the microphone unit is on, the camera will automatically track the location of the speakers unit. Connect the video device can display the image. Unique freeze function, can achieve the camera auto tracking feature perfectly.

Features

- Do not need any additional equipment, through the central main controller menus can be set camera tracking directly.
- Simultaneous control up to four cameras.
- Always follow the last opened speaking unit.
- When one single microphone unit is turned off that can automatically tracking previous speaking unit.
- All the microphone is turned off, automatically return to the default panorama.
- Sharing agreement, the camera is compatible with all common types of reality.
- With 4 video input and 1 video output port, support SD and HD SDI video input and output, HD SDI supports HDcctv1.0, HD-SDI (ST292), 3G-SDI (ST424), SD-SDI (259) standard.
- HD SDI can support the highest resolution 1080P @ 60Hz

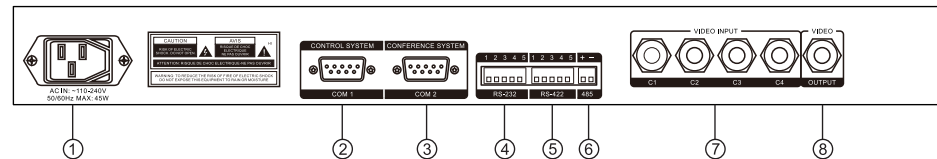
03 VTS-2000 System Feature Overview

The front panel



- 1、 OLED display
- 2、 Touch the control panel
- 3、 POWER switch (with indicator light)

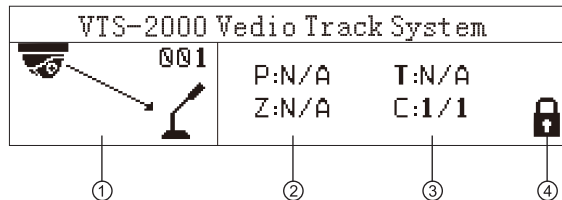
Rear Panel



- 1、 Power input socket: Standard IEC socket, can adapt to operate in 90V/240V 50/60Hz 20W AC alternating current.
- 2、 CONTROL SYSTEM interface: It can be connected to the central control system. The central control system sends codes to control the volume of the equipment connected to the video tracking system or the volume. Turn the microphone on and off.
- 3、 CONFERENCE SYSTEM interface: can be connected to a conference system or other equipment that can be equipped with video tracking.
- 4、 RS-232 interface: It can be connected to a camera that supports the RS-232 protocol, and can control up to 4 cameras. 1. DSR, 2. RX, 3. DTR, 4. TX, 5. GND
- 5、 RS-422 interface: It can be connected to a camera that supports the RS-422 protocol and can control up to 4 cameras. 1. Z-TXD-, 2. Y-TXD +, 3. B-RXD-, 4. A-RXD +, 5. G-GND
- 6、 RS-485 interface: It can be connected to a camera that supports the RS-485 protocol and can control up to 4 cameras. 1. 485+, 2. 485-
- 7、 VIDEO INPUT video input port: can connect the s-video video output of the camera, and connect the video input of up to 4 cameras.
- 8、 VIDEO OUTPUT video output port: can be connected to a projector or other display equipment.

04 VTS-2000 System Function Settings

1. After the system starts, the display of VTS-2000 will show the main interface of the system.



- 1、 The device that the camera is tracking.
- 2、 P / T / Z display the coordinates of the current camera tracking.
- 3、 C shows the camera currently being tracked.
- 4、 Panel keyboard lock.

1. Press MENU to enter the function menu. Press the ◀/▶/▲/▼ arrow keys to select these 3 menus: "Video Tracking Settings", "System Settings", and "System Information", and then press ENTER to enter the blank menu.

◆ Video tracking settings

- A. Get the number of system devices: Manually detect the number of units online.
- B. Device coordinate setting: With this function, you can set the video tracking of the camera according to the address of each unit.
- C. Point to the corresponding device: After the device unit saves the coordinates, click the address of the device unit, and the camera will point to the coordinate position of the unit.
- D. Camera protocol: This system can support "Visca", "Pelco-D", and "Pelco-P" protocols.
- E. Number of cameras: Up to 4 cameras can be connected and controlled. The user can select the corresponding number of cameras according to the actual situation.

◆ System settings

- A. Reset: After using this function, all settings will be restored to the factory default settings.
- B. Language: Chinese and English display modes are available.
- C. Panel lock: The panel keys can be locked, and the function settings cannot be made without unlocking.
- D. Brightness: adjust the OLED display brightness.

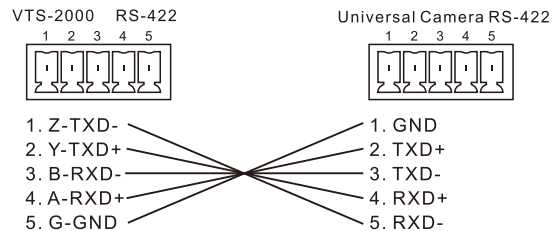
◆ System information

- A. Information: Display the version number of the current system.

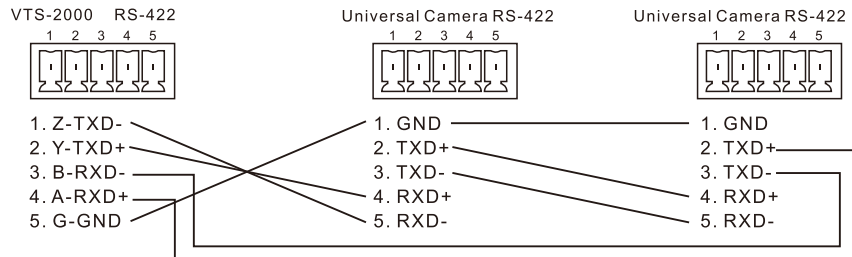
05 VTS-2000 connect the camera with the connection diagram

一、Connect with the common camera RS-422

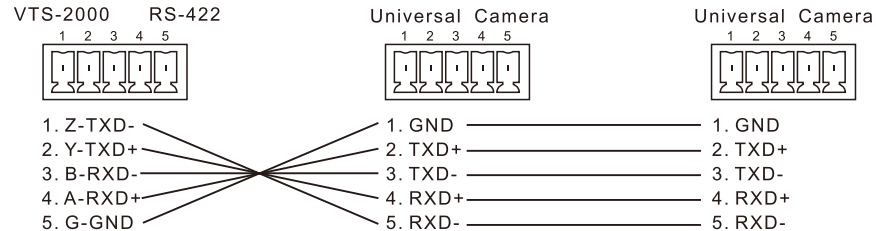
1、With one single camera connection diagram (VISCA、PELCO-P/D)



2、With multiple cameras connection diagram(VISCA)



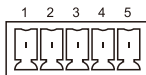
3、With multiple cameras connection diagram(PELCO-P/D)



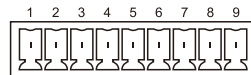
二、SONY camera connection with RS-422

1、With one single camera connection diagram(VISCA、PELCO-P/D)

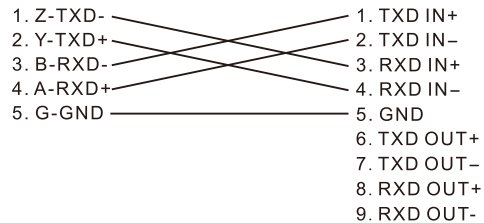
VTS-2000 RS-422



SONY-D70 RS-422

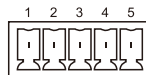


VISCA RS-422

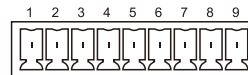


2、With multiple cameras connection diagram(VISCA)

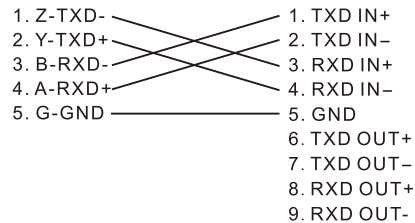
VTS-2000 RS-422



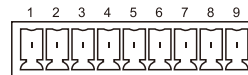
SONY-D70 RS-422



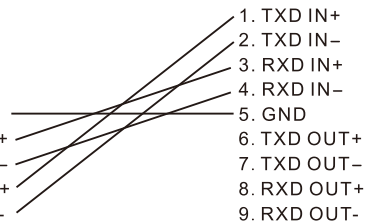
VISCA RS-422



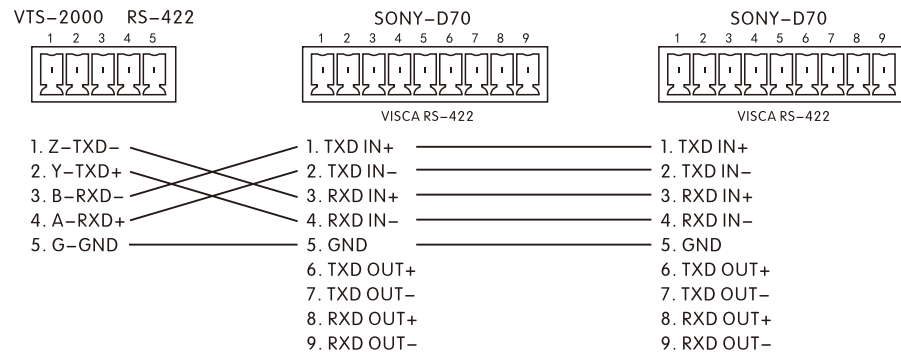
SONY-D70 RS-422



VISCA RS-422

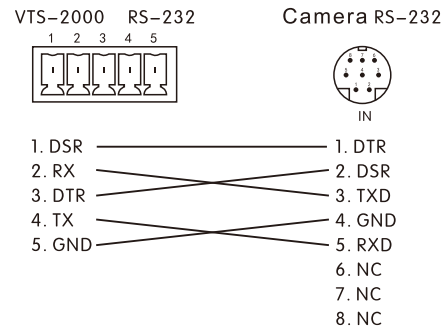


3、With multiple cameras connection diagram (PELCO-P/D)

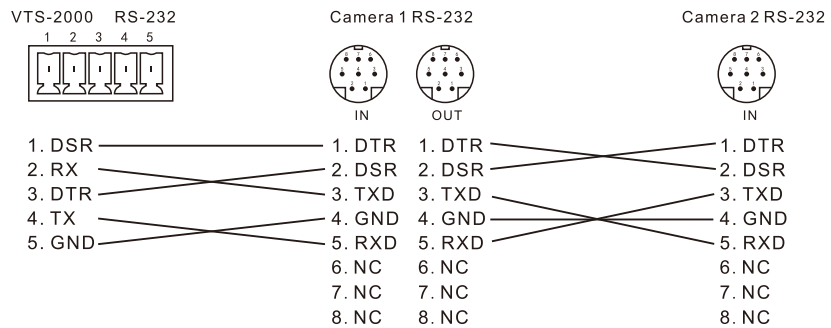


三、Using the RS-232 protocol connection diagram

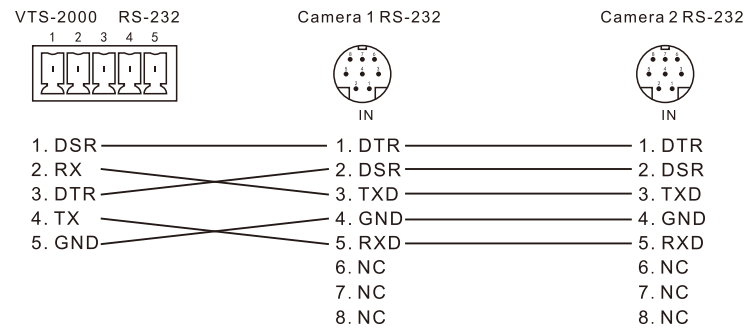
1、With one single camera connection diagram (VISCA, PELCO-P/D)



2、 With multiple cameras connection diagram (VISCA)

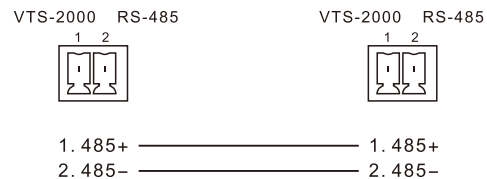


3、 With multiple cameras connection diagram(PELCO-P/D)

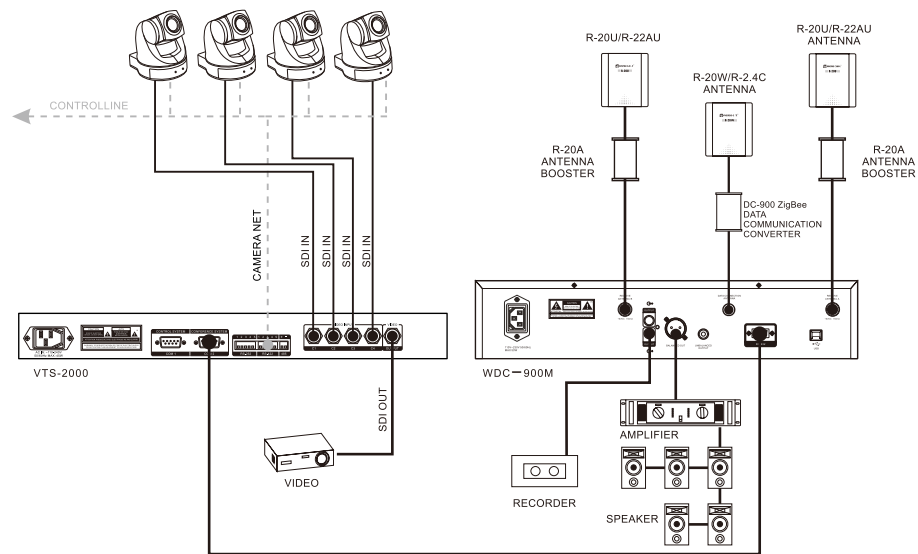
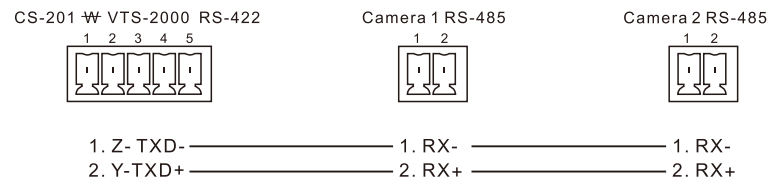


四、Camera using RS-485 bus connection diagram

1、With one single camera connection diagram(VISCA、PELCO-P/D)



2、With multiple cameras connection diagram (VISCA、PELCO-P/D)



06 Video Tracking Operating Instructions

1. Select the appropriate camera protocol

VTS-2000 camera tracking system supports three kinds of cameras agreements that were Visca、Pelco-P、Pelco-D. According to the compatible camera protocol to select a protocol. Operate as below; enter the menu “Video Track Set” - “Camera Protocol” - “Visca”、 “Pelco-P”、 “Pelco-D”.

VTS-2000 Vedio Track Set		VTS-2000 Vedio Track Set	
Video Track Set	Tracking Device Camera Number Camera Protocol	Camera Protocol	VISCA

2. Select the appropriate communications protocol

VTS-2000 camera tracking system supports RS-232、RS-422、RS-485 three communication protocols,Communication protocol has to fit with the camera,For example: SONY D70 camera default is RS-232 protocol,if use RS-422 protocol,the user have to set the bottom of the protocol of D70 Camera to RS-422.

3. Set the number of camera

VTS-2000 camera tracking system can connect up to four cameras,the factory default setting for one camera. If the user needs to connect multiple cameras,enter the menu - “Video Track Set” - “Camera Number”,select the appropriate camera number.

VTS-2000 Vedio Track Set		VTS-2000 Vedio Track Set	
Video Track Set	Set Camera Pos Tracking Device Camera Number	Camera Number	01

4. Set up video tracking

Connect the device that supports video tracking with the VTS-2000 video tracking system with a 9-pin serial cable (COM2 interface of VTS-2000). The VTS-2000 video tracking will automatically read the number of microphones on the online device. You can also read the number of online devices manually and enter the menu - “Video Track Set” - “System Connect”.

VTS-2000 Vedio Track Set		VTS-2000 Vedio Track Set	
Video Track Set	Camera Number Camera Protocol System Connect	System Connect	Connecting >>>>>>

VTS-2000 Vedio Track Set	
System Connect	Device Amount 56

b. After correctly obtaining the number of microphones of the online device, enter the menu - "Video Track Set" - "Set Camera Pos", and the display will show the ID of each microphone. Above "001" is the corresponding ID of each microphone. Press the ◀/▶/▲/▼ arrow keys on the control panel to select ID, select "000" background ID, press "ENTER" key to confirm to enter the next level menu, then you can press ▲/▼ arrow keys to select the camera for camera tracking, and then "ENTER" key to confirm can control the camera to the desired background position. Finally press "ENTER" key to confirm will automatically save the background coordinates and exit to the "Set Camera Pos" interface. Select ID "001" and press the "ENTER" key to confirm. The microphone pointing lamp of the microphone corresponding to ID 001 will flash. Select the camera and adjust the coordinates of the microphone to confirm and save. Then set other microphone IDs in order to save the coordinate information.

VTS-2000 Vedio Track Set	
Video Track Set	Camera Number System Connect Set Camera Pos

VTS-2000 Vedio Track Set	
Camera Pos Set	000 001 002 003 004 005 006 007 008 009 010 011

VTS-2000 Vedio Track Set	
001	Set Camera Pos P: 125° T: -25° Z: 08 C: 2

VTS-2000 Vedio Track Set	
001	Set Camera Pos P: 125° T: -25° Z: 08 C: 2



c. If you want to see the saved background or microphone coordinates, enter the menu - "Video Track Set" - "Tracking Device" Then select ID to confirm, the camera will point to the coordinates of the ID.

VTS-2000 Vedio Track Set	
Video Track Set	Camera Number System Connect Tracking Device

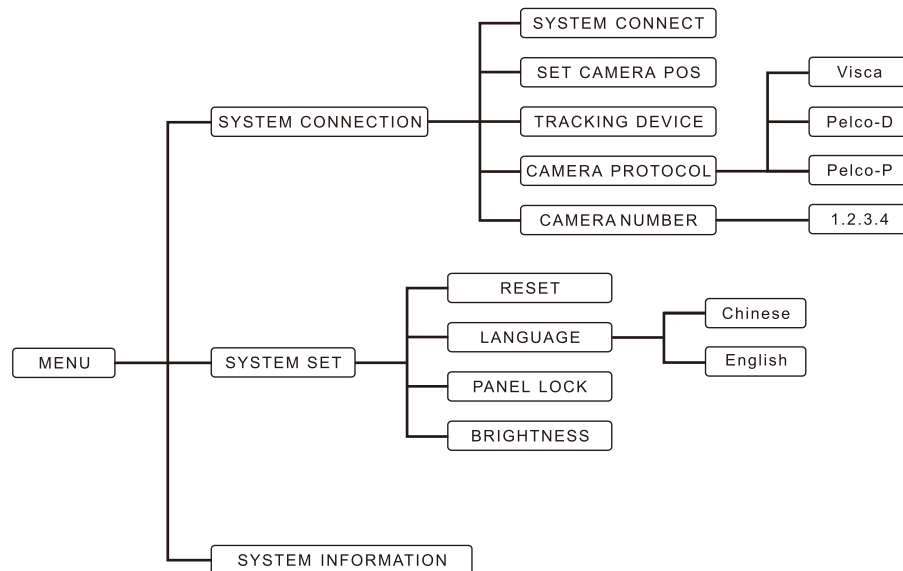
VTS-2000 Vedio Track Set	
Camera Pos Set	000 001 002 003 004 005 006 007 008 009 010 011

VTS-2000 Vedio Track Set	
001	Camera Pos P: 125° T: -25° Z: 08 C: 2

d. After the coordinate information is saved, the main interface of the display screen of the VTS-2000 video tracking system will display the ID coordinates being tracked.

VTS-2000 Vedio Track System	
 001	P: 56° T: 17° Z: 08 C: 1/1 

07 The function menu dendrogram



08 Technical Specifications

VTS-2000 video tracking system(SD)

Chassis specifications: EIA standard 1U
 Power Supply: AC 100~240V 50/60Hz
 Frequency response: 100KHz/10MHz 0dB
 Gain: 6dB
 Signal Type: CVBS(composite signal)
 Differential gain: 0.3%, $V_{in}=1.0V_{pp}$
 Differential Phase: 0.7° , $V_{in}=1.0V_{pp}$
 Video Input: 1.5Vp-p
 Video Output: 4.6Vp-p
 Compatible with the standard: Pelco-D, Pelco-P, Visca
 Control protocol: RS-232, RS-422, RS-485
 Baud Rate: 9600
 Data bits: 8bits
 Video Input/Output Impedance: 75 ohms
 Input and output ports: BNC
 Dimensions(mm): 410(W)x43(H)x206(D)
 Weight(kg): about 2.3kg

VTS-2000 video tracking system(HD)

Chassis specifications: EIA standard 1U
 Power Supply: AC 100~240V 50/60Hz
 Frequency response: 143Mb/s to 2.97Gb/s
 Gain: 0dB
 Signal Type: SDI (high-definition digital signal)
 HDcctv1.0, HD-SDI (ST292),
 3G-SDI (ST424), SD-SDI (259)
 Input return loss: 21dB @ 5MHz-3GHz
 Video Input: 800mVp-p
 Video Output: 800mVp-p
 Compatible with the standard: Pelco-D, Pelco-P, Visca
 Control protocol: RS-232, RS-422, RS-485
 Baud Rate: 9600
 Data bits: 8bits
 Video Input/Output Impedance: 75 ohm
 Input and output ports: BNC
 Dimensions(mm): 410(W)x43(H)x206(D)
 Weight(kg): about 2.3kg