

## VT-412T UTP Video Transmitter& VT-412R UTP Video Receiver

VT-412T converts the unbalanced signal into balanced signal and transmits the signal after pre-raise. VT-412R receives balanced signal to convert it into unbalanced signal and restores the received signal with one channel of audio transmission function and two channels of data (or standby interface) with perfect receiving effect, which can be applied in the occasions such as video monitoring and video meeting, simplify the wiring project and save wire use quantity.

### Features:

- I Adopt differential signal transmission with excellent anti-jamming ability
- I Save project wire expenses. It can simultaneously transmit one channel of video signal and one channel of audio signal only to lay a Cat-5 unshielded twisted pair wire. And it is also with two channels of data (or standby interface)
- I The farthest transmission distance can reach 2400m when VT-412T is used with VT-412R
- I Built-in transient suppression protection

### Technical specifications:

- I Frequency response: DC-8MHZ
- I CMRR (Common Mode Rejection Ratio): 60DB
- I Impedance: BNC terminal: 75Ω, Connection terminal: 100Ω
- I Working temperature: -10℃-70℃
- I Storage temperature: -30℃-70℃
- I Applicable to NTSC, PAL, SECAM and CCIR systems
- I External dimension: 105mm\*58mm\*29mm (excluding BNC)
- I Power supply: DC12V

### Type of the required wire:

**Unshielded Cat-5 or above twisted pair wire (Please use standard Cat-5 or above twisted pair wire. The wire quality will directly affect the transmitted image effect and transmission distance.)**

Characteristic impedance: 100Ω±20Ω

DC loop resistance: 18Ω/100m


Differential capacitance: 62pf/m (Maximum)

### Connection method:

Clamp modular plugs for a Cat-5 unshielded twisted pair wire according to the connection order of TIA/EIA-568B (please refer to the following figure), connect the clamped modular plugs of both ends separately to the RJ45 sockets of VT-412T and VT-412R, connect the BNC interface of VT-412T to the camera, connect the BNC interface of VT-412R to the monitor or other recording equipments. Connect the RCA interface of

VT-412T to the video interface and connect the RCA interface of VT-412R to the loudspeaker. D1+ D1- and D2+ D2- can be connected to the control signals according to the requirements or can be left for standby. If there is any joint in the circuit, please adopt welding method or special junction box to ensure perfect contact at the joint. **Please be sure to connect the copper conductor marked with '77' symbol to the ground wire of the lighting-proof system!**

The clamping order of the modular plug is shown as follows:

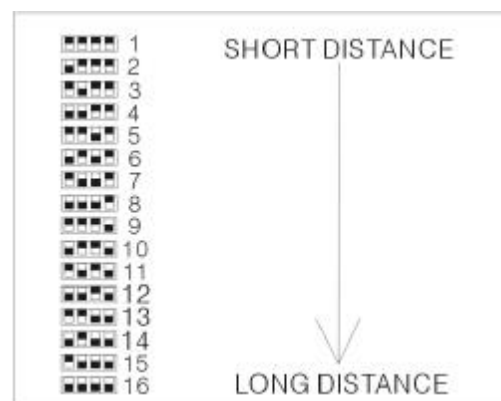
<b>R J 4 5</b>		1 2 3 4 5 6 7 8	PIN	COLOR
			1	W - O
			2	W
			3	W - G
			4	B L
			5	W - B L
			6	G
			7	W - B R
8	B R			

### Adjusting method:

**VT-412T:** Adjust and slide the switch according to the distance. The switch can be slid to the lowest level when the distance is between 300m and 1500m, the switch can be slid to the middle level when the distance is between 1500m and 2000m and the switch can be slid to the highest level when the distance is more than 2000m (as shown in following figure). This data is the test result of our company with standard unshielded Cat-5 twisted pair wire and it can be applied flexibly according to the actual wire situation in the practical application.



**VT-412R:** Adjust "BRIGHTNESS" knob to adjust the image brightness, then adjust "SHARPNESS" dial switch to compensate the image sharpness and color. The compensation size in turn is 1 as minimum and 4 as maximum. Pressing dial switch shows the compensation of this position is turned on. Next or multiple switches can be pressed according to the requirements. The four dial switches can compose 16 compensation values (as shown in the following figure) to meet the requirements of different transmission distances.



# Frequently Asked Questions

## Why does my video look like a scrambled Cable TV signal?

This typically indicates reversed polarity.

## Can shielded twisted pair be used?

Some customers have successfully used shielded wire up to a few hundred feet. However VT does not recommend it. Its high-frequency roll-off will severely degrade the distance performance.

## Can Category 6 wire be used?

Yes. Unshielded Twisted Pair wire, Category 5 or better, can be used with VT.

## Can I transmit more than one video signal in a multi-pair wire bundle?

Yes. One of the benefits of using VT transceivers is interference rejection. VT video signals can reside in the same wire bundle as multiple video signals, ringing telephones, Ethernet, low voltage power, RS-422, RS-485, etc.

# Application Diagram

