

OTIMA UTP TRANSMISSION PRODUCTS

Frequently Asked Questions

Wire and Installation

What kind of wire to use with OTIMA Twisted Pair Transmission products?

Use UTP (unshielded twisted pair) CAT 5 24 AWG (or over) to have the best transmission quality performance. To use STP (shielded twisted pair) cable, the shielded would cause internal signal interference, so the transmission range would be shorter (1.5KM ---> 0.8KM) than UTP cable.

Un-twisted wire not to be recommended, which easy have interference and range would be shorter.

Can RJ11 ordinary telephone wire be used with OTIMA Twisted Pair Transmission products?

Yes, OTIMA Video Transceivers could use ordinary telephone wire to transmit and the range up to 300 meters. But the interference would occur easily, therefore we do not recommend this solution unless special environment requested.

Can Category 6 wire be used with OTIMA Twisted Pair Transmission products?

Yes, Use category 6 twisted pair wire, the range would be longer and have highly interference immunity.

Can UTP wire to put with other wires in a multi pair wire bundle?

Yes, One of benefits to use OTIMA transceivers is interference rejection. OTIMA video signals can reside in the same wire bundle as multiple video signals, telephone wire, Ethernet, coaxial...etc. Power wire not to be recommended to put in the same bundle to avoid interference.

Can spare pairs in an existing CAT 5 network cable to be used with OTIMA Twisted Pair Transmission products?

Yes, You could use any spare pairs to transmit video image via OTIMA products. Normally, PC would use the first and second pairs on the Internet, so the third and fourth pair could be used for video signal transmission, be sure this cable not through any hub.

General Application

What is the advantage to use OTIMA Twisted Pair Transmission products?

SMART, FAST, COST EFFECTIVE SOLUTION

1. Coaxial cabling transmission over 200 meters (RG59), the video signal would loss and have bad video image. Using OTIMA passive video transceiver range could up to 300 meters (Color), 600 meters (B/W), even 1KM, 2.4KM to work with active transceiver.
2. To use OTIMA TDP414V/TTP414V 4 channel transceiver/cable hub, only need one single CAT 5 cable to transmit 4 video signals for cable saving and fast installation.
3. CAT 5 cable cost is only half of Coaxial cable and much more easy installation than coaxial cable.

Can use one single CAT 5 network cable to transmit video signals and control data?

Yes, using 4 pairs CAT 5 twisted pair cable that could use OTIMA model TTP414V/TTP444 to transmit 4 set video signals. You can also use our TTP414VD to transmit 3 video signals and one data signal (RS422, RS485).

Can OTIMA devices transmit RS-422,RS-485 signal?

Yes, OTIMA model TTP414VD can transmit one data control signal, TTA111AV can transmit 2 set data control signal (RS422, RS485).

Can OTIMA devices support broadband RF/VHF/UHF?

No, OTIMA transceivers do not support RF/VHF/UHF signal. Unless special design demodulator and modulator to be used.

Can OTIMA devices transmit VGA?

Yes, you could use VGA CONVERTER (Analog to Digital) can be transmitted with OTIMA.

Can OTIMA devices transmit satellite or cable TV?

No, OTIMA transceivers do not support the wide bandwidth cable TV signal.

However, a single channel can be sent if a demodulator and modulator are used.

Trouble shooting

Why is there a “rolling” on the video image?

The reason to cause “rolling” image is from the power interference during transmission or the video transmission range is too big between 2 or multi channels to have the signal not balanced. For Coaxial cabling, you could add our new Product – CB001VH (Coaxial BALUN) for extra interference rejection. For Twisted Pair cable, you could use our TTP111VH (passive-short range type) or TTA111VH (Active –Long range type) to eliminate the interference.

Why is there a “Power Waving” interference on the video image?

Coaxial cabling either Twisted pair cabling may have “Power Waving” interferences, that most from High Frequency (such as radio) or Differences in ground potentials are typically caused by unbalanced power line loads. Then you could add our “**Video Ground Loop Isolator**” to eliminate the interference.

Generally, It is not easy to find out where this kind of interference from, so we would recommend use monitor to check each connecting point (between two wire connection), to find out where is the source of interference.

To Block the interference from electromagnetic wave, high voltage electricity, wireless station, with Video Transformer Filter function. That You could use new model: CHB001

Why the color become light or video image not stable, even no video image after connecting DVR, but the video image is good while into monitor directly?

Video signal would be degradation once through any cable transmission, either coaxial or twisted pair wire. Especially the video signal through DVR (analog to digital signal) that signal loss would be bigger. If the video signal output less than 0.8Vpp, the picture display would lack quality and have bad or ghost video image. You could use our following products for improvement.

1. For Coaxial cabling, you could add our video amplifier CA101/CA101A/CA404/CA101VH etc at the front of DVR. To boost the video signal.
2. For twisted pair cabling, you could alternate the passive receiver to active type

TTA111VR/,TTA111AVR/TTA414VR/TPA008/TPA016, which built in brightness and sharpness controls. If range over 1.5Km, you could add one more sets active video transmitter/receiver for series connection.

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When one video image need distribute to 2 monitoring. the monitor picture looks ok, but into the DVR, video picture not stable or color become B/W ?

One Video signal split into 2 channel that the signal would be degradation to cause the picture not stable. Please use our Video Distributor CD102/CD408/CD816 which make amplify and stable video signal before distribute the signal. If there are multi video channels and the transmission range are big different, you could use our Video Distribution Amplifier CD102A/CD408A/CD816A which built in HI frequency compensation and sharpness, brightness controls for high quality Picture on different range transmission.

Why the video image too bright or snow, wavy when testing or using active twisted pair transmission products TTA111V/TTA111AV?

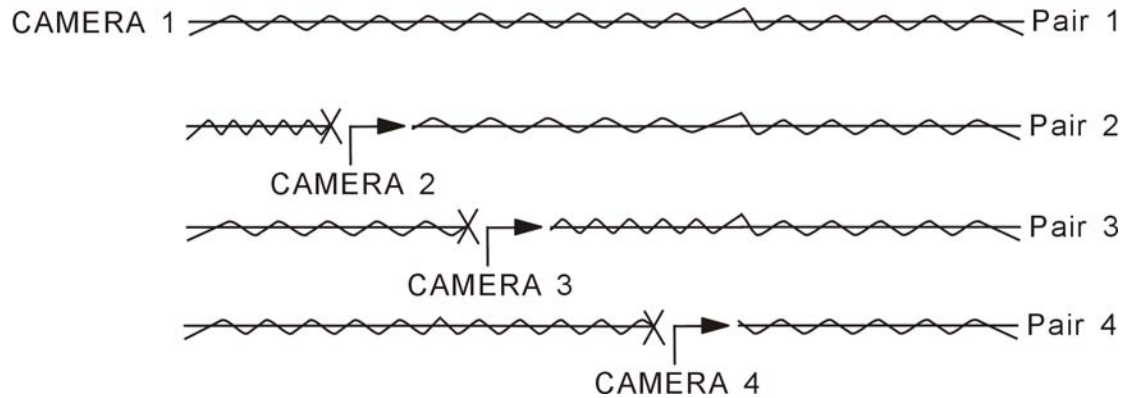
Please correct the following two conditions:

A. These products are designed for long range transmission, the unit built in video amplifier function, If your transmission range under 100 meters, the video gain function is too big to have snow or wavy, bright image occurred. Recommend to use them with range at least over 100 meters or alternate OTIMA passive video transceivers TTP111 series for short range transmission as well as cost saving.

B. The active receiver has "5 position distance range switch" for different range transmission. Please switch to appropriate range upon your application to avoid any weak or bad image.

Why is there a ghost or double, cascade shadow (one channel comes out the shadow of other channel image) occurred when using Series Connection on twisted pair transmission products?

Please make sure to make good cable connection to avoid video loss, interference even cable oxidation. The best way is soldering the cable or use communication cable UY connector (OUR MODEL: AP007). Furthermore do make sure to cut the unnecessary cable while doing the series cable connection as the following:

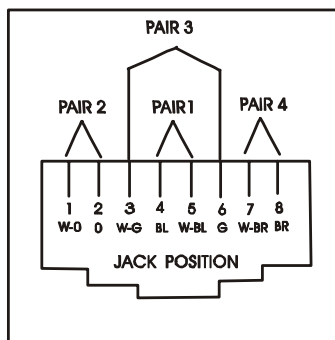


Why the video image is wavy and shaking under one channel transmission application?

Wrong twisted pair cable connection would cause the video image wavy and shaking if only use one pair wire for one channel video transmission, please check the cable connection and make sure the TX wire and RX wire must be equivalent. (Example: TX: 1, 2 = RX: 1, 2 or TX: 7,8 = RX: 7,8).

Why using one network cable to transmit 4 channels, there are one channel image is normal, but other two or three images have cascade shadow (one channel comes out the shadow of other channel image)?

Please check the networking cable on TX and RX must be under standard wiring 1, 2, 3, 6, 5, 4, 7, 8 into RJ45 connector as following:



1	W-O
2	O
3	W-G
4	BL
5	W-BL
6	G
7	W-BR
8	BR

Why the camera and video transceivers at outdoor have higher defective rate and quality not stable?

Normally, the cabling at outdoor and have long range transmission for camera, That would have higher rate on surge or lighting damage, even some of our products built in TVS (Transient Diode for Surge Protection), but the products

Still damaged once have stronger surge or lighting. We strongly recommend to add our surge (Lighting) protector.

How to protect high value camera, DVR and CCTV image processor/monitoring equipment destroyed from high voltage surges from nearby lightning strikes?

To add OTIMA surge protection device on the back of camera and front of CCTV image processor/monitoring equipments. Small money to save high value CCTV equipments.

Will RF interfere with the video signal when using OTIMA devices?

No, OTIMA device is highly immune to interference. CAT 5 UTP twisted pair wire can immunity the RF interference. The only concerned is high power (signal noise ratio) RF signal would have video interference occurred, neither coaxial nor twisted pair cabling transmission. You could try to use twisted pair wire with overall aluminum foil Mylar shield with one drain wire and braided shield. Or move away from high interference area.

