Model AV-500AHD-MINI

rev1.1

5.8GHz Wireless Transmission Kit for AHD

The AV-500AHD-MINI is wireless transmission kit, compatible with composite AHD (AHD-L i AHD-M) video signal and Audio/Video PAL CVBS (960H). Set use radio frequency 5.8GHz witch 8 radio channels 5610MHz ~ 5855MHz, selectable by DIP Switches. High quality carrier frequency is generated by PLL, it provide high stability of work and immunity to interferences from adjacent channels.

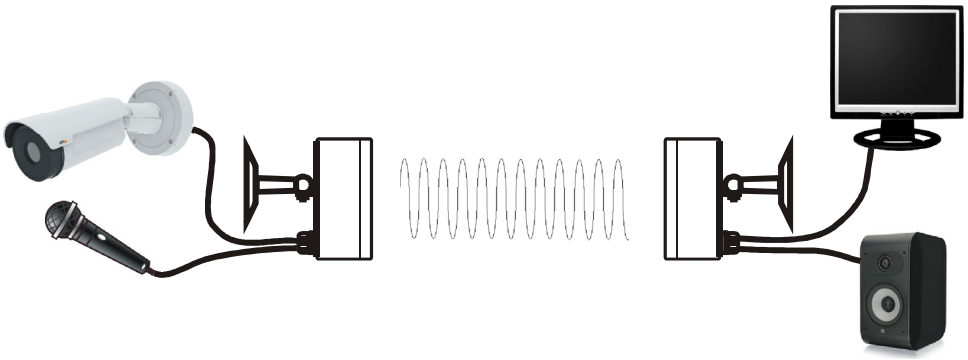
AHD and PAL signal type is detected automatically at transmitter side and send to the receiver. Output signal type at receiver side also is switched automatically. This solution facilitates installation and testing because usually AHD camera can be switched to PAL standard on testing time, then standard PAL service monitor can be used.

AHD wireless set is placed in hermetic housing with directional antenna, and connectors. This solution allows to obtain optimal radio range because radio signal isn't attenuated on cables between antenna and

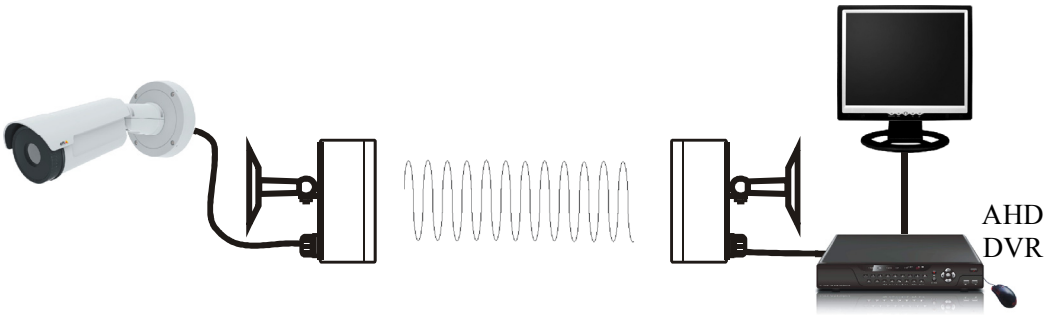
radio transmitter / receiver. Hermetic housing includes professional sealing cables, and pan/ tilt adjustable wall mount bracket.

System can be used on professional CCTV installations to transmit Audio and Video from cameras, to presentation, home Audio/Video solutions and hobby solutions.

Audio Video signal are transmit in real-time without compression and delays. It's important to choose right place for installation and precisely align antennas.



Typical application for CVBS (PAL 960H)



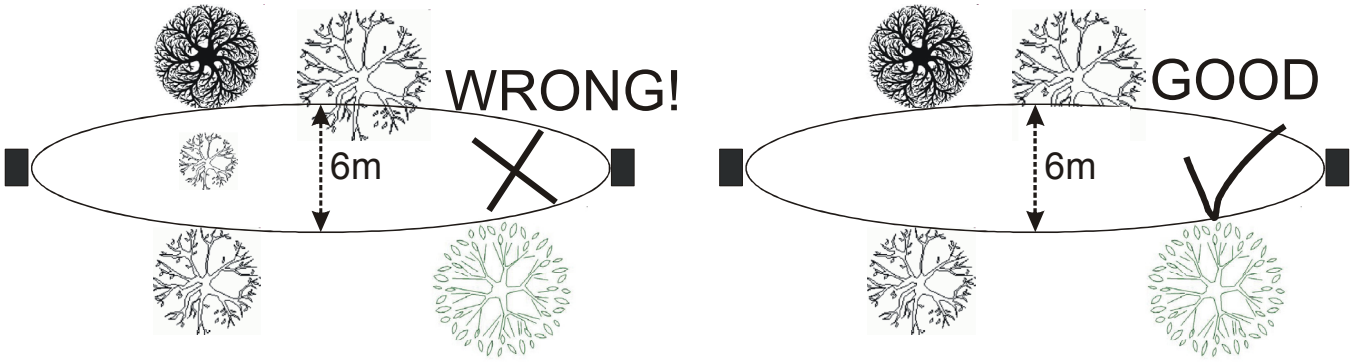
Typical application for AHD-L and AHD-M

Place of installation

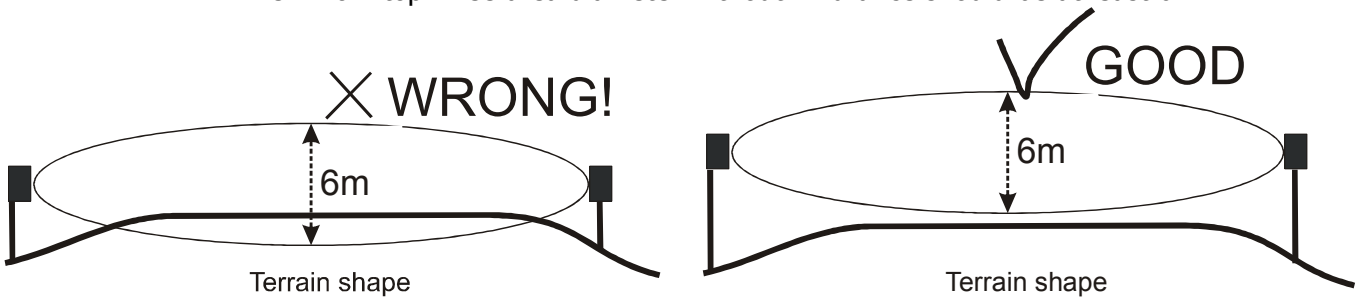
5.8GHz frequency provides high quality Video and immunity from other radio devices, but it has disadvantages just like devices using microwave frequencies (for example satellite TV antenna).

1. Antennas in devices needs to be accurately aligned relative to each other.
2. Metal constructions, walls, also the wood and leaves of trees attenuates microwaves. Bad weather (blizzards, rain, fog) also has an effect on high frequency radio waves. Set should be installed at open area.
3. Antennas of set needs to be visible and the field of view needs to be clean at 3 meters from center of antenna (around 6m diameter).

Sometimes is important to use high mast, trim trees or remove other barriers. Devices are more safety against radio signal attenuation, when are hanging higher off the ground.



View from top. Free area diameter without hindrance should be at least 6m.



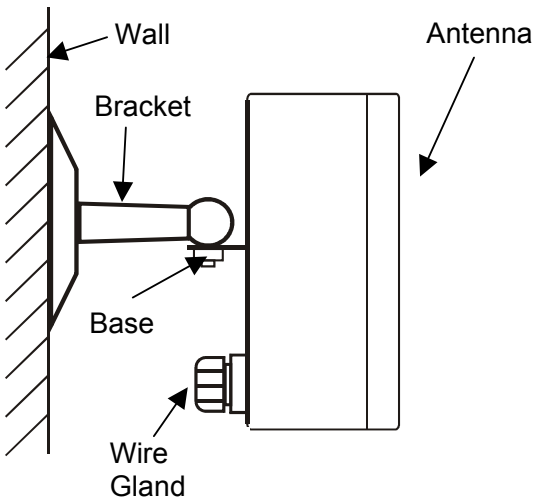
View from side. Free area diameter without hindrance should e at least 6m

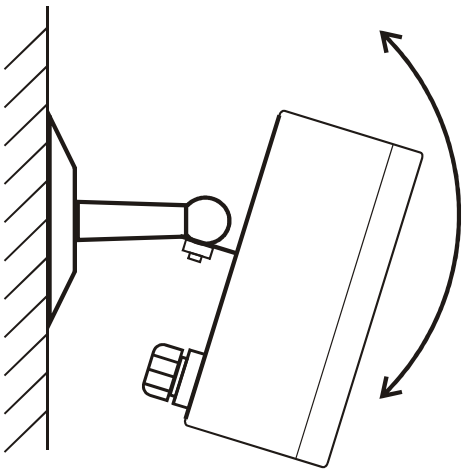
Mounting of set

Construction of AV-500AHD-MINI is designed to mounting on wall of buildings.

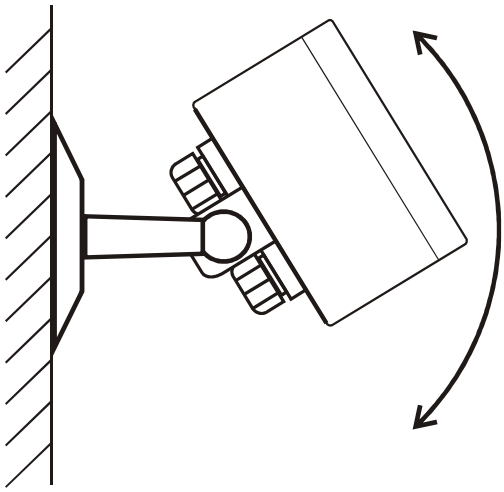
Adjustable wall bracket, provide regulation of position in horizontally and vertically.

Horizontally and vertically regulation is done by loosening screw.
It's is also possible independently regulate the level after loosening bolts connecting bracket with mounting base.





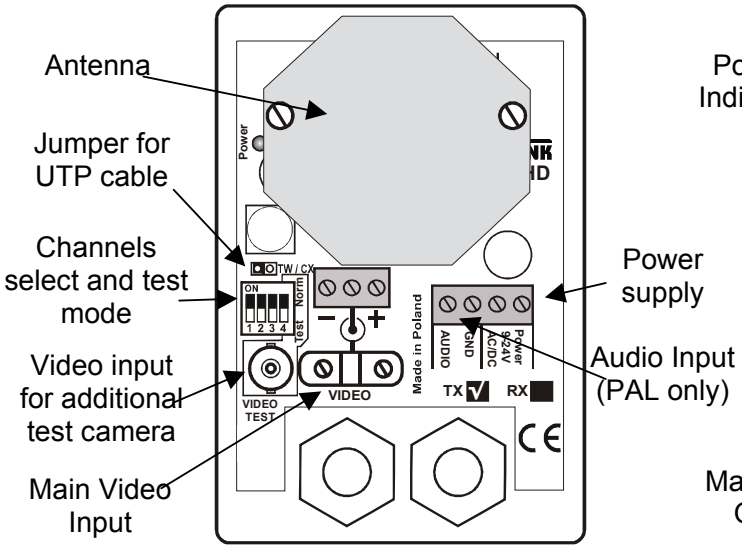
Vertical adjustment



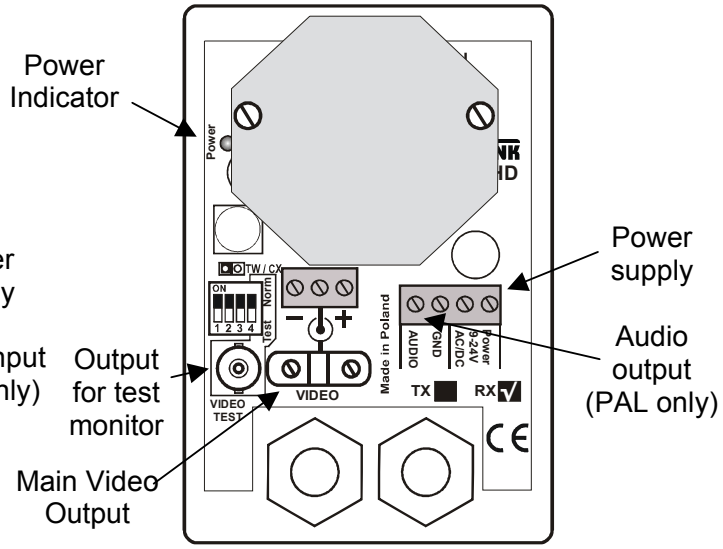
Horizontal adjustment

Connecting wires

Disconnect power before connecting cables to protect device from accidental short circuits and damage. Connecting can be done before mounting device on mast or when it's mounted (depending on technical possibilities).



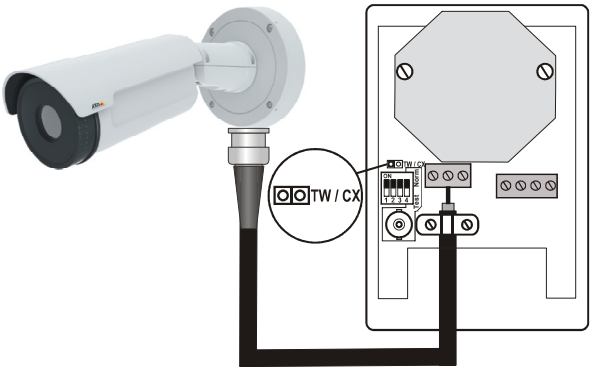
Terminals in transmitter



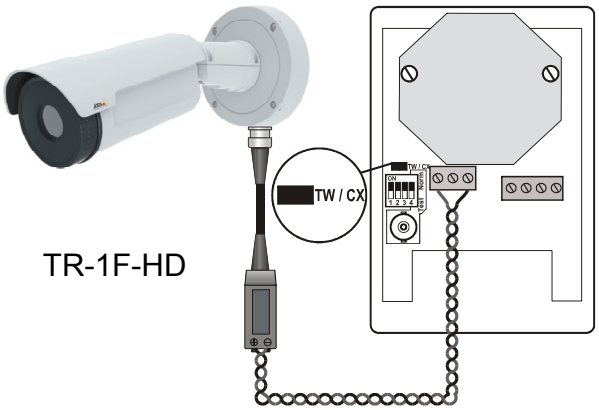
Terminals in receiver

AV-500AHD-MINI supports two type video cables:

1. **75Ohm coaxial cable** – use low loss screw terminal. BNC connectors are not needed to save simple use with wire glands.
   For coaxial cable **TW/CX** jumper should be removed. The same solution is in transmitter and receiver.
2. **UTP Twisted Pair** – use build in Video Balun (UTP converter). Pins **+/-** are used for UTP pair to send video from camera to transmitter and/or from receiver to DVR. UTP connection type needs to use compatible Video UTP baluns or other devices made by Ewimar designed to AHD (TR-1F-HD, HDT-1F series or multi-channel Rack panel LHD series). For UTP connection TW/CX jumper must be ON, other Video signal will be cut-off.



Sample of connection
for coaxial cable

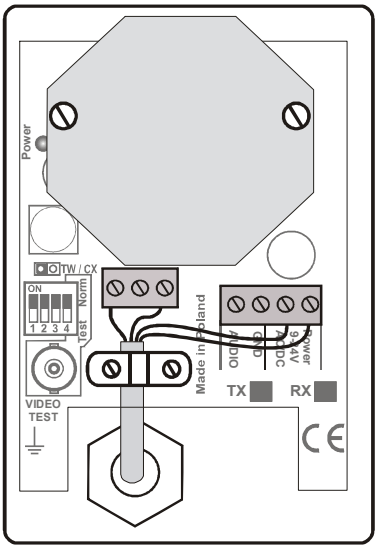


Sample of connection
for UTP cable

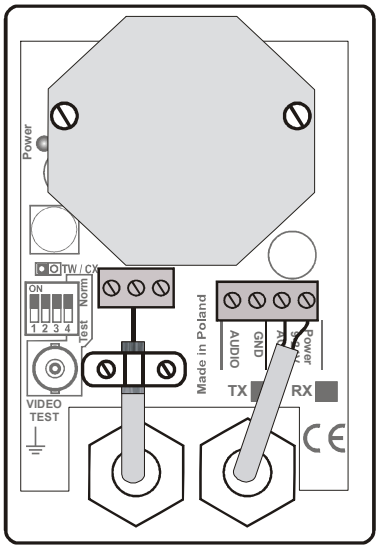
Above drawings are showed for transmitter but the same connection can be used between receiver and DVR. Type of connection at transmitter and receiver can be used freely. Both can use coaxial cable or UTP cable or can be mixed.
There are included 4pcs of wire glands included in set. They can be mounded at bottom or back of housing after cutting out the holes with a knife. Do not cut more holes than you need, otherwise the inside can pour water.

Hard screw the cover of housing and cable glands. Also check the proper position of the seal. Improper sealing of the housing can damage the device and void the warranty.

Below drawings shows how to use cable glands depending on type of connected cables.



Power supply and Video
are send by one UTP cable



Power supply and Video
are send with separated cables

How to connect coaxial cable.
Video signal wire need to be connected to center of terminal block and cable shield clamp by metal clamp.
Audio terminal is used to connect Audio from camera to the transmitter and monitor or Audio amplifier to the receiver.
It's recommended to use shielded cable, dedicated to Audio. It's protect sound from distortion and hum collecting from energy network
Audio is not available for AHD signal.

How to connect UTP twisted pair.
Twisted pair need to connect with + / - pins of Video terminal, metal clamp is used to protect the cable from being accidentally pulled out.
At camera and DVR side compatible Video balun must be used (example TR-1F-HD). The set can be powered with free wires of twisted pair, but at long distance voltage drop may experience. Incoming voltage can't be lower that 9V.

POWER clamps are designed to power supply of wireless set. Connected direct voltage should be with range 9-24V AC/DC. **Before connect AC power supply check voltage by voltmeter**. **Input AC voltage can't be higher than 26V**, **other device can be damaged**. Power supply is indicated by LED on the PCB

Test mode

Test BNC connectors are used to connect external Video source to the transmitter and test Video monitor to the receiver.

Test BNC connector always is connected into transmitter / receiver. After set DIP No 4 to TEST position, main Video input/output is cut-off from the transmitter / receiver, only BNC test connector will be connected only.

At NORMAL mode (DIP 4 OFF) to the TEST BNC connectors can be connected only Video test monitor. DO NOT CONNECT any external Video source (camera), without set DIP 4 to TEST MODE.

Normal mode

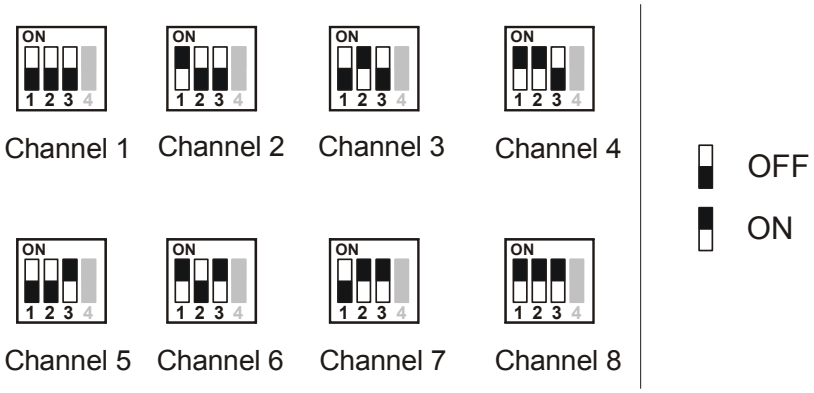
Test mode

Adjustment

The set doesn’t need special knowledge and expensive tools for installing. The most important is proper positioning of transmitter and receiver as according to recommendations of instructions and aligned relative antennas to each other. System in MINI version haven't radio measurement function and installer can verify antennas setting optically only. When the antenna isn't set exactly on right position and the weather conditions are unfavorable (snowstorm, fog, heavy rain) it may cause deterioration of image quality and it will be necessary to correct antenna settings.

You must set radio channel before you connect power supply.
DIP switch on the transmitter and receiver is used to this.
Adhere to the following instructions::

1. Radio channel must to be set the same in transmitter and receiver.
2. When we are dealing with sets work in immediate vicinity or in close proximity to transmitter and receiver, channels must be set every second one.
3. Number of radio channel are the same like number on switch.



Specification

No	Parameter	Value
1	**Video channels**	Coaxial cable: 1 x 75Ω UTP: 1 x 100 Ω
2	**Audio channels**	3Vp-p (PAL and 960H only)
3	**Radio channels**	Channel 1 : 5855MHz Channel 2 : 5820MHz Channel 3 : 5780MHz Channel 4 : 5745MHz Channel 5 : 5715MHz Channel 6 : 5680MHz Channel 7 : 5645MHz Channel 8 : 5610MHz
4	**Antenna**	Directional, active
5	**Sensitivity of receiver**	-80dB
6	**Power of transmitter**	20dBm
7	**Ratio of signal noise**	40dB
8	**Frequency control**	PLL
9	**Temperature of work**	-20°C ~ 40°C
10	**Tightness**	IP65
11	**A/V modulation**	FM
13	**Bandwidth of Audio**	50Hz~15kHz
14	**Power supply**	9~24V AC/DC
15	**Current consumption**	Transmitter: 240mA @ 12VDC Receiver: 130mA @ 12VDC
17	**Surge protection**	600W for power supply and Audio, 2kW for Video

Manufacturer reserves right to change technical specification without to prior notification.