



## TCO-7h Plus

Wireless, 7-channel 5.8 GHz, external (IP65) Video/  
Audio Transmitting-Receiving Kit for security cameras  
systems

Registry number GIO E0012219W



5,8 GHz	7 CHANNELS	25 mW	BNC VIDEO	UTP VIDEO	PAL NTSC	IP65
FM	9 VDC ± 14 VDC	-20°C ± +55°C		WARRANTY 24 MTHS	CE	RoHS

User's Manual

Warranty conditions

Declaration of conformity



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## Product Features

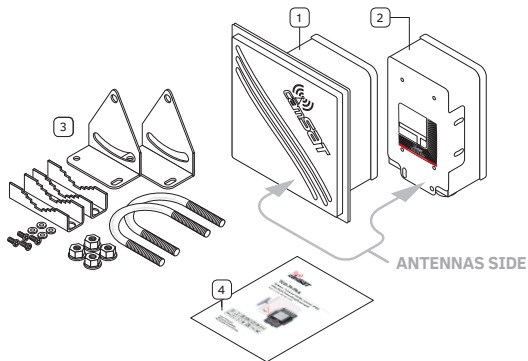
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Designed for wireless PAL or NTSC video signal transmission over the radio-link on ISM 5.8 GHz band for surveillance camera systems. Supports up to 7 channels within 5725 to 5875 MHz frequency band. Each of 7 channels has factory defined operating frequency. It has one Video BNC input and two audio input/output. Embedded anti-interference and surge protection.

## Contents of kit

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Contents of TCO 5807h package:



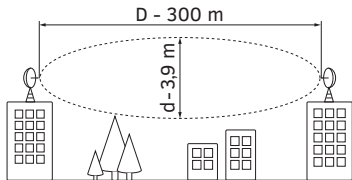
1. Video/Audio transmitter with integrated antenna.
2. Video/Audio receiver with ipanel directional antenna.
3. Mounting bracket x 2 pcs.
4. User`s Manual.
5. Declaration of Conformity.

## Recommendations

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1. Larger monitoring systems consisting of several sets should be set in sequence, i.e. the power connection of next set should take place only after precise alignment of the previous set.
2. Due to the generation of interference it is not recommended to use switching power supplies other than those dedicated by the manufacturer for example. ZS12 / 1A.
3. Recommended stabilized power supply, transformer 12V at least 350mA.
4. It is recommended to install the receivers TCO-7h plus an interval of at least 7 m from digital receivers (CDS-5021, CDS-5IP, WI-FI antenna and others).

To ensure stable radio range, clear line of sight between the antennas is a must. There should be 100% of optical visibility in first Fresnel zone.



At a frequency of 5.8 GHz and 300 meters the radio beam clearance of at least 3.9 m. should be provided

## Specification

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<b>Operating frequency</b>	5725 MHz–5875 MHz
<b>Power</b>	< 25mW; 14 dBm
<b>Receiver sensitivity</b>	- 85 dBm
<b>Impedancja</b>	50 $\Omega$
<b>Modulation</b>	FM
<b>Number of channels</b>	7 (chosen permanently)
<b>Video format</b>	PAL lub NTSC
<b>Input</b>	BNC 1 Vp-p (75 $\Omega$ ) + screw connection UTP (100 $\Omega$ )
<b>Audio Stereo</b>	600 $\Omega$ , 2 Volt p-p
<b>Audio band</b>	50–15000 Hz
<b>Power supply</b>	9–14 V / 350 mA DC
<b>Operating temperature</b>	from -20°C to 55°C
<b>Dimensions</b>	Tx: 80 × 130 × 75 mm RX: 164 × 164 × 80 mm
<b>Application</b>	outdoor IP65

## Preparations for operation

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Before mounting the unit on the mast you should:

- Check whether the device has not been mechanically damaged during transportation
- Check the settings of the channel: transmitter and receiver should be set to the same channel. If the settings are not the same you should set it in accordance with the guidelines set out in the table a) on page 7.

## Connector RSSI - strength of the video signal

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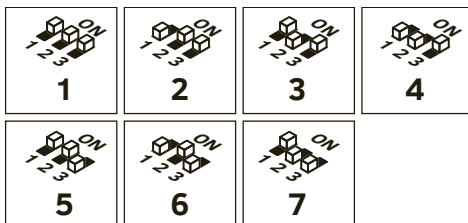
The receiver has the ability to connect an external radio signal level meter TCO-Meter.

More: [www.camsat.com.pl](http://www.camsat.com.pl)

## Channel Setting

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Table a) Channel settings



## Assembly

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1. Screw the bracket (triangle) to the base of unit
2. Attach the unit using the bracket to a stable mast.
3. Set the transmitter antenna directly at the receiving point.  
(Note: the transmitter antenna needs to „see” optically with receiver antenna - view from the antennas on the last page of this manual).
4. Install the receiver and manage precisely the antenna directly on the point of broadcasting.
5. Connect video signal cables and power supply as described on the electronics board.
6. Set the desired operating channel according to the table above. Channel numbers and antennas polarization should be the same for both interacting with each other transceiver devices. The transmitter assembly with potentiometer VR enables to set the video level.

**WARNING!** This adjustment is necessary because of the different levels of video cameras of different brands. The regulation is also necessary when using passive converters BNC / UTP.

The video signal should be connected to the In / Out BNC or UTP connectors.

## Terminals description:

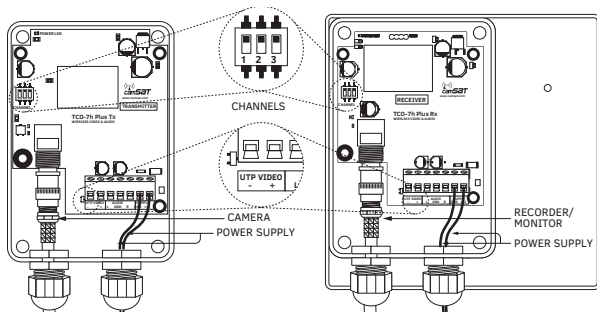
GND – minus of the power supply and audio signal

A-L - Audio / left

A-R - audio / right

+12 V - plus DC

10-14 V minimum 350 mA





## **General terms and conditions of a warranty**

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Camsat company gives a warranty of 24 months for transmission sets of the following series TCO-7H Plus.

1. In case of detecting incorrect work of a device, before giving the device to the service, it is necessary to make sure that everything was done in accordance with the instruction manual.
2. In case of giving or sending the faulty device to be repaired, it is indispensable to enclose a detailed description in the written form including faulty action of the device with taking into consideration work environment and the way in which they can be seen.
3. One can use the warranty if he shows the proof of purchase (a receipt) with the claimed device including the purchase date and a description of the damage.
4. The warranty repair includes only damages resulting from causes included in the sold device.
5. The warranty repair will be made in the shortest time possible not exceeding 14 days counting from the date of accepting the device to be repaired in the service. In case of a necessity to import parts, the repair date can be exceeded. After making the repair, the warranty period is exceeded by the time of repair.
6. The guarantor is not responsible for losing configuration settings of the device resulting from the repair of the device or its damage.
7. The guarantor can refuse making the warranty repair or completely renounce from the warranty in case of stating that seals on the devices or subsystems included in it are broken.
8. All remarks concerning the service and resulting from the warranty are made only in the service of the Camsat company.

## The warranty does not cover

- Mechanical damage and malfunctions caused by random events such as fires, electrical surges, electrical discharges, power, chemicals.
- Damage caused by: incorrect use of the device, use of the device for non-intended purpose or violating instruction manual, customer negligence, improper operation (temperature, humidity, flooding, dirt, sand inclusions, improper power supply).
- Claims due to technical parameters if they are in accordance with the specified by the manufacturer.
- The warranty does not cover the traces of use generated during operation as scratches, dirt, wipe.

In matters not covered by the terms of this guarantee, the relevant regulations of the Civil Code will be followed.

## Disposal of devices

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The adjacent symbol indicates that a particular electrical and electronic equipment, after the end of its service life must not be disposed of with household waste. The device must be submitted to designated collection points. For details of your nearest collection point, please contact your local authorities.

Proper disposal of this product allows you to save valuable resources and prevent negative effects on health and the environment which could be at risk in case of improper handling of waste. Improper disposal of this waste provides penalties in the relevant regulations.

## DEKLARACJA ZGODNOŚCI

Niżej podpisany, reprezentujący firmę:

**CAMSAT Przemysław Gralak**  
ul. Ogrodowa 2a 86-050 Solec Kujawski

niniejszym deklaruję z pełną odpowiedzialnością, że urządzenie **TCO-7h Plus** jest dopuszczone do pracy na terenie EU i jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami dyrektywy 1999/5/WE.

Wymagania zasadnicze: - artykuł dyrektywy 1999/5/WE	Zastosowane normy	Oceniane dokumenty	Ocena
Kompatybilność Elektromagnetyczna - art.3.1b	ETSI EN 301 489-1 V1.6.1 ETSI EN 301 489-3 V1.4.1	Sprawozdanie z badań: IŁ Nr 01500039/4	Zgodność
Efektywne wykorzystanie Zasobów częstotliwości - art.3.2	ETSI EN 300 440-1 V1.4.1 ETSI EN 300 440-2 V1.2.1	Sprawozdanie z badań: IŁ Nr 01500039/2	Zgodność

Zakres przestrajania częstotliwości nadajnika i odbiornika:

**5725 MHz – 5875 MHz**

Moc promieniowana nadajnika:

**≤25,0 mW (14 dBm)**

**INSTYTUT ŁĄCZNOŚCI**  
ul. Szachowa 1, 04-894 Warszawa

Numer jednostki notyfikowanej:  
1471


Wydane przez Instytut Łączności  
potwierdzenie zgodności nr  
009/2009

oraz sprawozdania  
z badań dostępne są do wglądu  
w siedzibie firmy CAMSAT  
Gralak Przemysław.

Osoba odpowiedzialna:  
**Przemysław Gralak**

Stanowisko:  
**właściciel**

Podpis:



Solec Kujawski 01.07.2014

Manufacturer:  
CAMSAT Gralak Przemysł  
Ul. Ogrodowa 2a  
86-050 Solec Kujawski



Offer and informations: [www.camsat.com.pl](http://www.camsat.com.pl)  
Service: [service@camsat.com](mailto:service@camsat.com)