Zepcam® T1 is a body-worn video recording system for professional use that is capable of live video streaming over 3G, 4G and Wi-Fi networks to e.g. command and control rooms. It’s a plug & play solution to:

- increase employee security
- create better situational awareness for command & control decisions
- gather video evidence
- enable remote engineering.

The Zepcam® T1 is a complete and integrated video system that covers all aspects of professional hands free video capturing and wireless streaming: best in class video quality, data security, robust design (shock-, dust- and waterproof), live video and easy to use.

The ruggedized system is developed for use in law enforcement, security, first responders, fire departments, military, extreme sports and industry.

The Zepcam® T1 product range is supported and continuously improved by the Zepcam R&D team in the Netherlands.
**Recorder**
Shock, dust & waterproof

- **8 GB Solid State Memory (micro SDHC)**
  - Shock proof & reliable recording
  - Up to 6 hrs TV quality footage
  - Extendable to 32 GB (24 hrs video)
- USB connector
- Upload videos to PC / MAC
- Battery recharge

**Intuitive user interface**
Play video, check camera view and change settings

**Video Authentication**
Watermark in video
Date & time stamp in video
Officer ID number in video

**Security**
Device pin code login
SD card protection
USB connection with security key
3 user authorisation levels
Video encryption

**Live module**
Video & data streaming over 3G, 4G and Wi-Fi

- **Antennas for 3G, 4G, Wi-Fi & GPS**
  - Streams live video to control room
  - TV quality video over 3G, 4G and Wi-Fi
  - Compact housing for optimal comfort
- **Robust wireless connection**
  - Dynamic bandwidth control
  - Positioned high on body for optimal reception
- **User control**
  - 2 buttons to start & stop streaming
  - LEDs & buzzer for status feedback
  - Control room can remotely start streaming

**Camera**
Top quality video & data recording
Several camera options

- **High quality cameras**
  - TV quality video (D1): 720 x 576 pixels
  - Body, head, helmet and car applications
  - Face recognition quality
- **Day & night vision**
  - Automatic & fast white balance
  - Extreme low-light sensitivity (0.05 Lux) for night surveillance
- **Wide range of lenses**
  - Standard wide angle: 12.97 (130 degrees)
  - Other options: 12.45, 3.6, 6.8, 12 mm
- **Anti fog lens**
  - Always clear vision when switching from cold to hot environments
- **Flexible camera mounting**
  - For helmets, pipes & surfaces
  - Ease of use, flexible & rock steady

**Compact Camera**
Features
- 1/3” CMOS sensor
- D1 progressive signal
- Wide Dynamic Range
- Size 27 * 23 * 30 mm
- Weight 35 grams
- Several mounting options

**Bullet Camera**
Features
- 1/3” Sony Super HAD CCD
- D1 550 TV lines
- Size 19 * 55 mm
- Weight 23 grams
- Several mounting options

**Remote control**
One button for rec, stop and tag

- **Wireless ANT technology**
  - Disturbance free connection up to 5 meters
  - Bidirectional communication
- **Scene tagging**
  - Mark key moments while recording
  - Easy retrieving of tagged scenes

**Powerful Battery**
(3.100 mAh or 6.200 mAh)
- Rechargable LiPo battery
- 5V USB charging
- Up to 10 hours recording time
- Up to 5 hours live streaming time

**Safety connector**
Easily disconnects when pulled

**In-cable microphone**
Audio recording keeps working when camera is disconnected

**3 status LEDs**
Feed back on device status:
Recording on/off, battery power low,
Streaming video on/off

**Live module features**
- Video & data streaming over 3G, 4G and Wi-Fi
- Antennas for 3G, 4G, Wi-Fi & GPS
  - Streams live video to control room
  - TV quality video over 3G, 4G and Wi-Fi
- Robust wireless connection
  - Dynamic bandwidth control
  - Positioned high on body for optimal reception
- User control
  - 2 buttons to start & stop streaming
  - LEDs & buzzer for status feedback
  - Control room can remotely start streaming
Zepcam T1 Accessories
Mounts, batteries & more

- **Motor helmet mount**
  - Aluminum bulletcam mount
  - Sturdy & adjustable
  - Hard shell helmets (motor, fire fighter, riot police)
  - 3M Duo lock connection to flat & light curved surfaces

- **Mounting pack compact camera**
  - Magnet backplate
  - Aluminium side arm
  - Magnet with industrial sticker

- **GPS Unit**
  - In cable GPS receiver for the Zepcam T1
  - Records Lat Long coordinates, speed, elevation
  - GPX file recorded on Zepcam
  - In screen data display possible

- **Zepcam belt pouch**
  - Carrying case for Zepcam recorder & external battery pack
  - Sturdy & easy attachment to belt

- **External battery pack**
  - Spare battery pack for Zepcam T1
  - 7,000 mAh
  - Extra recording time: 5 hours
  - Extra standby time: 15 hours

- **Zepcam Docking Station**
  - Fast charge of connected Zepcams
  - Auto transfer of video files to PC
  - Up to 4 Zepcams including PC software

- **Mountain bike helmet mount Bullet camera**
  - Universal bulletcam mount
  - Fits a wide range of mountain bike helmets
  - Flexible, sturdy and adjustable

- **Zepcam T1 Accessories**
  - Mounts, batteries & more

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**Features**

<table>
<thead>
<tr>
<th>Description</th>
<th>Zepcam T1</th>
<th>Zepcam T1- XT</th>
<th>Zepcam T1- Live</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hardware</strong></td>
<td>T1 Recorder, Camera, Remote control</td>
<td>T1-XT Recorder, Camera, Remote control</td>
<td>T1-XT Recorder, Camera, Remote control</td>
</tr>
<tr>
<td><strong>Video recording &amp; replay</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Video encryption</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Multi user support</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Available cameras</strong></td>
<td>Bulletcam, clipcam, buttoncam</td>
<td>Bulletcam, clipcam, buttoncam</td>
<td>Bulletcam, clipcam, buttoncam</td>
</tr>
<tr>
<td><strong>GPS</strong></td>
<td>Optional</td>
<td>Optional</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>3100 mAh</td>
<td>6200 mAh</td>
<td>6200 mAh</td>
</tr>
<tr>
<td><strong>Recording time / standby time</strong></td>
<td>4.5 h / 15 h</td>
<td>9 h / 30 h</td>
<td>5 h / 15 h while streaming</td>
</tr>
<tr>
<td><strong>Streaming video over 3G, 4G and Wi-Fi</strong></td>
<td>-</td>
<td>Possible after upgrade</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Benefits Zepcam T1 system:**

- Local recording & live video streaming over 3G, 4G & Wi-Fi
- Very easy to use, plug & play system
- Compact, modular & ruggedized, developed for professional use
- Hardware, software and network elements are well integrated
- End-to-end solution for live video streaming
- European design, engineering & electronics
- Zepcam T1 users include police departments, fire departments, first responders, military police, special forces, training institutes, municipalities, industry, extreme sport athletes & security companies

For more accessories check secure.zepcam.com
Robust & flexible network solution

The Zepcam T1-Live comes with a robust, secure and flexible network solution. Dynamic bandwidth management software between Zepcam T1-Live units and the Zepcam Video Server ensures optimal and robust video streams. Live video and data can be streamed over 3G, 4G or Wi-Fi networks.

Live video will be streamed to a shared and secure Zepcam proxy server (called Zepcam Video Server) and can be redirected to command & control rooms, computers or handheld devices over the internet or own dedicated networks.

A Zepcam Video Server API is available for integration with e.g. command & control room software. The Zepcam network solution can also be used for live video streams from other camera devices using the Zepcam mobile video technology.

Secure data & video connections

All network connections (3G, 4G, Wi-Fi internet) are secure (VPN, Firewall). Zepcam offers standard a shared & complete secure Video Server. For clients that demand a dedicated server solution, it is possible to use a Zepcam Black Box or own server with Zepcam Server Software.

The combined use of Wi-Fi, 3G and 4G networks makes the Zepcam T1-Live a cost effective streaming solution.

The Zepcam T1-Live can be monitored and activated remotely.

For user privacy reasons it is possible to notify the user by buzzer or LED light when the streaming is activated remotely.

Technical specs wireless video streaming

Required Zepcam hardware
- Zepcam Live module
t- T1-XT recorder
- Camera

Video & data flow
- Live video will be streamed to a secure Zepcam proxy server
- Video stream can be securely redirected and viewed by command & control rooms and on a browser application for computer, tablet and mobile

Supported networks
- 3G, 4G, Wi-Fi (other network support on request)

3G
- HSDPA/HSUPA/UMTS: 900/2100MHz or 850/1800/1900MHz
- HSDPA up to 14.4 Mbps; HSUPA up to 5.76 Mbps

4G
- LTE: 800/1800/2600 MHz. Other bands upon request

Wi-Fi
- Compliant 802.11a/b/g/n (up to 300Mbps)
- Managed & Ad-hoc

GPS
- GPS data is real time transmitted to the Zepcam Video Server
- GPS tracking possible without video transmission

Security
- VPN/APN secure connection from device to video server
- Secure connection between video server and video viewer (Command & control, computer, browser)

Wireless video streaming
- Resolution: 720x576 (D1), 352x288 (CIF)
- Bit rate/ frame rate/ resolution control
- h.264 compression
- Streamed video will be stored on Zepcam T1-XT recorder and Zepcam video server
- Dynamic bandwidth management with Zepcam devices
- Video transcoding, storage, device and user management

Available as cloud service or standalone server software

API availability for integration with e.g. command & control room software.

The Zepcam T1-Live can be monitored and activated remotely.

For user privacy reasons it is possible to notify the user by buzzer or LED light when the streaming is activated remotely.

Power
- 6.200 mAh LiPo battery:
- Average streaming time 3G, 4G: 4,5 hours / Wi-Fi: 5 hours
- Standby time: 11 hours
- On the go charging possible

Remote diagnostics & device control
- Zepcam T1-Live can be controlled remotely from command & control room:
- start/ stop recording & streaming, GPS on/ off, adjust bit rate/ frame rate/ resolution, snap shot functionality, read device diagnostics (e.g. power status)

User privacy
- User can be notified (buzzer, LED) when streaming starts, user can manually switch off video streaming

Proxy server solutions
- Shared & secure Zepcam Video Server, Zepcam Black Box, Zepcam Video Server software or own private server

Network architecture of the Zepcam T1-Live
### GENERAL

**Hardware components:** Recording unit, camera, live unit, remote control, cable

**Waterproof:** Recorder, camera, remote control: IP67, Live Unit: IP66

**LCD display:** 2.8” TFT

**I/O Ports:** Micro SD Card slot, USB 2.0, Mic-In, AV-Out, PAL Analog (pass through)

**Recording Capacity:** 8 GB, extendable to 32 GB

**Operating temperature:** -10°C to +50°C

**Power:** LiPo battery, 3.100 mAh or 6.200 mAh Recharge through USB

**Weight & dimensions:** 273 grams & 120 * 80 * 40 mm

**Microphone:** Cable mounted & 3.5mm Aux mic. input on handheld unit

**Mic. Sensitivity:** 90 dB AGC range, -42dB@1kHz, 16kHz sampling, 16bit PCM

**Remote control:** RF ANT technology, bidirectional, LEDs for device status feedback

**Mounting:** Helmets, shoulder, flat surfaces, straps, clothing

### VIDEO & OPTICS

**Recording speed:** 25 fps

**Formats:** MOV, h.264, PAL

**Resolution:** D1 (720x576) & CIF (352x240); 550 TV lines

**White Balance:** Auto

**S/N Ratio:** 45 dB or more

**Pick-up device:** 1/3” Sony Super HAD CCD & 1/3” CMOS sensor

**Minimum illumination:** 0.05 lux

**Lens options:** f2.45, 2.97, 3.6, 6, 8, 12 mm (bullet camera only)

### WIRELESS VIDEO

**Supported networks:** 3G, 4G, Wi-Fi (managed & Ad-hoc)

**Live video view:** command & control rooms, video player on computer, mobile devices

### GPS & ACCELEROMETER

**Accuracy position:** 2.5 meter

**Accuracy speed:** 0.05 m/s

**Accuracy time:** Hot: 1 sec, cold: 35 sec

**Channels:** 66 (22 tracking)

**Acceleration:** X,Y,Z axis +/-16G with 4mG resolution

### SECURITY & VIDEO AUTHENTICATION

**Encryption:** AES 128

**Login:** Officer ID login

**Device pin code login**

**In screen:** Officer ID, region code & watermark

**Time / date, GPS & frame counter**