



zepcam™

WEARABLE VIDEO TECHNOLOGY



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GENERAL

Hardware components:	Recording unit, camera, live unit, remote control, cable
Waterproof:	IP67
LCD display:	2.8" TFT
I/O Ports:	Micro SD Card slot, USB 2.0, Mic-In, AV-Out, PAL / NTCS Analog (pass through)
Recording Capacity:	8 GB, extendable to 32 GB
Operating temperature:	-10°C to +50°C
Power:	LiPo battery, 3.100 mAh and 6.200 mAh Recharge through USB
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 / 30 fps
Formats:	AVI, MOV, h.264, PAL/NTSC
Resolution:	550 TV lines; 720x576 (D1)
White Balance:	Auto
S/N Ratio:	45 dB or more
Pick-up device:	1/3" Sony Super HAD CCD
Minimum illumination:	0.05 lux
Lens options:	f2.45, 2.97, 3.6, 6, 8, 12 mm anti fog system

Wireless Video

Supported networks: 3G, Wi-Fi
 Live video view: command & control rooms, video player on computer, mobile devices

GPS & Accelerometer

Accuracy position:	2.5 meter DGPS enabled
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

ZEPCAM

H.J.E. Wenckebachweg 200
 1096 AS Amsterdam
 The Netherlands

T: +31-20-7370345
 E: contact@zepcam.com
 www.zepcam.com

zepcam·T1 is a body-worn video recording system for professional use that is capable of live video streaming over 3G 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.

zecam · T1

Live unit

Video & data streaming over 3G and Wi-Fi

Antennas for 3G, Wi-Fi & GPS

Streams live video to control room
TV quality video (720x576) over 3G & 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

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

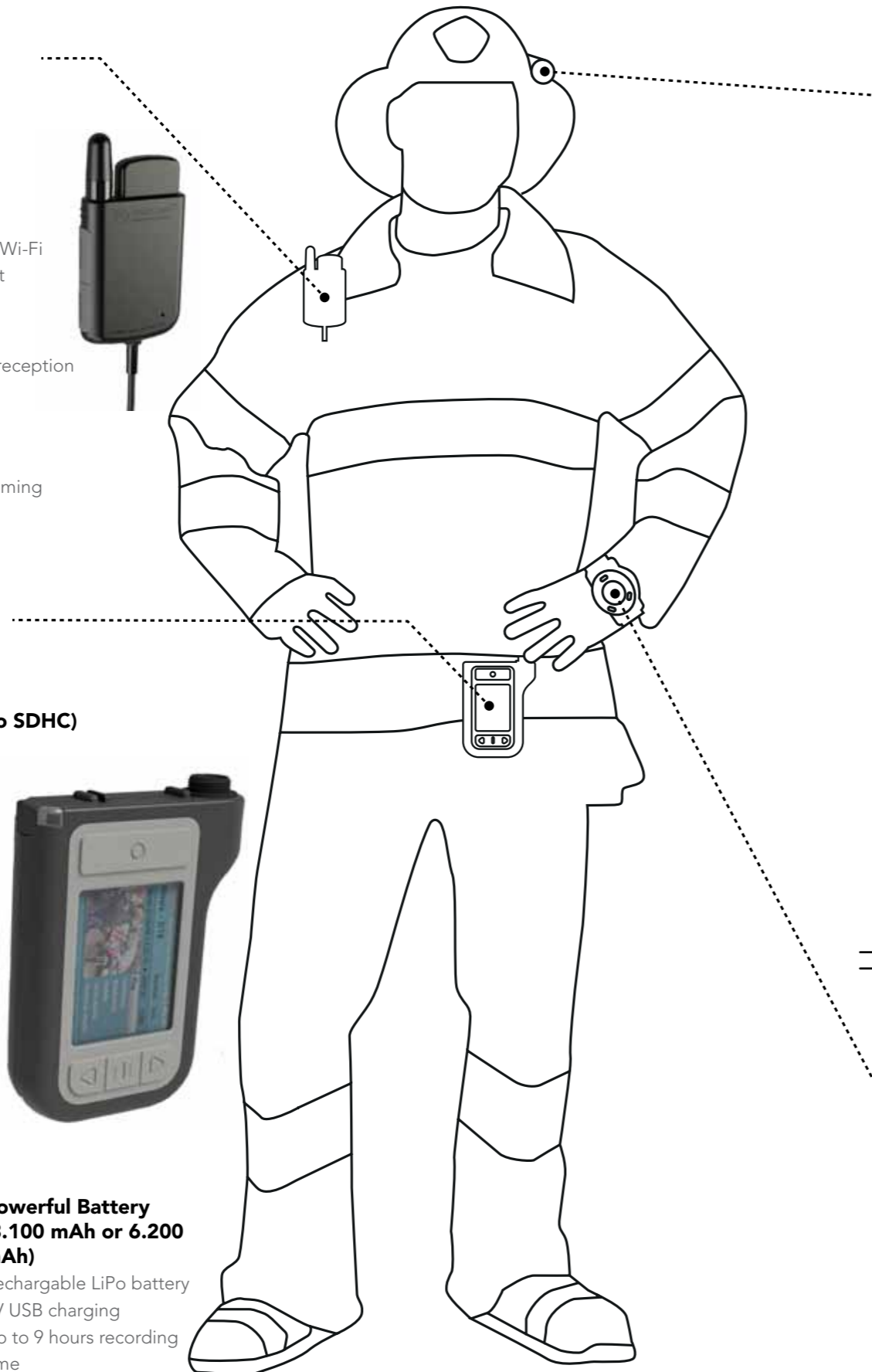
Watermark in video
Date & time stamp in video
Officer ID number in video

Security

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

Powerful Battery (3.100 mAh or 6.200 mAh)

Rechargeable LiPo battery
5V USB charging
Up to 9 hours recording time



Camera

Top quality video & data recording
Several camera options

CCD camera

1/3" Sony Super HAD CCD
TV quality video (D1): 720 x 576 pixels; 550 TV lines
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: f2.97 (130 degrees)
Other options: f2.45, 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

In-cable microphone

Audio recording keeps working when camera is disconnected

Safety connector

Easily disconnects when pulled



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



3 status LEDs

Feed back on device status:
Recording on/ off; battery power low;
Streaming video on/off



Clip Camera

Connect camera to clothing

High video quality
integrated microphone
Flexibel & sturdy connection for stable image



Bullet Camera

Compact size

19 mm camera diameter
Several mounting options



zEPCAM · T1 Product Overview



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



Strap mount

Bulletcam mount for shoulder, goggle or straps on back packs
Flexible & sturdy



GPS Unit

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



Heart rate belt

Record heart rate data on the Zepcam T1
Wireless connected to the Zepcam recorder
Monitor biometric data
In screen data display possible



Mountain bike helmet mount

Universal bulletcam mount
Fits a wide range of mountain bike helmets
Flexible, sturdy and adjustable



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
3.400 mAh
Extra recording time: 3 hours
Extra standby time: 9 hours



Spare parts

The Zepcam T1 product range is supported by a wide range of available spare parts like cables, memory cards, chargers, housing parts etc.

Features	Zepcam T1	Zepcam T1- XT	Zepcam T1- Live
Description	Complete bodycam for local video recording	Complete bodycam for local video recording, extra battery power, upgrade possible to streaming video	Complete bodycam for local video recording and video streaming over 3G and Wifi
Hardware	T1 Recorder Camera Remote control	T1-XT Recorder Camera Remote control	T1-XT Recorder Camera Remote control Live Unit
Video recording & replay	✓	✓	✓
Video encryption	✓	✓	✓
Multi user support	✓	✓	✓
Available cameras	Bulletcam, clipcam, buttoncam	Bulletcam, clipcam, buttoncam	Bulletcam, clipcam, buttoncam
GPS	Optional	Optional	✓
Battery	3100 mAh	6200 mAh	6200 mAh
Recording time / standby time	4.5 h / 15 h	9 h / 30 h	9 h / 30 h
Streaming video over 3G and Wi-Fi	-	Possible after upgrade	✓

Benefits Zepcam T1 system:

- Local recording & live video streaming over 3G & Wi-Fi
- Very easy to use, plug & play system
- Compact, modular & ruggedized, developed for professional use
- Hardware, software and network elements are well integrated.
- First time users can be up and running within a few minutes
- 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

zepcam · T1 Live network



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 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.

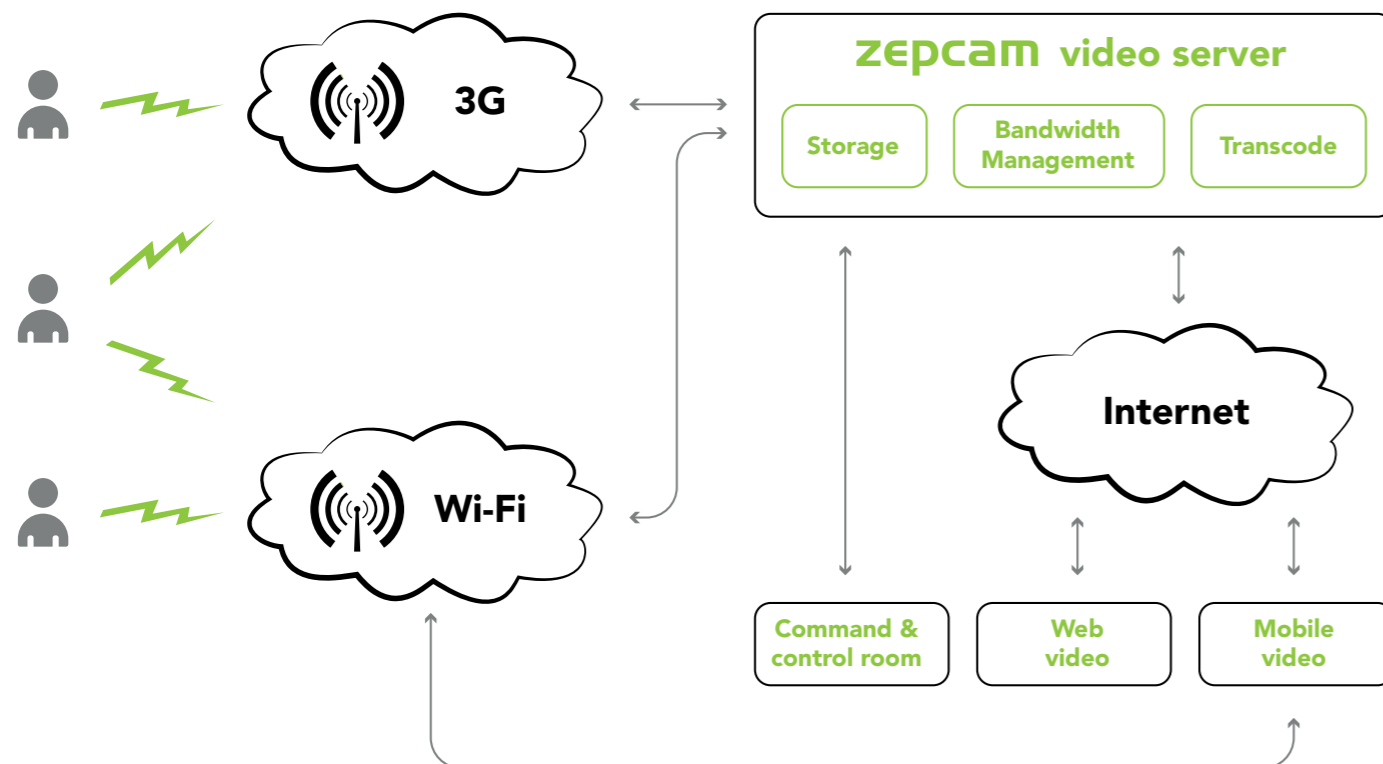
Secure data & video connections

All network connections (3G, 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 and 3G 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.



Network architecture of the Zepcam T1-Live

Technical specs wireless video streaming

Required Zepcam hardware	Zepcam Live unit 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, video players on computers or a browser, Wi-Fi naar mobile video
Supported networks	3G, Wi-Fi
3G	HSDPA/ UMTS: 850/ 900/ 1900/ 2100 mHz GSM/ GPRS/ EDGE: 850/ 900/1800/1900 HSDPA UP TO 18.8 Mbps HSUPA up to 5.76 Mbps
Wi-Fi	Compliant 802.11a/b/g/n (up to 300Mbps) ISM 5.1 ~ 5.8 GHz ISM 2.4 ~ 2.4835 GHz and 20/40 mHz
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, 640x480, 320x240 Bandwidth management for optimal quality Bit rate/ frame rate/ resolution control h.264 compression Recorded video will also be stored on Zepcam T1-XT recorder
Zepcam video server	Dynamic bandwidth management with Zepcam devices Video transcoding and storage Device & user authentication API availability for control room, web view, mobile view
Power	6.200 mAh LiPo battery: Average streaming time 3G: 3.5 hours/ Wi-Fi: 5 hours Standby time: 20 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, 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 for own server