

ACUSTEK

Surveillance

Covert Audio and Video

PRODUCT CATALOGUE



COUNTERMEASURES



SURVEILLANCE



THROUGH WALL

WHAT WE DO



Covert Audio Video Surveillance

Full range of miniature, low powered professional audio and video covert solutions. Including WiFi, Cellular and Stand-alone devices.



Through Wall Solutions

Range of products for Police and Military, aimed to gain maximum tactical intelligence and achieve rapid and effective intervention in dangerous situation such as Anti-terror, hostages and stronghold monitoring.



TSCM Countermeasures

A range of technical countermeasure devices for signal intelligence and hidden electronics detection.

**Unique Professional covert
Surveillance devices for
all operational needs**

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**We provide devices
to suit your
operation, not
the operation to
suit the devices.**

GEM-CELL LTE

Concealed, Long term, Audio-Video store and forward via cellular data networks

The GEM-CELL LTE is a small device integrating a powerful audio-video recorder with an integrated modem for remote download and LIVE audio-video streaming over mobile network. The GEM-CELL LTE allows an unlimited operational range from anywhere in the world.



Extremely low power consumption for long term operations

POWER CONSUMPTION	
Power switch in OFF position	140uA
Stand-by current – modem OFF, recording OFF	0.9mA
Modem ON, recording OFF	2,3mA
Recording 8kHz, modem ON	3,8mA
Recording 16kHz, modem ON	4,0mA
Recording 22kHz, modem ON	4,3mA
3G connection active, online streaming audio only	160mA
3G connection active, online streaming audio and video	200mA
3G connection active, download at maximum speed	190mA
Recording in VOX (waiting for voice trigger), modem ON	3,9mA
16kHz audio, video 1fps, 640x480	10mA
16kHz audio, video 2fps, 320x240	14mA
16kHz audio, video 3fps, 640x480	27mA
16kHz audio, video 5fps, 640x480	35mA

OPTIONS AND FEATURES:

- Video
- STEREO and MONO
- Wireless Triggers - Motion, Tilt, Light and PIR sensors.
- GPS/GNSS Location - GPS, Galileo & Glonass band
- Fully encrypted memory and communication
- Windows and Android

* Detailed information about optional and accessories can be provided separately.

GEM CELL LTE TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	42x33x15mm
Battery	Integrated Li-pol battery
Voltage input	5.0 V, powered via micro USB
External supply current	up to 500mA, when charging the internal battery
Scheduled recording	Event calendar or week calendar
Battery operation recording	220hrs including data transfer (on 16kHz audio recording)
Battery operation idle	350hrs (can receive calls/SMS and not record)
Battery operation online streaming	6 hours
Data encryption	128-bit
Data Storage	Micro SD card 16GB up to 128GB
Export records format	AVI or WAV
Digital signature of records	SHA-256
AUDIO	
Recording modes	Stereo (2 fully independent audio inputs)
Format of stored data	16bit
Sampling frequency	22kHz, 16kHz or 8kHz
Ratio of signal to noise (SNR)	75 dB
Sensitivity of microphone	approx. 8-10 m
Integrated microphone type	Knowles EK23 series
Voice activated recording:	Yes
Automatic gain control (AGC)	Yes
Audio input	3 wire or 2 wire input via micro USB connector
VIDEO	
Compression format	MJPEG
Video frame rate	Selectable 0.5 – 10 fps
Sensitivity	0.02lux with night mode enabled
Resolution	320x240, 640x480, 800x600, 800x480, 1024x768
VAS mode	Supported to activate video only when audio is detected
Video data rate	Selectable 48kbit – 2500kbit
Camera connection	Via 0.8m long video link cable
Camera dimensions	19x19x7mm
Power Consumption General	4-65mA (depending on settings)
Power Consumption Lowest	4mA (0.5fps at 1024x758)
3G CONNECTION	
Data transfer rate	Up to 5.75 Mbps uplink
3G data modes	HSUPA 5.76 Mbit, HSDPA 7.2 Mbit
Supported bands	I, II, IV, V, VI, VIII, GSM/GPRS/EDGE quad band
Antenna	Integrated or external U.FL connector
Data Upload	Automatic upload to FTP server or by using 3G Connection Manager

WIRELESS TRIGGER	
Trigger integrated sensor	MEMS, PIR, light sensor
GPIO input	One general purpose input
Trigger functions	Start/stop recording, send SMS notifications, open data connection
RF band	868MHz, 8 independent selectable channels
RF output power	5mW
RF radio range	50m or over 3 floor in a building
RF trigger supply current	20-100uA (depending on enabled sensors)
PIR sensor specification	Detection angle 85 degrees, detection range 8 meters
Integrated battery	Rechargeable Li-Pol 100mAh
Dimension with battery	Diameter 11.5mm, length 45mm, (with PIR sensor)
Dimension of module only	11x27mm
GNSS RECEIVER	
Dimensions	24x24x10mm
Connection	Via serial cable to CAM port
GNSS supported bands	GPS, Glonass, Galileo
Assisted GPS start	Yes
Time to first fix	30sec
Location storage period	User selectable 1-60 sec
Sensitivity for tracking	-166dBm
Power consumption maximum	27mA
Stand-by current	100uA
Power consumption during tracking	5-20mA (depending on fix storage period)
Motion sensor	Yes

Most fully featured Store & Forward Audio Video recorder.

OPTIONAL AND ACCESSORIES



GEM CELL II PCB Version



Wireless Trigger:
Multiple sensor RF Trigger with PIR, Motion, TILT and LIGHT with 4 months battery life in continuous operation.



GPS/GNSS Locator Module:
Supporting GPS, Glonass and Galileo band. Low powered module with internal Motion Sensor.



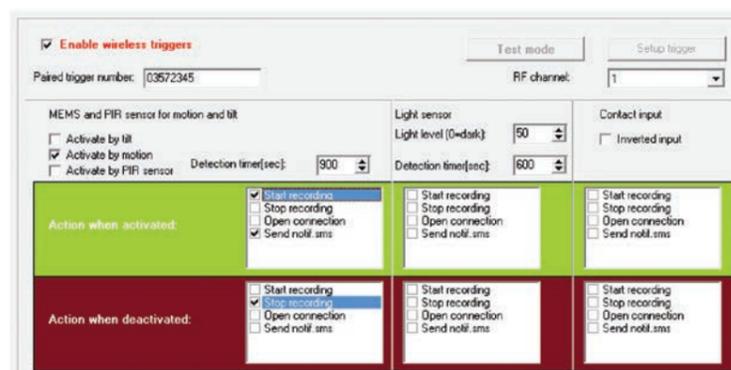
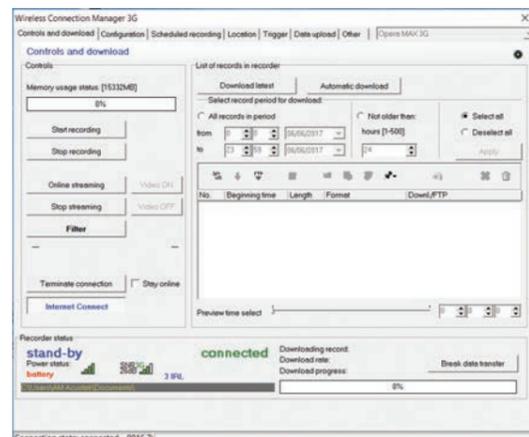
OVCAM3 Pinhole Camera:
M12 interchangeable lens.



OVCAM3 Camera Module:
M7 interchangeable lens with Epoxy glue enclosure.



OVCAM3 Camera:
M7 interchangeable lens with Plastic enclosure.



Wired External Knowles FG Series:
(2.5 x 2.5mm) Kevlar cable 100cm long as default.



Wired Needle Knowles FG Series:
(2.5 x 2.5mm). Ideal for wall concealments and sealing implementation. Kevlar cable default is 100cm and the needle is 20cm long.



240V Power Converter:
input voltage range 80V-240V AC—output 5V/500mA
12V Power Converter:
input voltage range 7.0V-36.0V DC— output 5V/500mA

GEM-WIFI

Concealed, Long term, Store & Forward Audio and Video Recording + Live Streaming Via Wi-Fi



The GEM-WiFi is fully featured autonomous Store & Forward Audio/Video device, with ultra fast download of recorded data.



Best combination of data security, rapid download and recording quality.

POWER CONSUMPTION

Power switch in OFF position	70uA
Stand-by current – Wi-Fi in passive scan mode, period 5min, recording OFF	900uA
Recording 8kHz, Wi-Fi in passive scan mode, period 5min	2,9mA
Recording 16kHz, Wi-Fi in passive scan mode, period 5min	3,8mA
Recording 22kHz, Wi-Fi in passive scan mode, period 5min	4,1mA
Wi-Fi ON, online streaming audio only	140mA
Wi-Fi ON, download at maximum speed	205mA
Recording in voice activated mode (waiting for voice trigger), Wi-Fi in passive scan mode, period 5min	1.9mA
16kHz audio, video 1fps, 640x480	15mA
16kHz audio, video 2fps, 320x240	22mA
16kHz audio, video 3fps, 640x480	33mA
16kHz audio, video 5fps, 640x480	47mA

CONNECTIVITY

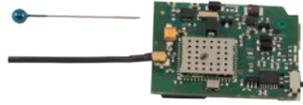
- Peer to peer using dedicated, encrypted and fully configurable Wi-Fi adaptor connection.
- Configurable to existing Wi-Fi infrastructure.
- Automation using any FTP Server for scheduled upload of multiple units.
- Android Application for discrete Rec, download, playback and live streaming of audio or audio video.
- Login Screen by-pass capability: GEM W-iFi is able to overcome the login screen (airport, hotel etc).

*Contact us for further details.

GEM-WIFI TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	42x33x17mm
Battery	Integrated Li-pol battery
Voltage input	5.0 V, powered via micro USB
External supply current	Up to 500mA, when charging the internal battery
Scheduled recording	Selectable periods for each day of a week
Battery life in record mode	250 hours including data transfer (depending on configuration)
Memory capacity	300 hours (12 days) at 8kHz sampling rate (16GB)
Data storage	Micro SD card 16GB up to 128GB
Export records format	AVI or WAV
AUDIO	
Audio bit width	16bit
Sample rate	22kHz, 16kHz or 8kHz
Signal to noise ratio (SNR)	75 dB
Sensitivity of built-in microphone	Approx. 8-10 m
Integrated microphone type	Knowles EK23 series
Voice activated recording	Yes
Automatic gain control (AGC)	Yes
Audio input	Internal / External (optional) microphone
VIDEO	
Video bit rate	Selectable 48Kbit – 1280kbit
Resolution	1024x768, 854x480, 800x600, 640x480 or 320x240
Compression format	MJPEG, 0.5-10fps
Camera sensitivity	<0.01 lux with night mode enabled
Current Consumption in rec. mode	15mA-45mA (depending on frame rate)
WI-FI AND NETWORK	
Data transfer rate	11Mbit
Output Wi-Fi power	20dBm
Antenna	Integrated or external U.FL connector
Wi-Fi modes	802.11n, 802.11g or 802.11b in client mode

OPTIONAL AND ACCESSORIES



GEM WIFI PCB Version



OVCAM3 Pinhole Camera:
M12 interchangeable lens.



OVCAM3 Camera Module:
M7 interchangeable lens with
Epoxy glue enclosure.



OVCAM3 Camera:
M7 interchangeable lens with
Plastic enclosure.



Wired External Knowles FG
Series:
(2.5 x 2.5mm) Kevlar cable
100cm long as default.



Wired Needle Knowles FG
Series:
(2.5 x 2.5mm). Ideal for wall
concealments and sealing
implementation. Kevlar cable
default is 100cm and the needle
is 20cm long.



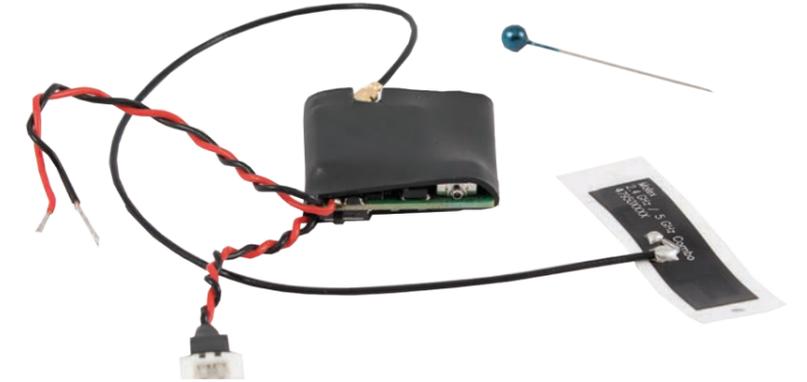
240V Power Converter:
input voltage range 80V-240V
AC—output 5V/500mA
12V Power Converter:
input voltage range 7.0V-36.0V
DC— output 5V/500mA

GEM-WIFI LITE

Concealed, Long term, Store & Forward PCB Audio Recording
+ Live Streaming Via Wi-Fi



- Smallest Wi-Fi Store & Forward recorder
- Ultra Fast Download, up to 2500kb/s
- Ultra Low Power Consumption



Best power consumption, download speed
and operational range for audio
Store and Forward recorders.

POWER CONSUMPTION

Power switch in OFF position	80uA
Stand-by current – Wi-Fi in passive scan mode, period 5min, recording OFF	600uA
Stand-by current—Wi-Fi OFF (outside operation period), recording OFF	85 uA
Recording 8kHz, Wi-Fi in passive scan mode, period 5min	2.0 mA
Recording 16kHz, Wi-Fi in passive scan mode, period 5min	2.2 mA
Recording 22kHz, Wi-Fi in passive scan mode, period 5min	2.5 mA
Wi-Fi ON, online streaming audio only	170 mA
Wi-Fi ON, download at maximum speed (over 2500Kb/sec real transfer)	300 mA
Recording in voice activated mode (waiting for voice trigger), Wi-Fi in pas	1.3 mA
Recording in voice activated mode (waiting for voice trigger), Wi-Fi in pas	700 uA

CONNECTIVITY

- Peer to peer using dedicated, encrypted and fully configurable Wi-Fi adaptor connection.
- Configurable to existing Wi-Fi infrastructure.
- Automation using any FTP Server for scheduled upload of multiple units.
- Android Application for discrete Rec, download, playback and live streaming of audio.
- Login Screen by-pass capability: GEM Wi-Fi LITE is able to overcome the login screen (airport, hotel etc)

*Contact us for further details.

GEM WiFi LITE TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	25mm x 25mm x 5mm
Battery	Integrated Li-pol battery (350mAh, 900mAh)
Power Supply	3.5 to 6.0V
Voltage input	5.0 V, powered via micro USB
Power charger current	Maximum 500mA
Scheduled recording	Selectable periods for each day of a week
Data storage	Internal micro SD card 16GB (up to 128GB)
Export audio format	AVI or WAV format
GPIO Control	2 Optional GPIO external inputs to control recording and Wi-Fi operation
Digital Signature	Yes
Encryption	Yes, AES 128-bit
AUDIO	
Audio bit width	16bit
Sample rate	22kHz, 16kHz or 8kHz
Signal to noise ratio (SNR)	82 dB
Sensitivity of built-in microphone	Approx. 8-10 m
Voice activated recording	Yes
AGC	Yes
Audio input	Internal Knowles EK23 series
WI-FI AND NETWORK	
Data transfer rate	54Mbit
Output Wi-Fi power	20dBm
Antenna	External U.FL connector
Wi-Fi modes	802.11n, 802.11g or 802.11b in client mode
Network configuration	Static IP or DHCP
Security	Optional WPA2/PSK, WEP-128, WEP-64
Scan Mode	Passive
CE CONFORMITY INFORMATION	
Directive 1999/5/EC	ETSI EN300328 V1.7.1: 2006, ETSI EN 389-1 V1.8.1:2008 ETSI EN 301489-17 V2.1.1:2009, EN 61000-3-2:2006+A1:2009+_A12:2011
Directive 2006/95/EC	EN60950-1:2006+A11; 2009+A1; 2010+A12:2011
Directive (ErP) 2009/125/EC	Environment EN62075:2008

GEM-CARD RF

Professional Quality Recording and Transmission together, concealed in a card shape device

- Internal 10mW Transmitter which works with our DS5 receiver.
- Reduced thickness down to 1.3mm and now concealed in a complete laminated enclosure.
- Multiple activation modes:
 - Swipe or Triple Swipe on specific point of the card,
 - ON/OFF remote control Key FOB with two way communication with vibro alert
 - VOX Activation, weekly or event calendar schedule
- Recording time with internal battery, up to 60h of continuous recording at 8Khz with one charge.
- The recording quality is up to 44Khz.



Unique Card Recorder with **LIVE Digital Transmission** and recording simultaneously.

SAMPLE RATE	NONE	u-law	ADPCM
8 kHz	40h	51h	60h
11 kHz	37h	47h	58h
16 kHz	33h	41h	56h
22 kHz	22h	30h	48h
44kHz	16h	NA	NA

The following table illustrates battery life in different recording modes in continuous recording (the figures are in hours)

MODE	OPERATION TIME (hours)
8kHz transmitting only	4h
8kHz transmitting and recording	3.5h
16kHz transmitting only	4h
16kHz transmitting and recording	2.8h

Battery operation times in wireless audio streaming mode (in hours):



GEM CARD RF TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Dimensions	Credit card shape, 1.3mm
Power Supply	Integrated Li-pol battery
Battery operation (recording mode)	16-60 hours (16 hours at 44kHz, 60 hours at 8kHz)
Battery operation (DS5 transmission)	4 hours
Battery stand-by	50 days
Battery charging	2 hours to full charge by using dedicated reader
Activation modes	Capacitive touch slider RF remote control (with dedicated key FOB) Time scheduler Activation on undocking from reader
Recorder scheduling	Event calendar or week calendar
Memory capacity	16GB (up to 240 hours of audio recording)
Data connection interface	USB 2.0
Audio Input	MEMS microphone, 24-bit ADPCM
Storage format	Uncompressed, ulaw, 4-bit ADPCM
Voice Activated Recording	Yes
Data encryption	128-bit AES encryption
Digital Signature	SHA-256 digital signature
Time Stamp	Precision timeline stored with each recorder
Medium for storing data	Integrated micro SD card
Export records	WAV format

TECHNICAL DATA RF PART	
Frequency band	860-880MHz (can be tuned very close to GSM band)
Modulation type	FHSS
Type of compression	LPC
Audio format	8kHz or 16kHz
RF output power	10mW
Range	150 meters (over 400 meters in open-air environment)
Over the air functions	Remote ON/OFF control

TECHNICAL DATA REMOTE CONTROL	
Dimensions	29x62x9mm
Frequency band	860-880MHz
RF output power	1mW
Power supply	23A type battery
Communication type	2-way with feedback confirmation from the card
Feedback type	Dual LED indication and integrated vibration alert

GEM-ATOM

Smallest Professional Audio Recorder in the market

GEM ATOM Utilizing the latest DSP technology combines miniature size, very low power consumption, long duration and professional grade audio quality allowing many days of recording.



The **smallest** format available on the market

SAMPLE RATE	NONE	Adpcm4	ulaw
8 kHz	1.7	1.6	1.6
11 kHz	2.2	1.6	2.1
16 kHz	2.4	1.7	2.3
22 kHz	2.7	2.1	2.6
44 kHz	4.6		3.1

Power consumption measured in mA.
Conditions used: power supply 3,7V and recording without enhanced audio mode.

SAMPLE RATE	NONE	Adpcm4	ulaw
8 kHz	47h	50h	50h
11 kHz	36h	49h	38h
16 kHz	33h	47h	33h
22 kHz	30h	38h	31h
44 kHz	17h		25h

SAMPLE RATE	NONE	Adpcm4	ulaw
8 kHz	76h	82h	82h
11 kHz	59h	80h	61h
16 kHz	54h	76h	54h
22 kHz	48h	61h	50h
44 kHz	27h		40h

Battery life measured in hours.
Conditions used: 130mAh battery and continuous recording mode.

- MINIATURE SIZE 13 x 18 x 4.5 mm
- LOW POWER CONSUMPTION
- As shown with 80mAh battery power consumption measured in hours.
- Continuous recording without enhanced audio mode.

GEM ATOM TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	13 x 18 x 4,5 mm
Battery	Optional Li-Pol 130mAh
Battery life in recording mode	82 hours on 130mAh
Battery life in stand-by mode	90 days
Power supply range	3.3-6.0V
Memory capacity for recording	Maximum recording time: over 48days with 16GB SD Card (up to 128GB)
Charge Port and PC connection	Standard Micro USB
Signal to noise ratio (mic)	better than 82dB
Storage format	16bit uncompressed logarithmic 16bit, 4bit ADPCM
Sample rate	44kHz, 22kHz, 16kHz, 11kHz, 8kHz
Format	uncompressed, 4-bit ADPCM or ulaw
Bit width	16bit
Microphone type	Knowles FG45 series
AGC function	user selectable automatic gain control or fixed microphone gain
Scheduled Recording	Programmable 7 day/time period or 32 events in calendar
Operating mode select	slide switch
Exporting format	WAV format by using included software
Voice Activated Record (VOX)	Yes
Digital Signature	Hardware generated SHA-256 signature
Time Stamping	Date and Time (including VOX time) and recorder Serial number
Record encryption	128bit AES



GEM ATOM PLUG AND PLAY:
Size: 1 x 2 x 1.4 cm including a 80mAh re-chargeable battery.



240V Power Converter:
input voltage range 80V-240V
AC—output 5V/500mA
12V Power Converter:
input voltage range 7.0V-36.0V
DC— output 5V/500mA



Re-chargeable battery
Options:
- 130mAh Size: 3 x 1.5 x 0.3 cm
- 350mAh Size: 3.5 x 2 x 0.5 cm
- 900mAh Size: 4 x 2.8 x 0.7 cm

GEM-NANO STEREO

Miniature Long Life STEREO Audio Recorder PCB

The GEM-NANO STEREO delivers very low power consumption, long duration and professional grade STEREO audio quality, providing many days of recording.



Small, Secure, Low Powered Professional grade STEREO audio recorder PCB

STEREO RECORDING MODE

SAMPLE RATE	NONE	Adpcm4	ulaw
8 kHz	2.8	2.4	2.5
11 kHz	3.6	2.6	2.8
16 kHz	3.7	2.7	3.2
22 kHz	5.5	3.6	3.8
44 kHz	9.4		4.6

Power consumption measured in mA conditions used: power supply 3,7V and recording without enhanced audio mode, continuous recording STEREO mode.

NOTE: Using enhanced audio recording the power consumption increases by 10-15%.
In Voice Activation stand-by mode the power consumption is 1.0mA.

MONO RECORDING MODE

SAMPLE RATE	NONE	Adpcm4	ulaw
8 kHz	1.7	1.6	1.6
11 kHz	2.2	1.6	2.1
16 kHz	2.4	1.7	2.3
22 kHz	2.7	2.1	2.6
44 kHz	4.6		3.1

Power consumption measured in mA conditions used: power supply 3,7V and recording without enhanced audio mode, continuous recording MONO.

GEM NANO STEREO TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	25 x 15 x3 mm
Battery	Integrated Li-pol battery (350mAh, 900mAh)
Battery life in recording mode	54hrs STEREO recording (8kHz) - 82hrs MONO recording (8kHz) with 130mAh battery
Battery life in stand-by mode	85 days
Power supply range	3.3-6.0V
Memory capacity for recording	Up-to 128Gb
Recording mode	Mono and Stereo
Signal to noise ratio (mic)	better than 82dB
Storage format	16bit uncompressed logarithmic 16bit, 4bit ADPCM
Sample rate	44kHz, 22kHz, 16kHz, 11kHz, 8kHz
Format	uncompressed, 4-bit ADPCM or ulaw
Bit width	16bit
Microphone type	2 x Knowles FG series 50cm extension (length customizable upon request)
AGC function	user selectable automatic gain control or fixed microphone gain
Scheduled Recording	Programmable 7 day/time period or 32 events in calendar
Operating mode select	slide switch
Exporting format	WAV format by using included software
Voice Activated Record (VOX)	Yes
Digital Signature	Hardware generated SHA-256 signature
Time Stamping	Date and Time (including VOX time) and recorder Serial number
Record encryption	128bit AES



240V Power Converter:
input voltage range 80V-240V
AC—output 5V/500mA
12V Power Converter:
input voltage range 7.0V-36.0V
DC— output 5V/500mA



Re-chargeable battery Options:
- 130mAh Size: 3 x 1.5 x 0.3 cm
- 350mAh Size: 3.5 x 2 x 0.5 cm
- 900mAh Size: 4 x 2.8 x 0.7 cm



Battery Charger Module:
- Size: 3 x 0.5 x 0.4 cm

GEM-PRO

Professional Grade Quality Long Life Voice Recorder

GEM-PRO is a long term stand-alone audio recorder.

MAIN FEATURES

- FULLY AUTONOMOUS IN ROBUST METAL CASE
- INCORPORATED VIBRO ALERT
- DATA ENCRYPTION AND DIGITAL SIGNATURE
- VERY LOW POWER CONSUMPTION
- EXTERNAL MICROPHONE OPTIONS



SAMPLE RATE	NONE	u-law	4bit ADPCM
5.5 kHz	165h	175h	240h
8 kHz	160h	170h	227h
11 kHz	133h	150h	210h
16 kHz	127h	140h	173h
22kHz	89h	96h	112h
44kHz	48h	60h	



GEM PRO TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	27x39x12mm
Battery	integrated Li-Pol 350mAh
Battery life in recording mode	240 hours
Battery life in stand-by mode	120 days
Memory capacity for recording	Maximum recording time: over 130days (with 16GB card at 5.5kHz ADPCM) up-to 128Gb
Charge Port	Standard Micro USB
Signal to noise ratio (mic)	better than 65dB
Storage format	16bit uncompressed logarithmic
Sample rate	44kHz, 22kHz, 16kHz, 11kHz, 8kHz, 5.5kHz
Format	4bit ADPCM or 2bit ADPCM, uLaw
Bit width	16bit Built-in microphone sensitivity: 8-10m
Microphone type	Knowles EK23 series
AGC function	User selectable automatic gain control or fixed microphone gain
Scheduled Recording	Programmable 7 day/time period or calendar
Operating mode select	slide switch
Exporting format	WAV format by using included software
Voice Activated Record (VOX)	Yes
External Microphone Support	Two Options Available
Time Stamping	Date and Time (including VOX time) and recorder Serial number
Digital Signature	SHA256
Encryption	AES 128-bit



Wired External Knowles FG Series:
(2.5 x 2.5mm) Kevlar cable
100cm long as default.



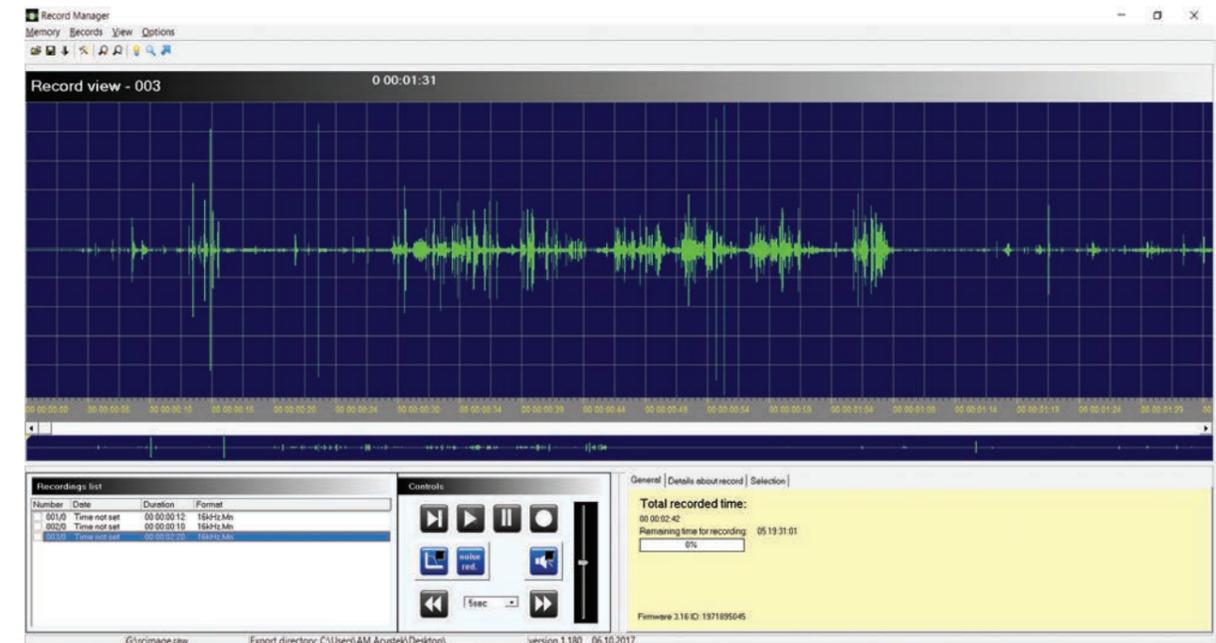
240V Power Converter:
input voltage range 80V-240V
AC—output 5V/500mA
12V Power Converter:
input voltage range 7.0V-36.0V
DC— output 5V/500mA

GEM-PRO PCB

Miniature concealable Quality
Long Life Audio Recorder



GEM-PRO PCB small audio recording module long duration of audio recording and professional grade audio quality. The voice recording pcb module can be integrated into almost anything.



SAMPLE RATE	NONE	u-law	4bit ADPCM	2bit ADPCM
5.5 kHz	3mA	1.85mA	1.6mA	3.6mA
8 kHz	4.2mA	2.5mA	2.2mA	1.7mA
11 kHz	5.2mA	2.9mA	2.6mA	2mA
16 kHz	7.3mA	3.3mA	3.1mA	2.2mA
22kHz	9.4mA	4.8mA		
44kHz	17.8mA	9.6mA		

GEM PRO PCB TECHNICAL SPECIFICATIONS

GENERAL	
Dimensions	17.5 x 27 x 3 mm
Maximum recording time	over 130days (with 16GB card at 5.5kHz ADPCM)
Data storage	Micro SDHC card (supplied with 16Gb, supporting up to 128GB SD Card)
Signal to noise ratio (mic)	better than 75dB
Storage format	16bit uncompressed logarithmic
Sample rate	44kHz, 22kHz, 16kHz, 11kHz, 8kHz, 5.5kHz
Format	4bit ADPCM or 2bit ADPCM, uLaw
Bit width	16bit
Sensitivity of built-in microphone	10-15 meters
Microphone type	Knowles EK23 series
AGC function	user selectable automatic gain control or fixed microphone gain
Scheduled Recording	Programmable 7 day/time period or calendar up to 32 events
Operating mode select	Slide switch
Exporting format	WAV format by using included software
Voice Activated Record (VOX)	Yes
External Microphone Support	Yes (Two Options Available)
Time Stamping	Yes Date and Time (including VOX time) and recorder Serial number
Power consumption in stand-by mode	<50uA
Power consumption in VAS mode	1,6mA at 3,0V
Encryption	Yes, AES 128-bit



240V Power Converter:

input voltage range 80V-240V
AC—output 5V/500mA

12V Power Converter:

input voltage range 7.0V-36.0V
DC— output 5V/500mA



Re-chargeable battery

Options:

- 130mAh Size: 3 x 1.5 x 0.3 cm
- 350mAh Size: 3.5 x 2 x 0.5 cm
- 900mAh Size: 4 x 2.8 x 0.7 cm

DS5

Digital packet transmitter/receiver/recorder set

- **Very concealed transmission due to very small bandwidth of transmission, max of 19 kHz.**
- **Digital spread spectrum packet technology provides transmission in several short bursts per second making the transmitter undetectable with conventional RF detectors.**
- **The transmitter delivers excellent quality sound at range of up-to 1.2 Km (in open air).**
- **Integrated SD card recorder.**
- **Great power saving: when turned off the transmitter consumes very low power.**
- **Extra small size: great for concealed installation.**

MAIN FEATURES:

- The transmitter is fully remote controllable,
- 8 channels that can be switched on/off or changed.
- Two new menu items - one to select audio mode 8kHz or 16kHz, second to select transmitter power from 15 to 100mW in 3 steps (applicable only to 100mW TX version).
- Two transmitter versions - 10mW or 100mW both able to transmit 8kHz or 16kHz audio.



DS5 TECHNICAL SPECIFICATIONS

TRANSMITTER 100mW	
Supply voltage	2.1-6.0V
Power consumption Low PW	60 mA at 3.7 V
Power consumption High PW	120 mA at 3.7 V
Power Consumption - Stand-by	< 1 mA
Audio Format	16bit, 16kHz, 8kHz
Type of compression	LPC
Frequency range	860-880MHz
Modulation type	FHSS
The output RF power	user selectable in 3 steps, maximum 100mW
Range	500 meters (over 1200 meters in open air environment)
Battery type	Wired Configuration
User selectable channels	8 user selectable independent channels
Over the air functions	firmware upload, full configuration
Alarm function	alarm open drain output controllable from receiver
Dimensions	64x14x3mm
TRANSMITTER 10mW	
Supply voltage	2.1-6.0V
Power consumption Low PW	35 mA at 3.7 V
Power Consumption - Stand-by	< 1 mA
Audio Format	16bit, 16kHz, 8kHz
Type of compression	LPC
Frequency range	860-880MHz
Modulation type	FHSS
The output RF power	10mW
Range	150 meters (over 400 meters in open air environment)
Battery type	Li-pol
Battery life	45 hours of continuous transmission
Battery life in Stand-by	400 hours
User selectable channels	8 user selectable independent channels
Over the air functions	firmware upload, full configuration
Alarm function	alarm open drain output controllable from receiver
Dimensions	47x15x3mm
RECEIVER	
Power supply:	2x 1,5V AAA batteries or external power via mini USB
Power consumption	40 mA
RF sensitivity	-115dBm
Antenna connector	SMA
Audio connector	3,5mm size audio connector
Recording media	micro SDHC card
Recording format	8 kHz, 16kHz,16 bit

ACU-TSK

Tactical Surveillance Kit

The Acustek Tactical Surveillance Kit (ACU-TSK) has been designed by Acustek as a combination of all the audio and video surveillance solutions currently available in the product portfolio. It is intended as an essential professional kit for intelligence team, law enforcement agencies and surveillance operators.

The R&D carried out by Acustek in the last 5 years, has led to the final stage of all the surveillance solutions with a continuous work put into improving products, collaborating directly with the end users and providing all the technical support needed to deliver the best product possible to every client. With the ACU-TSK we decided to offer a full set of options that may be needed in a vast range of operational scenarios, all included in one ruggedized carry case.

The content of the ACU-TSK may vary depending on new product released (usually automatically included in the deliver set) and we can also tailor the kit based on the client requirements.



Tactical surveillance KIT - delivers full set of ACUSTEK GEM series recorders and DS5 digital packet transmission, comprising of:

1 x GEM-CELL II Audio and Video Store&Forward recorder via LTE data network (including Camera, External Mic, RF Trigger with PIR with charger module and GNSS/GPS Locator)

1 x GEM WiFi Audio/Video Store&Forward recorder (including Camera and External Mic.)

1 x GEM ATOM Smallest Pro Audio recorder

1 x GEM NANO STEREO Miniature professional Stereo recorder module

1 x GEM PRO Compact Pro Grade Audio Recorder + External Mic.

1 x GEM PRO PCB flat audio recording module

1 x GEM CARD RF recorder and transmitter, Remote Control Key FOB and Reader

1 x GEM CAR KEY FOB camouflaged voice recorder

1 x ACU-DS5 Tactical set, including DS5 flat PCB transmitter (10mW and 100mW), receiver-recorder set.

ACCESSORIES INCLUDED IN THE KIT:

1 x 12V-5V Power converter
1 x 240V-5V Power converter
1 x Set of batteries (130mAh, 350mAh, 900mAh) plus 1 battery charger module - The batteries are provided already with connector compatible with the products included in this kit.

Moreover a ready-to-go option is available with pre-configured mini laptop.

GEM BESPOKE SOLUTIONS AND ACCESSORIES

Acustek is emphasizing its effort on manufacturing and delivering the best quality products with complete delivery sets, efficient pre and post sales technical support to the client, in a quick and professional manner.

With the effort put into R&D along the years we succeeded on gathering products which are currently used by Government, Law Enforcement and Police forces from all over the world with a direct correlation between our brand and audio/video surveillance solutions.

Crucial aspect of our culture is the possibility of close collaboration between the client and our team of engineers in order to provide bespoke projects delivering customized products by adding functions and modifications or even creating a unique solution from a hardware and software perspective.

For further information about bespoke projects, please contact one of our staff member or send an email to sales@acustek.com and we will put you in contact directly with our commercial and technical staff.





SURVEILLANCE



TSCM COUNTERMEASURES



THROUGH WALL SOLUTIONS

ABOUT US

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Located in Dublin, Ireland, ACUSTEK is an established manufacturer of unique professional products for Surveillance, Counter-Surveillance TSCM and tactical equipment.

Our mission is to provide the best and unique solutions to Law Enforcement, Intelligence Agencies, Rapid Intervention Teams, Military, Prison Services, Police and Government Agencies.

DETECT

ANALYSE

REACT



ACUSTEK

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