



knowledge and imagination

Since BEA entered the market in 1993, the Company has earned leadership and its combined complete production cycle and service features won a strong position as a trustworthy and competent partner in intelligence and security area.

Its **Mission** is to design, manufacture and supply exclusive highly personalised latest generation technological products and services to its interlocutors all of them belonging to Governments, Public Authorities and Police Forces.

Its **Vision** is to be a trustworthy and competent technological partner capable of responding to increasingly specific global demand for security.

Since 2007 is part of the Cross Security Group.



- **BEA designs**

Intense ongoing R&D activity is the backbone of BEA products, with an average life range of six months to three years.

The Company addresses the current need for innovation with large investment in design-dedicated human resources. 60% of Group employees are highly qualified dedicated technicians. They make up a team engaged in developing state of the art applications from all aspects of telecommunication industry and adapting the latest developments to suit customer's requirements.

- **BEA manufactures**

BEA faces a complete production cycle: from the first pre-production feasibility, to the prototypes realisation, up to manufacturing and final testing. BEA guarantees products of top quality.

The Company is Uni En Iso 9001:2000 certified.

- **BEA customises**

So much of what BEA's activity is; now we come to how to achieve, the accent is on personalisation.

Customising is a consolidated BEA practice which means offering our Customers the means to modify any existing product or to redesign a new one based on any Customer's needs. The same is true for our service and training applications.

This highly flexible and adaptable approach is possible because BEA is versatile and responsible for each step in the innovative design and development and can therefore act with speed to achieve the most satisfactory result.

Thinking from the Customer's standpoint depends on intuitive listening, understanding the current needs, as well as being aware of critical operational requirements by proposing valid, sustainable, fast and quality solutions.

- **BEA markets**

BEA's development policy is based on its partnership with its distributors in key areas over 5 continents, each of them trading the most attractive products for each local context and managing Customer relationships with careful After-Sales Service. The extensive in-depth training that BEA provides to all its commercial partners with, by transferring all tools needed for End User satisfaction and fidelity, made all this possible.

- **BEA assists**

BEA's round the clock Call Centre guarantees full technical support by specialised operators, who do not just offer consultancy over the phone, but are also available for visits whenever needed.

BEA's strongest points are a speedy response and the quality of support. This has made the Company a leader in its field, able to guarantee the same response wherever it is present.

- **BEA trains**

Training courses on BEA's products, aspects of security and all various issues involved are today's frontier. BEA is carrying on these activities, conceived in order to deliver a highly customisable product and service, in an innovative and competent way.



knowledge and imagination

BEA

Product Range

UHF AUDIO MONITORING



GSM AUDIO MONITORING



COMPUTER KEYBOARD MONITORING



GPS TRACKING



GSM TRACKING



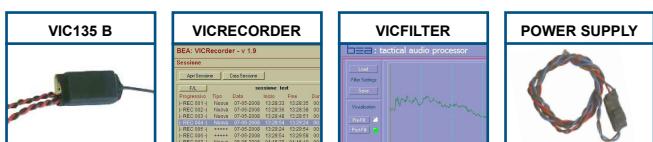
RECORDERS



GSM/UMTS DETECTORS AND JAMMERS



COMPLEMENTARY TOOLS



MINIMICRO

The **MINIMICRO** is a professional audio surveillance system composed of an extremely low power consumption microtransmitter and its dedicated receiver.

The miniature size, low probability of detection and extremely low power consumption make the **MINIMICRO T** transmitter ideal for concealment applications.

The **MINIMICRO R** receiver is easy and intuitive and, thought for a portable use, it offers a wide range of information and features.



Main Features

- **Miniatuerised dimensions of the transmitter**

The thin miniature package can be easily concealed, and includes a thin wire antenna for quick transmitter installation and rapid system deployment.

The transmitter requires only a battery or other power source to be operational.

- **Innovative transmission system**

The **MINIMICRO** employs an innovative patented pulsed transmission technique (Time Modulation Very Wide Band) which makes it very difficult to detect or intercept the transmission with RF detectors and other conventional sweeping techniques.

- **Low power consumption**

The TM-VWB transmission technique drastically reduces the average power consumption of the transmitter, allowing operating times in excess of 500 hours using a standard 9 volt battery.

- **Audio quality**

Wide bandwidth and high dynamic range.

- **Compact and complete receiver**

The **MINIMICRO R** is the compact dedicated receiver for the **MINIMICRO T**. It is simple to use and works with a standard 9 volt battery or an external power supply.

There is a led display to indicate received signal strength and connectors for headphones, external recorder. There is also a phone line connection for audio retransmission over a dedicated phone line.



MINIMICRO

UHF Audio Monitoring

MINIMICRO T

Transmitter - Concealment transmitter with microphone.

range	330÷390 MHz
power supply - typical	4÷12 V
consumption	0.8÷1.5 mA
output power	10÷200 mW
audio dynamic range	60 dB
audio bandwidth, -3dB	50 Hz÷5 KHz
dimensions (mm)	33 x 10 x 3



MINIMICRO R

Receiver - Compact hand-held receiver for monitoring near the target.

range	330÷390 MHz
power supply	9 V with PP9 internal battery 12 V from external power supply
consumption	36 mA
audio level REC	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	85 x 110 x 35



MICRO2 PW

Power supply - 12 V miniaturized power supply.

input voltage	220 Vac
output voltage	10 Vdc
max. current	3 mA

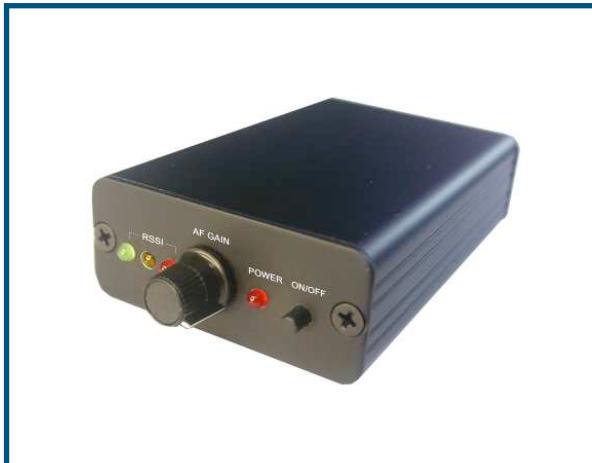


Technical Beanews

RF RECEIVER

BEA presents its new **RF RECEIVER** for **TMVWB** transmitters.

The new receiver has been developed specifically for body worn applications. It is user friendly and intuitive and, although extremely compact, it offers a wide range of features.



Main Features

- **Compact and complete receiver**

The **RF RECEIVER** is light and compact, tough for a quick and safe use when the user is close to the target.

It is compatible with the **Time Modulation Very Wide Band** transmission technique and presents information such as battery level and RSSI status.

It is provided with an audio connector, accepting headphones or a 8Ω speaker, and with a line-out output where any audio equipment like amplifiers, recorders, PC, etc can be interfaced.

A mini USB port allows to power, recharge and program the device.

- **Li-Po battery**

The **RF RECEIVER** works with an internal 350 mA rechargeable Li-Po battery granting a long operational usage.

- **Complete and modular system**

The **RF RECEIVER** is fully compatible with the other systems of the **MICRO** family.



range	330÷390 MHz
power supply	Li-Po 350 mA rechargeable battery
audio level REC	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	54 x 83 x 23

UHF Audio Monitoring



knowledge and imagination

MICRO2

The **MICRO2** is a professional audio surveillance system.

The characteristics of the system including low probability of interception, high audio quality, micro-miniature size and extremely low transmitter power consumption make the **MICRO2** system ideal for both short and long term concealment installations.

Wide selections of complementary equipment provide many deployment options and increase the versatility and reliability of the **MICRO2** system. An example is the ability to re-launch the signal over the cellular network which provides unlimited operating range.



Main Features

- **Miniaturised dimensions of the transmitter**

The thin miniature package can be easily concealed, and includes a thin wire antenna for quick transmitter installation and rapid system deployment.

The transmitter requires only a battery or other power source to be operational.

- **Innovative transmission system**

The **MICRO2** employs an innovative patented pulsed transmission technique (Time Modulation Very Wide Band) which makes it very difficult to detect or intercept the transmission with RF detectors and other conventional sweeping techniques.

- **Low power consumption**

The TMVWB transmission technique drastically reduces the average power consumption of the transmitter, allowing operating times in excess of 500 hours using a standard 9 volt battery.

- **Audio quality**

Wide bandwidth and high dynamic range.

- **Complete and modular system**

The basic system is made by:

- **MICRO2 T** - remote controlled audio transmitter
- **MODULO** - module for the reception and demodulation of the TMVWB signal
- **MASTER** - listening base and docking station of the **MODULO**. It enables real time listening and connection to an auxiliary audio output (ex. recorder, head-phones and phone line)



UHF Audio Monitoring

MICRO2

UHF Audio Monitoring

MICRO2 T

Microtransmitter - Radiofrequency transmitter with microphone for concealment near the target. Very small and compact the extremely low power consumption allows for extended operational time without human intervention.

range	330÷390 MHz
power supply - typical	4÷12 V
consumption	0.8÷1.5 mA
output power	10÷200 mW
audio dynamic range	60 dB
audio bandwidth, -3dB	50 Hz÷5 KHz
dimensions (mm)	33 x 10 x 3



MICRO2 MODULO

Receiver - Dedicated receiver for **MICRO2 T**.

range	330÷390 MHz
power supply	8÷14 V
consumption	36 mA
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10



MODULO F SET MKII

Adjustable frequency receiver with AFC (Automatic Frequency Control) - Receiver used with the **TFG 08 MKII** and **MICRO2 PONTE MKII** (see below). Also compatible with **MICRO2 MASTER** and **MASTER DSP**. The device is able to compensate for a ± 3 MHz frequency shift. Automatic adjustment occurs on start-up and every four hours.

range	300÷399.9 MHz
power supply	8÷14 V
consumption	50 mA
tuning steps increment	100 KHz
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10



MICRO2 MASTER

Local listening base - Docking station for either the **MICRO2 MODULO** or the **MODULO F SET MKII**. Connections for headphones, recorder and phone line are provided. Real time monitoring with headphones or unattended operation utilizing the VOX control and recorder allow for flexibility in its use that can handle practically any situation.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	1.5 Ah rechargeable batteries
front panel meter, switch selectable	RSSI (dBm) - B.F. (mV) Vlin (V)
recording level	external adjustment
VOX level	external adjustment
audio outputs	earphones and recorder jack
internal voltage booster	28 V out
B.F. generator	1 V p.e.p. out
dimensions (mm)	130 x 90 x 40



MICRO2

UHF Audio Monitoring

MASTER DSP

Local listening base with DSP - Functionally the same as the as the **MICRO2 MASTER**, the **MASTER DSP** adds a DSP filter to significantly reduce background noise.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	1.5 Ah rechargeable batteries
DSP	4 steps of noise reduction
front panel meter, switch selectable recording level	RSSI (dBm) - B.F. (mV) Vlin (V)
VOX level	external adjustment
audio outputs	external adjustment
internal voltage booster	earphones and recorder jack
B.F. generator	28 V out
dimensions (mm)	1 V p.e.p. out
	130 x 90 x 40



MICRO2 SERVER

Phone Line Interface - Using the **MICRO2 MODULO** the **MICRO2 SERVER** re-launches the received audio through a dedicated phone line

power supply	18±60 V
audio output level	2 Vpp max.
level adjustment	external by screwdriver
line isolation	> 20 M Ohm towards the box
dimensions (mm)	80 x 58 x 27



MICRO2 PONTE MKII

RF Repeater - Using the **MODULO F SET MKII** tuned to the frequency of the micro-transmitter, the **MICRO2 PONTE MKII** extends the range of the transmission

power supply	9±24 V
consumption	< 80 mA
output power	1 W
RX sensitivity	-90 dBm
dimensions (mm)	80 x 58 x 27



TFG08 MKII

Re-launch over the cellular network - Using the **MODULO F SET MKII** the **TFG08 MKII** can re-launch the received audio from the **MICRO2 T** over the cellular network. There are many functions that can be programmed including automatic relaunch when events are detected. Programming is accomplished using DTMF tones. The **TFG08 MKII** is protected from unauthorized use by a security code which must be entered before audio monitoring can take place.

setting	from Listening Center
audio selection	microtransmitter: MICRO2 T
VOX sensitivity	auxiliary microphone
F Set Module	10 levels
power supply	frequency range: 300÷399.9 MHz
transmission consumption	step: 100 KHz
dimensions (mm)	250 mA @ 12 V
	123 x 64 x 30



MICRO2 PW

Power supply - 12 V miniaturized power supply for **MICRO2 T**.

input voltage	220 V ac
output voltage	10 V dc
max. current	3 mA





knowledge and imagination

MICRO2 MAGNETIC

MICRO2 MAGNETIC is a small microtransmitter easy to install and to conceal, designed to provide an effective tool for scenarios that require quick deployment: no need for separate placement of microphone, antenna or battery; all components are embedded in a compact shape.

It is provided with a non-rechargeable Lithium battery ensuring up to 100 hours autonomy. The battery is easy to set up and the transmitter is immediately ready for deployment.

MICRO2 MAGNETIC completes the range of **MICRO2** systems and is compatible with its receivers and repeaters.



Main Features

- **Miniaturised dimensions of the transmitter**

MICRO2 MAGNETIC transmitter is as large as a coin, with a magnetic support allowing to install it on any metal surface. Once applied, the metal surface acts as the transmitter's antenna.

It is available as standard in a black plastic sheath to facilitate installation and concealment. It is also available in a ruggedized version on request.

- **Innovative transmission system**

The **MICRO2 MAGNETIC** employs an innovative patented pulsed transmission technique (Time Modulation Very Wide Band) which makes detection and interception of the transmission extremely difficult.

- **Low power consumption**

Up to 100 hours typical duration (with Panasonic CR1632 battery).

- **Audio quality**

The embedded microphone guarantees an excellent capture of the surrounding acoustic environment.

- **Complete and modular system**

MICRO2 MAGNETIC T is fully compatible with the other systems of the **MICRO** family.



MICRO2 MAGNETIC

UHF Audio Monitoring

MICRO2 MAGNETIC T

Transmitter - Concealment transmitter with microphone.

frequencies	300, 325, 345, 365 mHz
output power	+16 dbm (50 mW)
non-rechargeable Lithium battery	Panasonic CR1632 (125 mAh)
typical duration	approx. 100 hrs
diameter (mm)	23
height (mm)	14

MINIMICRO R

Receiver - Compact hand-held receiver for monitoring near the target.

range	330÷390 MHz
power supply	9 V with PP9 internal battery 12 V from external power supply
consumption	36 mA
audio level REC	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	85 x 110 x 35



MICRO2 MAGNETIC is managed as a standard transmitter of the **MICRO2** series and is therefore compatible with all receivers and relauncher of this system.



MICRO2 HP

The **MICRO2 HP** is a professional audio surveillance system designed for those applications where longer distances to the receiving equipment are required and repeaters are not practical.

The characteristics of the system including low probability of interception, high audio quality and extremely low transmitter power consumption make the **MICRO2 HP** system ideal for both short and long term concealment installations.

Wide selections of complementary equipment provide many deployment options and increase the versatility and reliability of the **MICRO2 HP** system. An example is the ability to re-launch the signal over the cellular network which provides unlimited operating range.



Main Features

• Increased output power

Because of the internal power booster, the **MICRO2 T HP** transmitter is capable of increased output power thus to provide a solution to the request of longer distances to the receiving or repeating equipment.

The **MICRO2 T HP** includes a thin wire antenna for quick transmitter installation and rapid system deployment.

The transmitter requires only a battery or other power source to be operational.

• Innovative transmission system

The **MICRO2 HP** employs an innovative patented pulsed transmission technique (**Time Modulation Very Wide Band**) which makes it very difficult to detect or intercept the transmission with RF detectors and other conventional sweeping techniques.

• Low power consumption

The **TMVWB** transmission technique drastically reduces the average power consumption of the transmitter, allowing operating times over 30 times longer than conventional transmitters with the same peak output power level.

• Audio quality

Wide bandwidth and high dynamic range.

• Complete and modular system

The basic system made by:

- **MICRO2 T HP** - high power transmitter
- **MODULO** - module for the reception and demodulation of the TMVWB signal
- **MASTER** - listening base and docking station for the **MODULO**. It enables real time listening and connection to an auxiliary audio output (ex. recorder, head-phones and phone line).

A series of repeaters complete the range and increase the versatility of the system.



MICRO2 HP

UHF Audio Monitoring

MICRO2 T HP

Microtransmitter - Radiofrequency transmitter with microphone for concealment near the target. Compact and with extremely low power consumption allows for extended operational time without human intervention.

range	330÷390 MHz
power supply - typical	6÷12 V
consumption	4÷14 mA
output power	60÷600 mW
audio dynamic range	60 dB
audio bandwidth, -3dB	50 Hz÷5 KHz
dimensions (mm)	65 x 13 x 6

MICRO2 MODULO

Receiver - Dedicated receiver for **MICRO2 T HP**.

range	330÷390 MHz
power supply	8÷14 V
consumption	36 mA
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10

MODULO F SET MKII

Adjustable frequency receiver with AFC (Automatic Frequency Control) - Receiver used with the **TFG 08 MKII** and **MICRO2 PONTE MKII** (see below). Also compatible with **MICRO2 MASTER** and **MASTER DSP**. The device is able to compensate for a ± 3 MHz frequency shift. Automatic adjustment occurs on start-up and every four hours.

range	300÷399.9 MHz
power supply	8÷14 V
consumption	50 mA
tuning steps increment	100 KHz
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10

MICRO2 MASTER

Local listening base - Docking station for either the **MICRO2 MODULO** or the **MODULO F SET MKII**. Connections for headphones, recorder and phone line are provided. Real time monitoring with headphones or unattended operation utilizing the VOX control and recorder allow for flexibility in its use that can handle practically any situation.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	1.5 Ah rechargeable batteries
front panel meter, switch selectable	RSSI (dBm) - B.F. (mV) Vlin (V)
recording level	external adjustment
VOX level	external adjustment
audio outputs	earphones and recorder jack
internal voltage booster	28 V out
B.F. generator	1 V p.e.p. out
dimensions (mm)	130 x 90 x 40





knowledge and imagination

OMEGA1

The **OMEGA1** is a professional audio surveillance system that can be remotely controlled.

The characteristics of the system including low probability of interception, high audio quality and extremely low transmitter power consumption make the **OMEGA1** system ideal for both short and long term concealment installations.

Wide selections of complementary equipment provide many deployment options and increase the versatility and reliability of the **OMEGA1** system. An example is the ability to re-launch the signal over the cellular network which provides unlimited operating range.



Main Features

• Remotely controlled

The **OMEGA1 T** has an integrated RC receiver providing remote control of transmitter functions and auxiliary control outputs. This includes the ability to turn the transmitter on and off, extending battery life and helping to prevent detection.

The **OMEGA1 T** includes a thin wire antenna for quick transmitter installation and rapid system deployment.

The transmitter requires only a battery or other power source to be operational.

• Innovative transmission system

The **OMEGA1** employs an innovative patented pulsed transmission technique (Time Modulation Very Wide Band) which makes it very difficult to detect or intercept the transmission with RF detectors and other conventional sweeping techniques.

• Low power consumption

The **TMVWB** transmission technique drastically reduces the average power consumption of the transmitter, allowing operating times over 30 times longer than conventional transmitters with the same peak output power level.

• Audio quality

Wide bandwidth and high dynamic range.

• Complete and modular system

The basic system is made by:

- **OMEGA1 T** - remote controlled audio transmitter
- **MODULO** - module for the reception and demodulation of the TMVWB signal
- **MASTER** - listening base and docking station of the **MODULO**. It enables real time listening and connection to an auxiliary audio output (ex. recorder, head-phones and phone line)
- **TC2002** - remote controller.

A series of repeaters complete the range and increase the versatility of the system.



OMEGA1

UHF Audio Monitoring

OMEGA1 T

Microtransmitter - Concealment transmitter with integrated remote control receiver, includes microphone for concealment near the target

range	305÷365 MHz
power supply	4÷12 V
stand-by consumption	0.5 mA
consumption	1.2÷3 mA
output power	10÷200 mW
audio dynamic range	60 dB
audio bandwidth, -3dB	50 Hz÷5 KHz
dimensions (mm)	41 x 17 x 7



OMEGA1 MODULO

Receiver - Dedicated receiver for **OMEGA1 T**.

range	330÷390 MHz
power supply	8÷14 V
consumption	36 mA
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10



MODULO F SET MKII

Adjustable frequency receiver with AFC (Automatic Frequency Control) - Receiver used with the **TFG 08 MKII** and **MICRO2 PONTE MKII** (see below). Also compatible with **MICRO2 MASTER** and **MASTER DSP**. The device is able to compensate for a ± 3 MHz frequency shift. Automatic adjustment occurs on start-up and every four hours.

range	300÷399.9 MHz
power supply	8÷14 V
consumption	50 mA
tuning steps increment	100 KHz
output level output	200 mVpp
audio bandwidth, -3dB	50 Hz÷5 KHz
sensitivity	-90 dBm
dimensions (mm)	73 x 45 x 10



OMEGA1 MASTER

Local listening base - Docking station for either the **OMEGA1 MODULO** or the **MODULO F SET MKII**. Connections for headphones, recorder and phone line are provided. Real time monitoring with headphones or unattended operation utilizing the VOX control and recorder allow for flexibility in its use that can handle practically any situation.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	1.5 Ah rechargeable batteries
front panel meter, switch selectable	RSSI (dBm) - B.F. (mV) Vin (V)
recording level	external adjustment
VOX level	external adjustment
audio outputs	earphones and recorder jack
internal voltage booster	28 V out
B.F. generator	1 V p.e.p. out
dimensions (mm)	130 x 90 x 40



OMEGA1

MASTER DSP

Local listening base with DSP - Functionally the same as the OMEGA1 MASTER, the **MASTER DSP** adds a DSP filter to significantly reduce background noise.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	1.5 Ah rechargeable batteries
DSP	4 steps of noise reduction
front panel meter, switch selectable recording level	RSSI (dBm) - B.F. (mV) Vlin (V)
VOX level	external adjustment
audio outputs	external adjustment
internal voltage booster	earphones and recorder jack
B.F. generator	28 V out
dimensions (mm)	1 V p.e.p. out 130 x 90 x 40



TC 2002

Remote control - RC Transmitter for the remote control of the OMEGA1 T

internal power supply	Ni-Mh 1.5 Ah rechargeable batteries
external power supply	220 V ac / 12 V cc mains power supply
out peak power	2 W
codes	100
functions	On/Off
microphone tone	microphone tone
microphone gain	microphone gain
power adjustment for OMEGA1 T	power adjustment for OMEGA1 T
with OMEGA1 T VAR	with OMEGA1 T VAR
dimensions (mm)	80 x 58 x 27



OMEGA1 T VAR

Power Adjustment Module - Remote controlled OMEGA1 T transmit power adjustment. Works with the TC2002.

cyclical out peak power adjustment of microtransmitter OMEGA1 T	4 steps pre-defined
dimensions (mm)	22 x 9 x 4

OMEGA1 SERVER

Phone Line Interface - Using the OMEGA1 MODULO the OMEGA1 SERVER re-launches the received audio through a dedicated phone line

power supply	18±60 V
audio output level	2 Vpp max.
level adjustment	external by screwdriver
line isolation	> 20 M Ohm towards the box
dimensions (mm)	80 x 58 x 27



OMEGA1 PONTE MKII

RF Repeater - Using the MODULO F SET MKII tuned to the frequency of the micro-transmitter, the OMEGA1 PONTE MKII extends the range of the transmission

power supply	9±24 V
consumption	< 80 mA
output power	1 W
RX sensitivity	-90 dBm
dimensions (mm)	80 x 58 x 27



OMEGA1

UHF Audio Monitoring

TFG08 MKII

Re-launch over the cellular network - Using the **MODULO F SET MKII** the **TFG08 MKII** can re-launch the received audio from the **OMEGA1 T** over the cellular network. There are many functions that can be programmed including automatic relaunch when events are detected. Programming is accomplished using DTMF tones. The **TFG08 MKII** is protected from unauthorized use by a security code which must be entered before audio monitoring can take place.

setting audio selection	from Listening Center microtransmitter: OMEGA1 T
VOX sensitivity F Set Module	auxiliary microphone 10 levels frequency range: 300÷399.9 MHz step: 100 KHz
power supply transmission consumption dimensions (mm)	6÷36 V 250 mA @ 12 V 123 x 64 x 30

PW MK2

Power supply - 30 mA 12 V power supply for the **OMEGA1 T**.

power available	3.5 W
input voltage	220 V ac ± 10%
output voltage	12 V
max current	30 mA max

OMEGA MANAGER

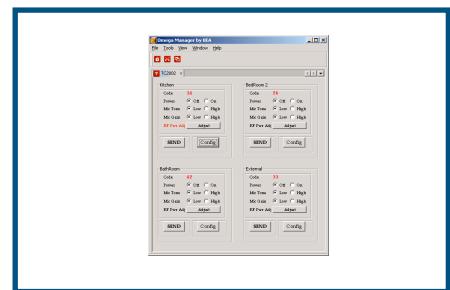
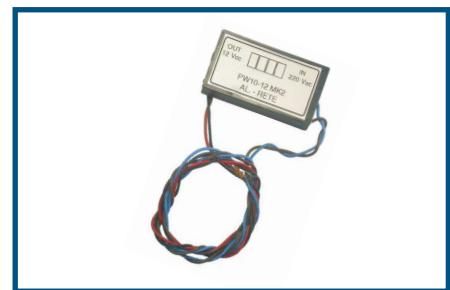
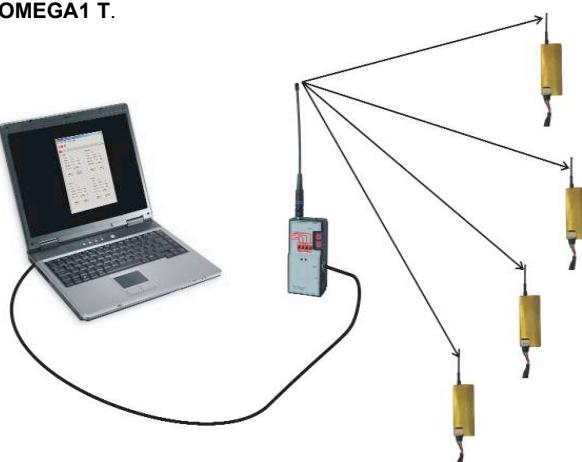
Graphic user interface developed to simplify the operator activity in setting and monitoring the **OMEGA1 T** microtransmitters through the **TC2002**.

OMEGA MANAGER allows to:

- switch the **OMEGA1 T** on/off
- select between microphone high/low tones
- select between microphone high/low gain
- adjust the microtransmitter output over four levels, if the **OMEGA1 T** is plugged to the **OMEGA1 VAR**
- label the transmitter position, for an easier use

It is possible not only to set the unit but also to get information on the parameters already set.

OMEGA MANAGER can be used as administrator or as standard user. The administrator can configure the **OMEGA1 T** transmitters to be remotely managed via the **TC2002** as well as to send the controls to the **OMEGA1 T**.



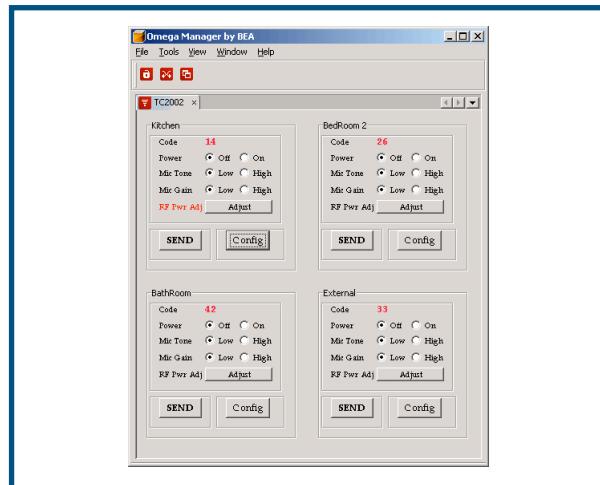


knowledge and imagination

OMEGA MANAGER

OMEGA MANAGER is a graphic user interface developed to simplify the operator activity in setting and monitoring **OMEGA1 T** microtransmitters through **TC2002** remote control.

OMEGA MANAGER allows to remotely control upto 4 transmitters; each of them can be switched on/off and set independently.



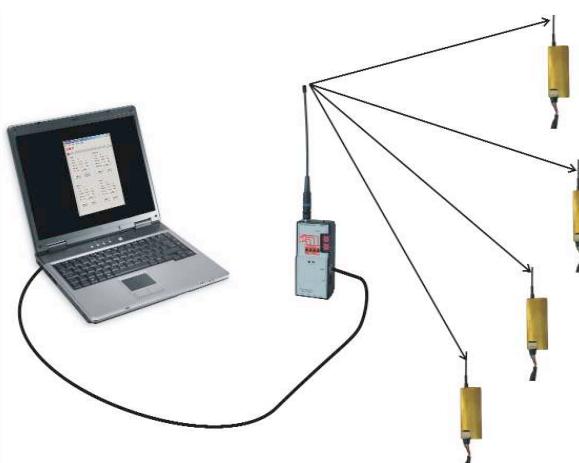
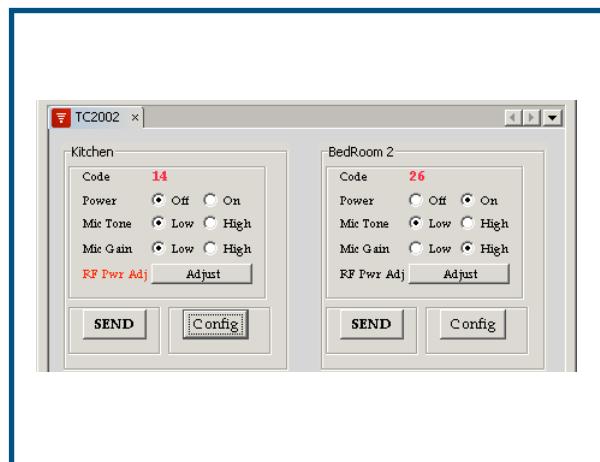
Main Features

OMEGA MANAGER allows to:

- switch the **OMEGA1 T** on/off
- select between microphone high/low tones
- select between microphone high/low gain
- adjust the microtransmitter output over four levels, if the **OMEGA1 T** is plugged to the **OMEGA1T VAR**
- label the transmitter position, for an easier use

It is possible not only to set the unit but also to get information on the parameters already set.

OMEGA MANAGER can be used as administrator or as standard user. The administrator can configure the **OMEGA1 T** transmitters to be remotely managed via the **TC2002** as well as to send the controls to the **OMEGA1 T**.



UHF Audio Monitoring



knowledge and imagination

MICRO2 STEREO

MICRO2 STEREO is an innovative audio surveillance system designed for professional users.

MICRO2 STEREO has been realised to improve the audio quality and to provide a more realistic acoustic image of the environment under surveillance, thus reducing listening fatigue and simplifying the transcription activity.

The characteristics of the system including low probability of interception, high audio quality and extremely low transmitter power consumption make the **MICRO2 STEREO** system ideal for both short and long term concealed installations.



Main Features

- **Enhanced audio quality**

- double audio channel, with high separation between the two microphone channels
- stereo transmitter with a dynamic range compressor to work also with strong audio signals, that normally saturate modulation stages of similar systems and also to enhance very low perceptible signals, thanks to an automatic gain control
- two hi-fi DSP (Digital Signal Processor) filters, that allow maximum operative flexibility on both channels, acting with:
 - low pass, high pass and band pass filters
 - counter phase noise cancelling
 - 5-frequency bands equaliser, to enhance or attenuate some audio frequencies or reduce eventual reverberate, often present in the operating centres

- **Innovative transmission system**

The **MICRO2 STEREO** employs an innovative patented pulsed transmission technique (Time Modulation Very Wide Band) which makes it very difficult to detect or intercept the transmission with RF detectors and other conventional sweeping techniques.

- **Low power consumption**

The **TMVWB** transmission technique drastically reduces the average power consumption of the transmitter, allowing operating times over 30 times longer than conventional transmitters with the same peak output power level.

- **Complete and modular system**

The basic system is made by:

- **MICRO2 STEREO** - stereo microtransmitter
 - **MODULO STEREO** - receiver card that gets the signal from the microtransmitter and decodes it
 - **MASTER STEREO** - listening base and docking station of the **MODULO**. It enables real time audio listening in the version:
 - *processed out* - audio processed by DSP filters (noise cancelling, notch, equalisation)
 - *monitor out* - audio before and after DSP filtering
 - *direct out* - audio not processed
- It has also got a SNDIF output (Sony Philips Digital Interface) for connection to an external recorder. The output audio is unprocessed (for judicial evidence).
- **Command accessibility**
- Multifunctional OLED display (Organic Light Emitting Diode) of latest generation, allowing:
 - visualisation of the signal status, field strength, volume control;
 - selection from menu: mono/stereo, audio equaliser, DSP processor, notch filter.



MICRO2 STEREO

UHF Audio Monitoring

MICRO2 STEREO T

Microtransmitter - Stereo radiofrequency transmitter with double microphone for concealment near the target. Small and compact; the extremely low power consumption allows for extended operational time without human intervention.

range	300, 325, 345, 365 MHz fixed frequencies
power supply	4,5÷10 V
consumption	5 mA @ 9 V
output power	10÷200 mW
dynamc compression	from -50 to +10 dB
separation between channels	min 60 dB
audio bandwidth, -3 dB	50 Hz÷5 KHz
dimensions (mm)	50 x 14.5 x 6.5



MODULO STEREO

Stereo receiver card - Fixed frequency receiver card, whose frequency is selected and factory settled on the transmitter one. Once plugged into the **MASTER STEREO**, it allows direct listening of the monitored audio.

range	300, 325, 345, 365 MHz fixed frequencies
power supply	6÷12 V
consumption	40 mA @ 7 Vcc
audio output level	200 mVpp
audio bandwidth, -3 dB	50 Hz÷4.5 KHz
sensitivity	6 µV (< -90 dBm)
separation between channels	> 60 dB
dimensions (mm)	72 x 48 x 9.6



MASTER STEREO

Local listening base - is a docking station for **MODULO STEREO** and enables real time listening and audio processing.

external power supply	from 100 to 240 V ac / 12 V dc
internal power supply	rechargeable Lithium - Ion 1800 mA batteries
autonomy	10-18 hours
consumtion	60 mA
audio output	headphone plugs and SPDIF connector
dimensions (mm)	140 x 92 x 37



PW MK2

Power supply - 30 mA 12 V power supply for the **MICRO2 STEREO**.

power available	3.5 W
input voltage	220 V ac ± 10%
output voltage	12 V
max current	30 mA max



DIGIMICRO

DIGIMICRO is a professional audio surveillance system employing proprietary digital encoding and FSK modulation.

The system operates between 431 and 439 MHz and its narrow-band emission resembles that of low bit-rate ISM telemetry services, thus reducing detection probability. The proprietary audio encoding and encryption also minimizes the possibility of interception.

Its reduced dimensions, extensive features and high reliability make the **DIGIMICRO** ideal for a quick deployment and for both short and long term operations.

The system features a digital transmitter, **DIGIMICRO T**, that combines extremely compact dimensions to high output power and exceptional audio quality.

The receiver, **DIGIMICRO R**, is compact, portable and user friendly: the provided digital display allows an easy configuration and a complete monitoring of the system's features. The user is able to set and select up to eight configurable channels and modify the tone and level of the received audio signal.

The system is flexible, the operating parameters can be easily set via software, with a PC user interface, or directly via the **DIGIMICRO R**. Once programmed, the transmitter is ready to be deployed and does not need any further adjustments.

Main features

DIGIMICRO T transmitter

- **Miniatuerised dimensions of the transmitter**

The transmitter can be easily and quickly concealed. Once programmed, it requires only a power source to be operational.

- **Proprietary digital modulation**

Granting safe data transmission.

- **Audio quality**

High bandwidth and dynamic range.

- **Configuration**

The device can be programmed through its software interface as follows:

- **Transmission Frequency**

Every frequency between 430.3 MHz and 439.7 MHz, with 100 KHz channelling step.

- **Transmission RF output power**

from 100 mW to 800 mW over 5 steps, settable via software.

- **Microphone gain setting**

It is possible to increase or reduce the gain of the microphone preamplifier from -7 dB to +7 dB, thus allowing deployment into difficult acoustic environments.

Frequency of transmission and RF output power can be also set via connection with **DIGIMICRO R**.



DIGIMICRO R receiver

- **Compact and complete**

The **DIGIMICRO R** is light and compact, tough for a quick and safe use in operational scenarios where the target is closed by. It is provided with digital display and an encoder to perform the following operations:

- **Audio features**

Volume, Treble, Middle and Bass Tone Setting. The headphones output can also drive a 8Ω speaker and a separate line-out connector provides interfacing with external audio equipment like amplifiers, recorders, PCs, etc

- **Monitoring features:**

Battery level; RF signal level (RSSI)

- **Frequency of reception**

It is possible to switch between 8 frequency channels that are freely adjustable between 430.3 MHz and 439.7 MHz, with 100 KHz channelling steps.

- **Transmitter features**

Frequency and RF power of micro transmitters can be configured from the **DIGIMICRO R** via a serial data cable.

- **Li-Po battery**

The **DIGIMICRO R** works with an integrated 350 mA rechargeable Li-Po battery granting approx 8 hours operational activity.

DIGIMICRO

UHF Audio Monitoring

DIGIMICRO T

Programmable UHF digital transmitter. Power supply from network.

frequency band	430.3÷439.7 MHz
steps	100 KHz
modulation	proprietary digital FSK
output power	+20÷+29 dBm (± 1 dB)
power supply	9÷10 V
consumption peak	260 mA
audio output level	500 mVpp @ 600 OHM
dimension (mm) without cables	40 x 17 x 6



DIGIMICRO R

Programmable UHF digital receiver, AC/DC adapter/charger included.

frequency band	430.3÷439.7 MHz
steps	100 KHz
modulation	proprietary digital FSK
receiver sensitivity	-110 dBm
nominal line-out output level	from 28 mVpp to 3.84 Vpp
headphones output level	from 32 mVpp (Vol.=0) to 7.4 Vpp (Vol.=40)
max headphones output power	0.85 W (8Ω), 0.43 W (32Ω/32Ω)
equalization range	±20 dB separately for Treble, Middle and Bass
power supply	integrated LiPo Battery 7.4 V, 350 mAh
battery recharging time	about 3.5 hrs (with battery completely discharged)
AC/DC adapter/charger	220 VAC / 9 VDC, 1 A
dimensions (mm)	54 x 83 x 23



DIGIMICRO INTERFACE 711

Programming Software

User friendly interface to programmable:

transmission frequency	from 430.3 to 439.7 MHz
RF output power	from 100 mW to 800 mW over 5 steps
microphone gain	from -7 dB to +7 dB



knowledge and imagination

DIGIMICRO

UHF Audio Monitoring

DIGIMICRO T can also be received by **DIGIMICRO MODULO** connected to the **DIGIMICRO AMPLIFIER**.

The **MODULO** can be also powered by a phone line therefore it can work as repeater on the phone line. In this case the **DIGIMICRO AMPLIFIER** acts as test device to check the transmitter/receiver link.

The **DIGIMICRO AMPLIFIER** can also be used as an audio amplifier for any AF low level signal. The signal can be amplified and filtered, thanks to integrated tone control circuit.

It is provided with a digital display and an encoder to perform:

- *Audio features*

Volume, Treble, Middle and Bass Tone Setting

The headphones output can also drive a 8Ω speaker and a separate line-out connector provides interfacing with external audio equipment like amplifiers, recorders, PCs, etc.

- *Monitoring features*:

Battery level; RF signal level (RSSI) for anyone of our digital receiver connected

DIGIMICRO AMPLIFIER has two input connectors: low level audio signal with the possibility to supply the external equipment, and one microphone input, with microphone capsule polarization, internally implemented.

The **DIGIMICRO AMPLIFIER** works with an integrated 350 mA rechargeable Li-Po battery granting approx 8-10 hours operational activity.

DIGIMICRO MODULO

Programmable UHF digital receiver. Power supply from network, battery or telephone line.

frequency band	430.3÷439.7 MHz
steps	100 KHz
modulation	proprietary digital FSK
receiver sensitivity	-95 dBm
power supply	9÷10 V
consumption	24÷70 V on telephone line
audio output level	18 mA
dimension (mm) without cables	500 mVpp @ 600 OHM 40 x 20 x 11



DIGIMICRO AMPLIFIER

Tone control audio amplifier. AC/DC adapter/charger included

nominal input level	200 mVpp (71 mVrms)
nominal microphone input level	2 mVpp (710 µVrms)
nominal line-out output level	from 28 mVpp to 3.84 Vpp
headphones output level	from 32 mVpp (Vol.=0) to 7.4 Vpp (Vol.=40)
max headphones output power	0.85 W (8Ω), 0.43 W (32Ω/32Ω)
equalization range	±20 dB separately for Treble, Middle and Bass
power supply	integrated LiPo Battery 7.4 V, 350 mAh
external auxiliary power supply	6.6÷10 V (max 200 mA)
battery recharging time	about 3.5 hrs (with battery completely discharged)
AC/DC adapter/charger	220 VAC / 9 VDC, 1 A
dimensions (mm)	54 x 83 x 23





knowledge and imagination

ENEA

The **ENEA** series is the latest addition to the GSM audio surveillance product line. BEA has updated the design of the established GSM audio surveillance products to increase deployment versatility while reducing enclosure size and power consumption.

A series of sensors and behaviours can be remotely programmed allowing a real time updating of the unit to the operational circumstances.

Setting and monitoring can be further simplified through the graphic user interface **ENEA MANAGER**.

Once installed, no operator intervention is required, thus allowing a safe and an unattended activity.



Main Features

- Quick and effective concealment:**

Small dimensions, robust and compact case.

- Secure monitoring**

Ideal for concealment in exposed targets where conventional RF devices do not provide sufficient operating ranges for safe.

It is equipped with anti-detection solutions.

- Unlimited operating range**

ENEA can be used anywhere the GSM network coverage is available and communicate with the listening centre over the voice channel of the GSM network.

- Double SIM**

To enhance the network accessibility and increase the reliability of the **ENEA** communications channel a second SIM card from a different GSM provider can be installed in the unit. The **ENEA** can then be programmed to switch (automatically or manually) between the two GSM providers depending on which provider has the best coverage.

- Unattended operation**

Automatic calling to the listening center in case of motion sensor activation, VOX event, digital input connected to the vehicle electrical circuit.

Light sensor for discovery detection.

- Configurable listening timeout**

User can program the listening timeout after alarm activation between 0 and 255 minutes.

- Prevention from unauthorized listening**

Security Code must be entered before audio monitoring or programming can be accomplished

- Remotely programmable**

ENEA's alarms and behaviours can be programmed with SMS, DTMF tones and **ENEA MANAGER**, that also allow a real time monitoring and audio file creation.

ENEA can also be set to transmit status information via SMS.

- Audio quality**

Exceptional audio quality also enhances by high gain microphones. The two microphones supplied with the **ENEA** can be concealed in different areas of the target vehicle, making it possible to concentrate on conversations in specific location inside the vehicle.



knowledge and imagination

ENEA

GSM Audio Monitoring

ENEA

Audio monitoring unit for covert audio surveillance using the GSM network, with dual SIM cards capability.

power supply	6÷36 V
consumption receiving:	approx. 20 mA @ 12 V
transm.:	80÷160 mA @ 12 V
digital input (active high)	1
digital output	1
microphones	2 mono, selectable
microphone versions	2
microphone sensitivity	standard: round, high gain on request: rectangular
light sensor	on 3 levels 0÷36 db
VOX sensitivity adjust.	ON/OFF
motion sensor sensitivity adjust.	on 9 steps
remote management	on 9 steps
dimensions (mm)	SMS and DTMF tones and/or ENEA MANAGER (optional) 90 x 39 x 11



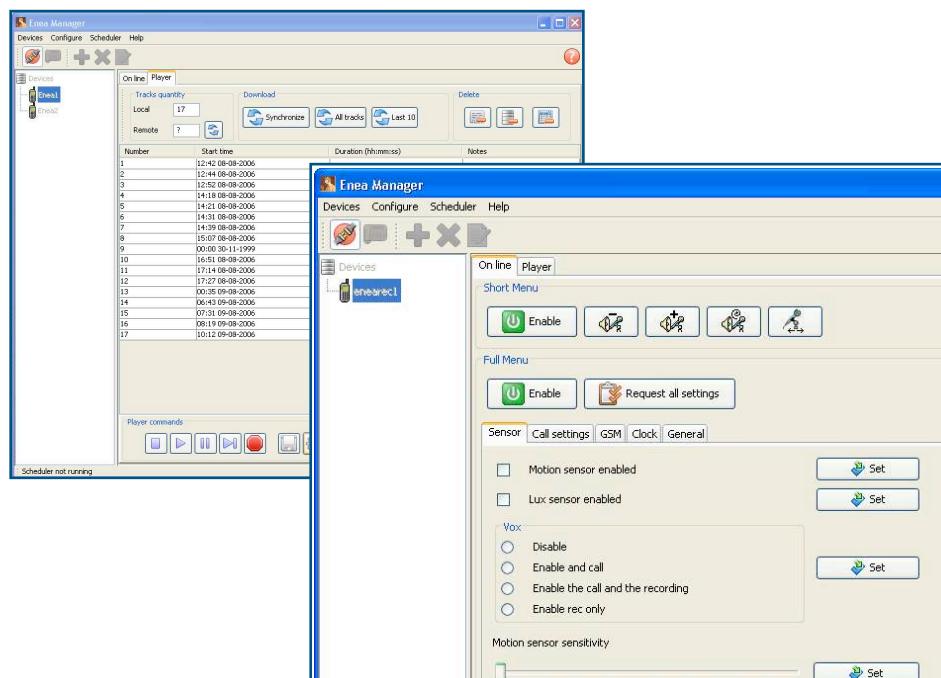
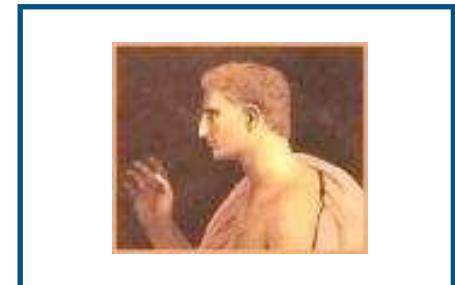
ENEA MANAGER

Graphic user interface developed to simplify the operator activity in setting and monitoring **ENEA** and **ENEA REC**.

ENEA MANAGER allows:

- to manage various **ENEA** and **ENEA REC** units, each of them can be singularly called and set
- to listen to the audio of a single target unit in real time and to record in the same time on the PC hard disk
- to manage the **ENEA REC** track list, operating on the commands play/record/delete
- to directly download the **ENEA REC** tracks on the PC hard disk
- to schedule automatic downloading.

ENEA MANAGER is an optional software available on request. Contact BEA for further information.



ENEA REC

The **ENEA** series is the latest addition to the GSM audio surveillance product line. BEA has updated the design of the established GSM audio surveillance products to increase deployment versatility while reducing enclosure size and power consumption.

ENEA REC joins the characteristics of **ENEA** device with an internal solid state recorder for recording during periods when communications are lost or unadvisable. This recording can be downloaded later when conditions allow GSM communications to take place.

A series of sensors and behaviours can be remotely programmed allowing a real time updating of the unit to the operational circumstances.

Setting and monitoring can be further simplified through the graphic user interface **ENEA MANAGER**. Once installed, no operator intervention is required, thus allowing a safe and an unattended activity.



Main Features

• Quick and effective concealment:

Small dimensions, robust and compact case.

• Secure monitoring

Ideal for concealment in exposed targets where conventional RF devices do not provide sufficient operating ranges for safe.

It is equipped with anti-detection solutions.

• Unlimited operating range

ENEA can be used anywhere the GSM network coverage is available and communicate with the listening centre over the voice channel of the GSM network.

• Double SIM

To enhance the network accessibility and increase the reliability of the **ENEA** communications channel a second SIM card from a different GSM provider can be installed in the unit. The **ENEA** can then be programmed to switch (automatically or manually) between the two GSM providers depending on which provider has the best coverage.

• Programmable recording

ENEA REC includes a solid state recorder by an high-density flash memory with 18 hours recording capacity.

It can be programmed to automatically record when audio is detected even without GSM activation (anti-sweeping).

• Unattended operation

Automatic calling to the listening center in case of motion sensor activation, VOX event, digital input connected to the vehicle electrical circuit.

Light sensor for discovery detection.

• Configurable track lenght

Recording track lenght can be set from 15 minutes up to 1080 minutes

• Prevention from unauthorized listening

Security Code must be entered before audio monitoring or programming can be accomplished.

• Configurable listening timeout

User can program the listening timeout after alarm activation between 0 and 255 minutes.

• Remotely programmable

ENEA REC's alarms and behaviours can be programmed SMS, with DTMF tones and **ENEA MANAGER**, that also allow a real time monitoring and audio file creation.

ENEA REC can also be set to transmit status information via SMS.

• Audio quality

Exceptional audio quality also enhances by high gain microphones. The two microphones supplied with the **ENEA** can be concealed in different areas of the target vehicle, making it possible to concentrate on conversations in specific location inside the vehicle.



knowledge and imagination

ENEA REC

GSM Audio Monitoring

ENEA REC

Audio monitoring unit for covert audio surveillance using the GSM network, with dual SIM cards capability and internal solid state recorder.

ENEA REC FEATURES

power supply	6÷36 V
consumption receiving:	approx. 20 mA @ 12 V
transm.:	80÷160 mA @ 12 V
digital input (active high)	1
digital output	1
microphones	2 mono, selectable
microphone versions	2
microphone sensitivity	standard: round, high gain on request: rectangular
light sensor	on 3 levels 0÷36 db
VOX sensitivity adjust.	ON/OFF
motion sensor sensitivity adjust.	on 9 steps
remote management	on 9 steps
dimensions (mm)	SMS and DTMF tones and/or ENEA MANAGER (optional) 90 x 39 x 11



RECORDER FEATURES

band width	300÷3400 Hz (telephone system quality)
compression algorithm	ADPCM 2:1 at 4 bit
sample rate	8 kHz
recording time	1090 minutes
remote interrogation on recorded tracks	
information available on tracks: start, duration, track identification	
listening through GSM voice channel	

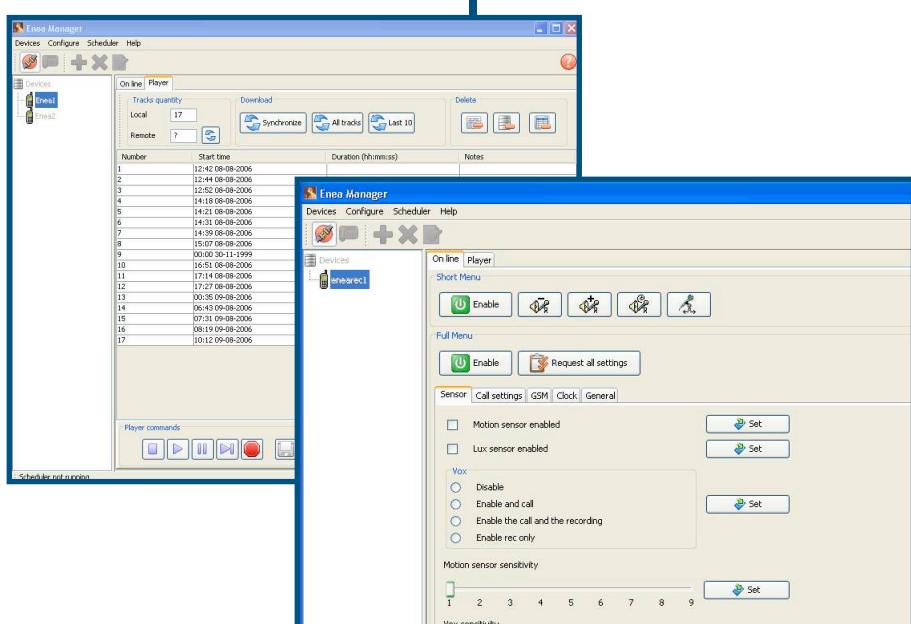
ENEA MANAGER

Graphic user interface developed to simplify the operator activity in setting and monitoring **ENEA** and **ENEA REC**.

ENEA MANAGER allows:

- to manage various **ENEA** and **ENEA REC** units, each of them can be singularly called and set
- to listen to the audio of a single target unit in real time and to record in the same time on the PC hard disk
- to manage the **ENEA REC** track list, operating on the commands play/record/delete
- to directly download the **ENEA REC** tracks on the PC hard disk
- to schedule automatic downloading.

ENEA MANAGER is an optional software available on request. Contact BEA for further information.





knowledge and imagination

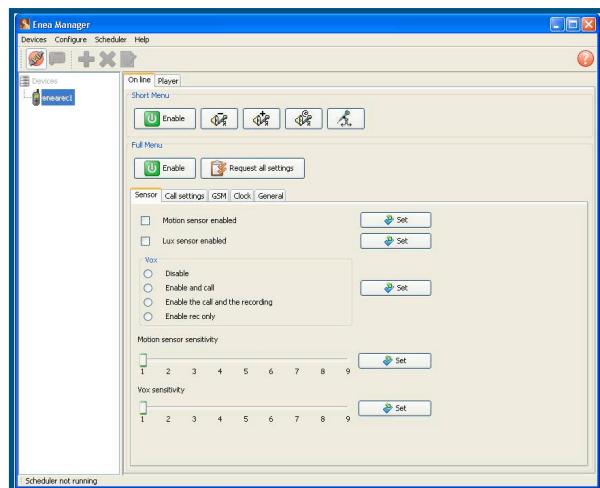
ENEA MANAGER

ENEA MANAGER is a graphic user interface developed to simplify the operator activity in setting and monitoring **ENEA** and **ENEA REC** remote units.

ENEA MANAGER allows to remotely control and monitor various units; each of them can be called and set independently.

The audio of a single target unit (**ENEA** or **ENEA REC**) can be listened in real time and simultaneously recorded on the PC hard disk.

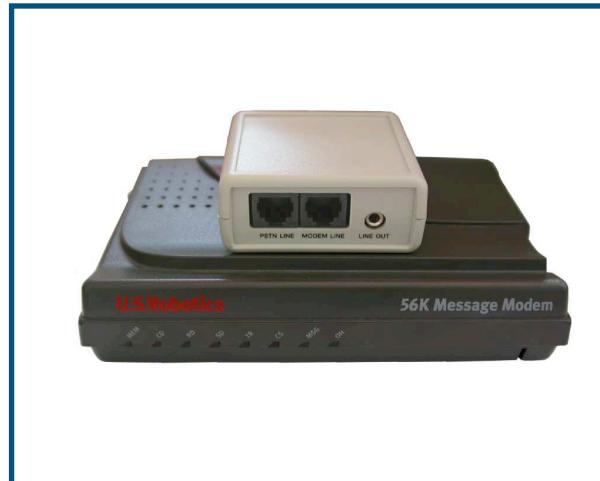
A series of cyclical behaviours, like automatic track download, can be scheduled and monitored.



Main Features

ENEA MANAGER is composed by:

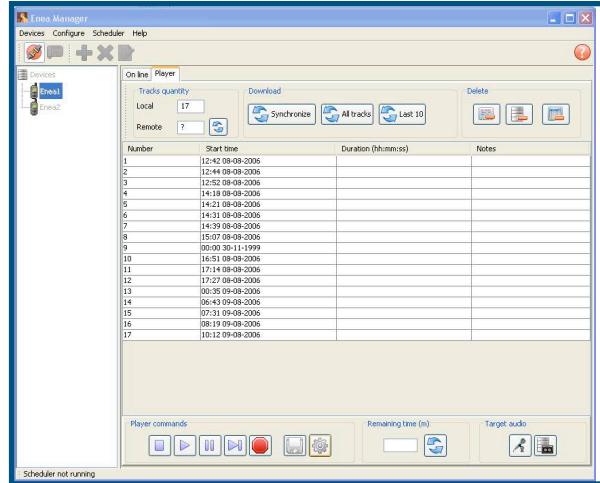
- **ENEA MANAGER HARDWARE:** a US Robotic Modem and an interface are connected to a PC and to a PSTN telephone line to transmit DTMF commands to the units and to receive a feed-back from them. It is possible not only to set the unit but also to get information on the parameters set.



- **ENEA MANAGER SOFTWARE:** proprietary software that manages the behaviour of the remote units (setting parameters and alarms levels), and gets information from them (status, monitored audio, recorded tracks).

ENEA MANAGER simplifies recording operations:

- it is possible to record in real time directly on PC, or on PC and simultaneously on the remote unit, or on the remote unit only.
- **ENEA REC** track list can be easily downloaded and processed (play/recording/delete) even automatically.



GSM Audio Monitoring



knowledge and imagination

AIRBAG 007

AIRBAG 007 is an audio monitoring unit designed for covered installations on mobile targets

Ideal for concealment in exposed targets where conventional RF devices do not provide sufficient operating ranges for safe.

AIRBAG 007 relaunches the information to the listening centre with a call on the GSM provider, granting a practically unlimited operative range.



Main Features

- **Small dimensions**

Compact and robust for a quick and effective deployment and concealment

- **Remotely controlled**

with DTMF and SMS. Each setting SMS returns an SMS answer to the telephone number set

- **Secure monitoring**

Prevention from unauthorized listening via password

- **Anti-detection system**

Automatic or immediate switch off of the GSM connection, with setting of the wake-up time interval

- **Easy installation**

During the installation the operator has not to pay attention to the polarity of the connections

- **Motion sensor**

Automatic call towards the phone number set with call release time settable from 1 to 30 minutes

- **Programmable**

It is remotely programmable via DTMF and SMS:

- motion sensor: on/off, 4 sensitivity levels
- immediate or automatic anti-detection system
- listening centre telephone number
- SMS telephone number
- listening timeout
- microphones: 2 mono mics, 4 sensitivity levels
- SMS with setting reports



GSM Audio Monitoring



knowledge and imagination

AIRBAG 007

GSM Audio Monitoring

AIRBAG 007

Complete monitoring system using the cellular network as communication channel.

band width	E-GSM 900 MHz 880-960 MHz DCS 1800 MHz 1710-1880 MHz GSM 850 MHz 824-894 MHz PCS 1900 MHz 1 850-1990 MHz
power supply	6,7÷35 V dc, typical 13,8 V dc
consumption standby:	15÷20 mA typical
calling:	50÷100 mA typical
anti-detection:	10÷20 mA typical
impedance	50 Ohms
output power	2 W class 4 (900 MHz) 1 W class 1 (1800 MHz)
SIM (not included)	1,8 V dc - 3 V dc
protection	diode bridge, anti-shock filter
connectors	GSM Antenna power supply microphones
dimensions (mm)	MMCX miniaturized Hirose miniaturized Hirose 16 x 39 x 52



Technical Beanews

VIC609 REC

VIC609 REC is an audio monitoring unit designed for covered installations on mobile targets where conventional RF devices do not provide sufficient operating ranges for safe.

VIC609 REC is able to record the information and in the meantime to relaunch them to the listening centre with a call on the GSM provider, granting a practically unlimited operative range.

A series of sensors and behaviours can be remotely programmed allowing a real time updating of the unit to the operational circumstances.



Main Features

- **Quick and effective concealment:**

Small and compact case.

- **Remotely programmable**

VIC609 REC's alarms and behaviours can be programmed with SMS and DTMF tones.

- Vox features can be activated/deactivated with setting of a sensitivity threshold and release time interval.
- Automatic call towards the phone number set with settable call release time.
- High flexible menu to remotely navigate among the recorded tracks.

- **Secure monitoring**

- Ideal for concealment in exposed targets where conventional RF devices do not provide sufficient operating ranges for safe.

- Equipped with anti-detection solutions

- Audio recording on the internal memory is done with a proprietary encrypted format.

- **Flexible recording and monitoring**

VIC609 REC enables:

- Real time audio monitoring with or without simultaneous recording. The unit can also automatically record on event, even without calling the listening centre.
- Automatic calling to the listening center in case of motion sensor activation, VOX event.
- Possibility to check through SMS or DTMF commands, the functions of recording, listening, stop and cancellation of the recorded audio.

- Programmable start time and duration of audio registration

- **Time evidence**

Time and duration of each recorded track is reported.

- **Audio quality**

Extremely elevated audio dynamic, with 10 selectable amplifier's gains, which makes the communication more understandable, even in presence of noise.

- **Removable memory and versatile management**

VIC609 REC includes a scalable microSD transflash memory that can be remotely downloaded via GSM or can be removed and locally discharged via a proprietary ADM software allowing to

- download the recorded tracks on the PC and to convert them into .WAV and .MP3 format, that can be played on any platform
- graphically visualise a preview of the compressed file, allowing the operator to concentrate on areas where a vocal activity is visible
- enhance the perceived signal to noise ratio in real time, with the inclusion of a set of parametric filters and a dynamic processor.

- **Programmable remote download**

Possibility to program time interval during which the unit automatically calls the listening centre and downloads the tracks.

GSM Audio Monitoring

Technical Beanews

BE24

The **BE24** system monitors activity on the keyboard of a target computer, stores the keystroke activity and transmits collected data to a remote location.

The system consists of the **BE24 T** microtransmitter which is installed in the target keyboard and detects the code of each keystroke. The **BE24 T** then stores the codes and periodically transmits the codes in short data bursts to the **BE24 R** receiver.

Wide selections of complementary equipment provide many deployment options and increase the versatility and reliability of the **BE24** system. An example is the ability to re-launch the signal over the cellular network which provides unlimited operating range.



Main Features

• Several operational strategies

- to store up to 2.5 million key codes in the **BE24 R** receiver memory. The **BE24 R** can then be removed or accessed to retrieve the key codes
- to display the received key codes directly on a PC through a serial connection
- to re-launch the data using the **BE24 GSM** module for real time transmission or scheduled download

• Miniaturised dimensions of the transmitter

The thin miniature package can be easily concealed. The cables are connected to fix positions in the keyboard and this make the transmitter practically installable in all kind of keyboards.

The transmitter is powered by the Computer itself.

• Encrypted radio transmission

- low probability of interception
- low power, digital up-link with data collection intelligent burst transmission
- frequency band 300 MHz: good propagation in office building

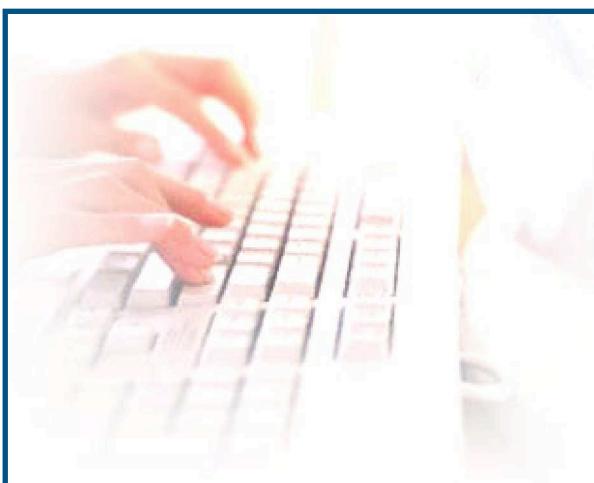
• Keyword

It is possible to set a keyword to generate an acoustic and visual alarm.

• Remotely programmable

The system operation and functional parameters can be controlled and viewed using the **BE24 SW** software, or through SMS messages.

The **BE24 SW** software allows to filter and to elaborate visual analysis key code data, without any modification of the original text.



Computer Keyboard Monitoring

BE24

Computer Keyboard Monitoring

BE24 T

Microtransmitter - Radiofrequency transmitter to be installed into the target keyboard of a desktop PC.

range	300÷306 MHz at PLL
power	0 ÷ +20 dBm (in 10 steps)
max consumption	130 mA (+20 dBm) – 250 mA (+26 dBm)
transmission	FSK a 10 Kbit/sec (Manchester with Hamming code)
burst	when buffer is full or periodically every minute
live signal transmission	every minute
setting of 10 channels and of power	
carrier transmission for 1 minute at switching on, range check	
high active digital alarm input (ex. keyboard opening sensors)	
dimensions (mm)	16 x 48 x 4



BE24 R

Receiver - Diversity receiver system, with data memory and management software.

range	300÷306 MHz at PLL
power supply	external 12 Vdc
data receiving	FSK at 10 Kbit/sec (Manchester with Hamming code)
data memory	256 Mbit on FLASH (2.5 millions of digits)
internal real time clock	
bar led signalling the received signal intensity	
bar led switching off	through SMS messages, if BE24 R is connected to BE24 GSM , or through PC
key word alarm	alphanumeric sequence of 20 digits
dimensions (mm)	40 x 77 x 22



BE24 CK

Keyboard connection tester - Tester for use during installation to verify correct positioning of the cables in the target keyboard.

power supply	through 9 V PP9 alcaline batteries
dimensions (mm)	101 x 62 x 30



BE24 GSM

GSM link - Module to re-launch data from **BE 24 R** through the GSM network.

transmission on the GSM data channel	
remote control of BE24 R via cellula phone	
power supply	external 12 Vdc taken by BE24 R
led bar to indicate	GSM network and power supply level
remotely controlled through SMS	
automatic sending of status and alarm SMS	
dimensions (mm)	40 x 77 x 22



TESEO

The **TESEO** is a covert real-time tracking, locating and audio monitoring system for uncooperative mobile targets.

The **TESEO** is the result of a cooperative effort utilizing the extensive design and manufacturing experience of BEA and the real world knowledge of intelligence professionals. It is a complete extremely flexible system with a wide range of options for the collection, transmission and electronic map display of geographic position data.

TESEO can be set with an unlimited number of event-action combinations. When using the audio monitoring feature, it can transmit GPS position with the SMS in real time in order to track the target vehicle and to monitor the audio signal in the vehicle at the same time.



Main Features

The system consists of:

- **TESEO remote unit**, concealed on or inside the target vehicle. The **TESEO** includes a connection for two remotely selectable microphones which can be hidden in different areas inside the vehicle for audio monitoring. It communicates with the monitoring station over the cellular network (GSM/GPRS).

The **TESEO** built in memory stores up to 300,000 positions, which provides a downloadable historical tracking record in situations when real time communication is not possible.

The rugged miniature case is water resistant with provisions for screw attachment which greatly increases the flexibility in placement of the **TESEO** during installation. A magnet mount is also available.

- the *management software interface*, that can set the following **TESEO** operating options, even remotely
- *call type* - select between the voice, data or GPRS communications modes
- *audio monitoring* - enable/disable and control audio monitoring of target vehicle
- *localisation* - control the real-time or historical download of geographic position data via the GSM/GPRS communications link
- *alarm activation* - set movement, VOX, entrance/exit from a predefined area (geo-fence), digital commands, the device operating conditions

- *SMS transmission* - set a time schedule, timed interval cycle or alarm activation condition for reporting the geographic position to a mobile phone or to a PC with a GSM wireless modem card enabled for SMS

- *energy saving* - utilization of special hibernation states and programming the remote unit to turn on and off at specific times or for alarm events

The management software stores the information sent from the remote unit and manages the display of data seamlessly on raster or MapPoint 2006 maps or Google Earth.

Using GPRS technology the software can monitor several remote units at the same time, without requiring multiple phone lines and modems.

The management software programs the functions of the remote unit, has the flexibility to handle worldwide deployment and satisfy the diverse requirements of various customers. Access is password protected to prevent unauthorized use.

On request BEA can provide the **TESEO LPC** with advanced hibernation function: even if hibernated the remote unit wakes up as soon as the target moves and gets ready to receive further settings. This option allows to use the hibernation feature while maintaining the advantages of the real time tracking.

GPS Tracking and Audio Monitoring

TESEO

GPS Tracking and Audio Monitoring

TESEO

Remote unit - GPS receiver, track memory and data transmission via the GSM 850/900/1800/1900 or GPRS network.

power supply	4.75÷35 V dc
consumption	from 70 microA to 200 mA @ 12V
memory	300.000 points
acquisition period	1 sec. to 18 hours
digital and analogic input and output	5
GPS received channels	16
audio microphone	2 mono, remotely selectable
weight (gr.) with magnetic base	280
weight (gr.) without magnetic base	100
dimensions (mm)	135 x 50 x 14



Accessories

MS01 / MS02 - magnetic mount for the **TESEO** remote unit.

PK01 - rechargeable external battery pack

PK03 - external battery pack with magnetic mount - includes three 3,6 V 13 Ah LSH 20 D-cell Li-SOCl₂ non-rechargeable batteries

PK04 - external battery pack with magnetic mount - includes four 3,6 V 13 Ah LSH 20 D-cell Li-SOCl₂ non-rechargeable batteries.

USB WAVE GPRS CARD - GSM/GPRS modem

MANAGEMENT SWE

Software interface able to perform total management of several remote units, with different configuration for each one of them. Management of database recorded tracks, with time-base analysis. Compatible cartography: Raster Maps, Windows MapPoint 2006, Google Earth (also Google Map for **DOGE**)

NAVIS SWE: management SW for BEA's remote units **TESEO**, **XPOINT**, **BE16 UK**, **BE16 TH**, **LIMBO**

DOGE SWE: new management SW for BEA's remote units **TESEO**, **POLO**, **QUAD FINDER**, **QUAD FINDER LL**.

It can be implemented by **DOGE CSS SW**.

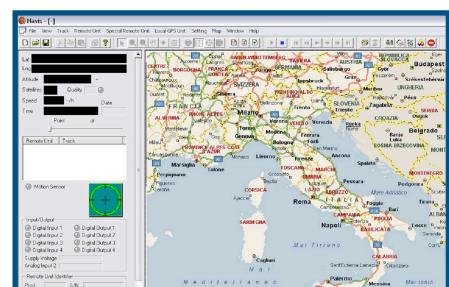


KUE

Software license - dongle for USB port. it enables to complete and correct usage of the chosen management swe. Each dongle corresponds to the software licence.

NAVIS KUE: licence for NAVIS SWE

DOGE KUE: licence for DOGE SWE.



XPOINT

XPOINT is a professional GPS location system for monitoring and tracking of uncooperative target vehicles.

Utilizing several years of tracking system design and manufacturing experience, BEA developed the **XPOINT** based on requirements from real world intelligence professionals for a ready to use unit with a rapid deployment capability.

The result was a complete, highly flexible system with a wide range of options for the collection, transmission and electronic map display of geographic position data that can be installed quickly and covertly.



Main Features

The system consists of:

- **XPOINT remote unit**, a self-contained tagging device. It has a magnetic mount for fast and easy installation. The internal and not rechargeable high capacity battery combined with the low power consumption of the remote unit supports extended deployments without operator intervention.

It communicates with the monitoring station over the cellular network (GSM/GPRS).

XPOINT remote unit can store up to 300,000 positions between downloads. These two features make **XPOINT** the ideal tool for a data logger application. Optional interfaces are available for installations where connection to the vehicle power or to an additional battery pack is desired.

- the **NAVIS** software interface provides control of the following the **XPOINT** remote unit functions:

- *localisation* - control the real-time or historical download of geographic position data via the GSM/GPRS communications link

- *SMS transmission* - time schedule, time intervals or alarm activation for reporting of the geographic position via SMS to a mobile phone or a PC with a GSM wireless modem card enabled for SMS

- *energy saving* - special stand-by status and configuration of the remote unit to turn on and off at specific times or for alarm events

The **NAVIS** software stores the information sent from the remote unit and manages the display of data seamlessly on raster, MapPoint 2006 maps or Google Earth.

Using GPRS technology the software can monitor several remote units at the same time, without requiring multiple phone lines and modems.

The **NAVIS** software programs the functions of the remote unit, has the flexibility to handle worldwide deployment and satisfy the diverse requirements of various customers. Access is password protected to prevent unauthorized use.

Combining the **XPOINT** remote unit with the **XPOINT INTERFACE** module it is possible to increase operation time by adding an high capacity battery pack or by connecting it to the vehicle battery. The **XPOINT INTERFACE** also has an USB connector to quickly download stored data directly to a PC.

GPS Tracking

XPOINT

GPS Tracking

XPOINT

Remote unit with non-rechargeable battery - GPS receiver with memory and digital data transmission through GSM modem 900/1800 or GPRS.

power supply	3.6 Vdc 5÷36 Vdc with XPOINT INTERFACE
memory	300.000 points
acquisition modes	time or space
GPS received channels	16
high capacity battery (not rechargeable)	3,6 V 13 Ah LSH 20 Li-SOCl ₂
weight (gr)	140
without magnetic base and battery	
dimensions (mm)	85 x 38 x 47



XPOINT INTERFACE

Interface for downloading to a PC and connection for an external power supply.

power supply	4.75÷35 Vdc
output	USB
dimensions (mm)	85 x 38 x 11



XPOINT INTERFACE 3.7 V

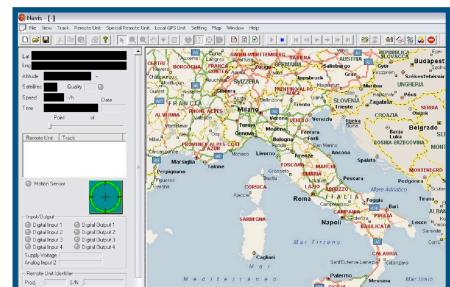
Interface to connect an external 3.6 V battery pack

power supply	3.6 Vdc
dimensions (mm)	85 x 38 x 11

NAVIS SWE

Management software - compatible with Windows 2000/XP.

- developped for Windows 2000/XP
- management of all models of BEA's remote units
- management of a remote unit book, with different settings for each remote unit
- total control of remote unit functions
- usage of different communication channels (serial cable, GSM-data, SMS, GPRS)
- management of database recorded tracks, with time-base analysis
- compatible cartography: Raster Maps also GEOTIFF, vectorial Windows MapPoint 2006
- internal software able to georeference Raster Maps (settable by customer)
- possibility of using topographic and professional aerial photos
- possibility of using Google Earth.



NAVIS KUE

Software license - dongle for USB port.

- it enables to complete and correct usage of **NAVIS SWE**
- each dongle corresponds to the software license



Accessories

PK XP 03 - external battery pack with magnetic mount - includes three 3,6 V 13 Ah D-cell Li-SOCl₂ non-rechargeable batteries

PK XP 04 - external battery pack with magnetic mount - includes four 3,6 V 13 Ah D-cell Li-SOCl₂ non-rechargeable batteries

USB WAVE GPRS CARD - GSM/GPRS modem

POLO

POLO is a new generation tracking device created by BEA to localize and monitor mobile targets.

POLO is not a simple logger but a ready to use device which could be remotely programmed and operate according to a series of configurables events.

The positions got through the GPS satellite network can be stored and than transmitted via GSM or Internet (GPRS).



Main Features

POLO gives exceptional performing and innovative use:

- **minimal dimensions**, thanks to latest generation components and to a careful design **POLO** is an extremely small and exceptional performing unit, useful for a quick deploy
- **energy saving features** that allow a longer autonomy compared to other similar products
- **POLO** can work as a logger (and not only): on during motion detection and off when the vehicle is stopped
- **POLO** switches the GSM module off, when no GSM coverage is detected. A time interval can be set between new connection trials
- GSM on/off with alarm activation: it is possible to configure alarms so to separately manage the GSM module (on/off) and other functionalities, that can stay active

remote control features

- the device could be remotely managed via software and SMS using a standard mobile phone
- remote firmware upgrade
- GPRS support to optimize connection costs
- collection, storage and download of GPS positions
- flexible data downloading with the selective download option and with the secure download function, that allows to restart the data download in case of interruptions, avoiding any data lost
- the user can choose to collect not only GPS fixes but also GSM ones, so to track the target also in case of no GPS coverage
- memory capacity up to 5 million GPS fixes

advanced features

- information about in/out movements from a predefined settable area (geo-fence)
- logger mode
- programmable event/action (speed limit overcoming alarm, Country change, movement, etc.)
- low power consumption management
- automatic on/off caused by movement.
- automatic operation of connecting and data downloading.
- high reliable proprietary protocol.

power supply

- **POLO** can be powered by the vehicle battery or by an auxiliary battery pack
- it is able to measure the residual capacity of the optional 3,6 V backup battery
- integrated backup battery charger

DOGE MANAGING PLATFORM

POLO is managed by **DOGE**, a new flexible and modular software that allows to operate on server basis and to manage a database with possible selections and filtering of the contained information. Its graphic interface is extremely intuitive and can be easily customised.

Units can be configured on a user level or in a more selective way for administrator level.

DOGE is also able to manage **TESEO**, **QUAD FINDER**, **QUAD FINDER LL** and can be implemented by **DOGE CSS SWE**.

POLO

GPS Tracking

POLO

Remote unit with non-rechargeable battery - GPS receiver with memory and digital data transmission through GSM modem 900/1800 or GPRS.

power supply	7÷50 Vdc
consumption	700 µA÷200 mA @ 12 V*
memory	up to 5,000,000,000 points
acquisition modes	time and space
transmission mode	GSM, GPRS, SMS
GPS channels	16
motion sensor	on 3 axes with variable level
backup battery discharging sensor	
backup battery discharging circuit	
internal clock (RTC)	
dimensions (mm)	60 x 41 x 13

*depending on setting and BTS distance



POLO VOICE ADDITIONAL FEATURES

microphone	1
microphone volume	10 levels

DOGE SWE

Software interface able to perform total management of several remote units, with different configuration for each one of them. Management of database recorded tracks, with time-base analysis.

Compatible cartography: Raster Maps, Windows MapPoint 2006, Google Earth, Google Maps.
DOGE SWE can manage the following BEA's remote units **TESEO**, **POLO**, **QUAD FINDER**, **QUAD FINDER LL**. It can be implemented by **DOGE CSS SW**.



DOGE KUE

Software license

- it enables to complete and correct usage of **DOGE SWE**
- each license can be used on one PC only

Accessories

EXTERNAL BACKUP BATTERY - Rechargeable 1900 mA/h LiPo battery

POWER SUPPLY CABLE - for 1900 mA/h LiPo battery

BATTERY CHARGER - for 1900 mA/h LiPo battery

USB CABLE - for unit configuration and local download

PK01 - rechargeable external battery pack

PK04 - external battery pack with magnetic mount - includes four 3,6 V 13 Ah LSH 20 D-cell Li-SOCl₂ non-rechargeable batteries.

USB WAVE GPRS CARD - GSM/GPRS modem

LIMBO

LIMBO is a professional GPS tracking system, designed for covert deployment on a cargo shipping container.

The physical appearance of the **LIMBO** remote's steel case resembles the undulations of a cargo container. The **LIMBO** is designed to be deployed onto the shipping container thanks to its magnets or welded on it so that the container can be tracked during transport.

LIMBO remote is a stand alone unit that can be used to monitor the movements of goods transported in a shipping container by truck, rail or sea. It communicates with the monitoring station via the GSM network to provide both geographic position data and audio surveillance capability.



Main Features

The system consists of:

- **LIMBO remote unit** composed of a sealed steel case with 4 individually selectable microphones - one on each side. The remote unit has a rechargeable battery and a magnetically activated power on/off switch.

The **LIMBO** built in memory stores up to 300,000 positions, which provides a downloadable historical tracking record in situations when real time communication is not possible.

- **NAVIS software** interface provides control of the following the **LIMBO** remote unit functions:
 - *call type* - select between voice or data GSM communication modes
 - *audio monitoring* - enable/disable and control audio monitoring of target vehicle
 - *localisation* - control the real-time or historical download of geographic position data via the GSM network
 - *alarm activation and status* - set movement, VOX, entrance/exit from a predefined area (geo-fence), setting verification and operating status

- *SMS transmission* - set a time schedule, timed interval cycle or alarm activation condition for reporting the geographic position to a mobile phone or to a PC with a GSM wireless modem card enabled for SMS

- *energy saving* - utilization of special hibernation states and programming the remote unit to turn on and off at specific times or for alarm events

The **NAVIS** software stores the information sent from the remote unit and manages the display of data seamlessly on raster or MapPoint 2006 maps or Google Earth.

The **NAVIS** software programs the functions of the remote unit, has the flexibility to handle worldwide deployment and satisfy the diverse requirements of various customers. Access is password protected to prevent unauthorized use.



knowledge and imagination

LIMBO

GPS Tracking and Audio Monitoring

LIMBO

Remote unit - GPS receiver, track memory and data transmission via the GSM 900/1800 network.

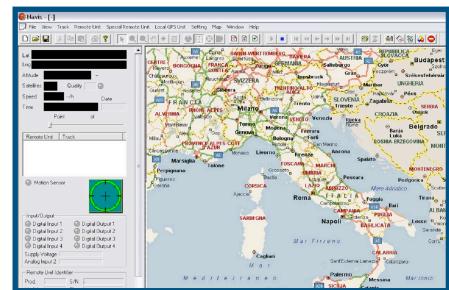
power supply consumption	inbuilt battery from 70 microA to 400 mA @ 7.2V
memory	300.000 points
acquisition period	1 sec. to 18 hours
GPS received channels	16
audio microphone	4 mono, remotely selectable
dimensions (mm)	700 x 120 x 7



NAVIS SWE

Management software - compatible with Windows 2000/XP.

- developped for Windows 2000/XP
- management of all models of BEA's remote units
- management of a remote unit book, with different settings for each remote unit
- total control of remote unit functions
- usage of different communication channels (serial cable, GSM-data, SMS)
- management of database recorded tracks, with time-base analysis
- compatible cartography: Raster Maps also GEOTIFF, vectorial Windows MapPoint 2006
- internal software able to georeference Raster Maps (settable by customer)
- possibility of using topographic and professional aerial photos
- possibility of using Google Earth.



NAVIS KUE

Software license - dongle for USB port.

- it enables to complete and correct usage of **NAVIS SWE**
- each dongle corresponds to the software license



BE16 TH

The **BE16 TH** is a THURAYA satellite network compatible real-time tracking, locating and monitor system for use on both friendly and uncooperative target vehicles.

The **BE16 TH** is a complete system that is highly flexible with a wide range of options for the collection, transmission and electronic map display of geographic position data.

It communicates with the monitoring station over the Thuraya satellite network.

In areas in which the Thuraya system has roaming agreements, GSM is automatically used as a backup means of communications when the Thuraya coverage is not available.



Main Features

The system consists of:

- **BE16 TH remote unit**, concealed on or inside the target vehicle.

It includes a microphone which can be hidden on the inside of the vehicle for audio monitoring.

The **BE16 TH** built in memory stores up to 300,000 positions, which provides a downloadable historical tracking record in situations when real time communication is not possible. The track history can be downloaded after communications have been re-established.

- **NAVIS software** interface provides control of the following the **BE16TH** remote unit functions:
 - *call type* - select between voice or data communication modes
 - *audio monitoring* - enable/disable and control audio monitoring of target vehicle
 - *localisation* - control the real-time or historical download of geographic position data via the Thuraya or GSM network
 - *alarm activation and status* - set movement, VOX, entrance/exit from a predefined area (geo-fence), setting verification and operating status
 - *SMS transmission* - set a time schedule, timed interval cycle or alarm activation condition for reporting the geographic position to a mobile phone or to a PC with a GSM wireless modem card enabled for SMS

- *energy saving* - utilization of special hibernation states and programming the remote unit to turn on and off at specific times or for alarm events

The **NAVIS** software stores the information sent from the remote unit and manages the display of data seamlessly on raster or MapPoint 2006 maps or Google Earth.

The **NAVIS** software programs the functions of the remote unit, has the flexibility to handle worldwide deployment and satisfy the diverse requirements of various customers. Access is password protected to prevent unauthorized use.

The Thuraya geostationary satellite network provides real time tracking capability in the entire Indian sub-continent and areas of Europe, North and Central Africa, the Middle East, and Central Asia, which lack adequate GSM coverage. The GSM network is automatically used as a backup where it is available.



BE16 TH

GPS Tracking and Audio Monitoring

BE16 TH

Remote unit - GPS receiver, track memory and data transmission via Thuraya and GSM 900 network.

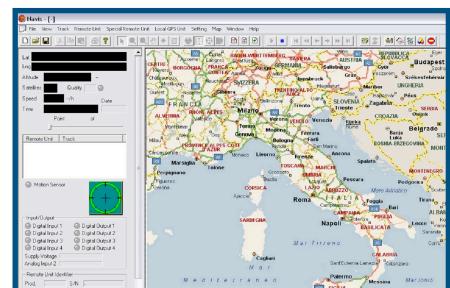
power supply consumption	9±35 V dc from 70 microA to 300 mA @ 12V
memory	300.000 points
acquisition period	1 sec. to 18 hours
digital and analogic input and output	1
GPS received channels	12
audio microphone	1 mono, remotely selectable
weight (gr.)	445
dimensions (mm)	185 x 63 x 35



NAVIS SWE

Management software - compatible with Windows 2000/XP.

- developed for Windows 2000/XP
- management of all models of BEA's remote units
- management of a remote unit book, with different settings for each remote unit
- total control of remote unit functions
- usage of different communication channels (serial cable, GSM-data,Thuraya)
- management of database recorded tracks, with time-base analysis
- compatible cartography: Raster Maps also GEOTIFF, vectorial Windows MapPoint 2006
- internal software able to georeference Raster Maps (settable by customer)
- possibility of using topographic and professional aerial photos
- possibility of using Google Earth.



NAVIS KUE

Software license - dongle for USB port.

- it enables to complete and correct usage of **NAVIS SWE**
- each dongle corresponds to the software license



QUAD FINDER

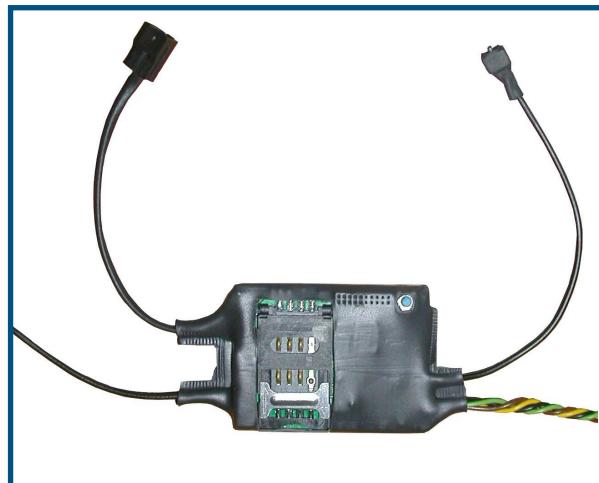
QUAD FINDER is a GSM tracking systems: it is a versatile tool with a wide range of audio monitoring and tracking application possibilities.

It can be used to remotely locate a mobile target using the unique identifier assigned to each Base Transceiver Station (BTS) of the GSM network.

The **QUAD FINDER** transmits the SMS either according to configurable time schedule or, on request, when the user asks for position.

The messages sent by the **QUAD FINDER** are displayed on the user PC with **DOGE** software.

Digital input and output enables QUAD FINDER to integrate additional devices.



Main Features

• **Audio monitoring**

Small and compact device can be easily concealed on persons and things for an audio monitoring via GSM networks:

- **variable gain microphone**: the device is equipped with a variable gain microphone for audio monitoring which can be accessed by placing a phone call to the unit.
- **panic button**: the **QUAD FINDER** also includes a micro switch that initiates a call to a previously designated phone number when pressed and can be used as a duress alert.

• **GSM tracking**:

QUAD FINDER communicates its position via the GSM network to the monitoring station which provides a display of its location on dedicated maps of the software **DOGE**.

- **easy to program** with SMS messages transmitted by a mobile phone
- **low power consumption**: developed with a great attention for each component consumption to improve the battery duration.
- **quadraband**: operates on 850, 900, 1800 and 1900 MHz frequency bands, enlarging its use to several Countries.

CSS

The information on the target location sent by the **QUAD FINDER** can be processed and reported on maps using **DOGE** software, which displays the area associated with the BTS(s) where the device is located (Time Advance location estimation).

When no database of the BTS position is available, it is possible to create the GSM map of an area using the **CSS** (Cell Site Survey System), thus tracking targets without GPS availability. **CSS** is a useful tool for all customers who use the **QUAD FINDER** for the GSM tracking because it provides more precise target localization than Time Advance estimation alone can.

The information sent by the **QUAD FINDER** is compared with data stored in the data base and the most likely target positions are visualized on the mapping display.

QUAD FINDER

GSM Tracking and Audio Monitoring

QUAD FINDER

Microtransmitter - GSM tracking and audio monitoring device (battery and battery charger included)

compatibility	GSM 850/900/1800/1900
power supply	3.6±4.5 V
microphone	one, with sensitivity adjustment
stand-by consumption	0.3 mA @ 3.6 V (with inside motion sensor)
digital outputs actionable via SMS	2
external output	1
external battery	rechargeable LiPo 3.6V 1900 mA
weight (gr.)	25
dimensions (mm) without antenna and power supply cables	45 x 35 x 8



DOGE SWE

Software interface able to display the position sent by the **QUAD FINDER** via SMS on a MapPoint 2006 map (MapPoint not included) when the user has available the official BTS database from the provider. **QUAD FINDER** configuration is performed via SMS.

DOGE SWE can also manage the following BEA's remote units **TESEO**, **POLO**, **QUAD FINDER LL**. It can be implemented by **DOGE CSS SW**.

DOGE KUE

Software license

- it enables to complete and correct usage of **DOGE SWE**
- each license can be used on one PC only



QUAD FINDER LL

QUAD FINDER LL is revolutionary tool that can be used to remotely locate a mobile target using the unique identifier assigned to each Base Transceiver Station (BTS) of the GSM network.

The **QUAD FINDER LL** is remotely programmed via SMS to transmit position data through SMS with times and modalities set by the user, in order to keep consumption as lower as possible.

The messages sent by the **QUAD FINDER LL** are displayed on the user PC with **DOGE** software.

When the provider BTS database is available the area associated with the main BTS is shown (time advance).

A more accurate information is given when the user disposes of a database created with the CSS system.



Main Features

QUAD FINDER LL communicates its position via the GSM network to the monitoring station which provides a display of its location on dedicated maps of the software.

The SMS sent to the listening center contains the information of the Main Cell that registered the active terminal. Furthermore the operator can set the remote unit to send also details on the six adjacent cells, useful to get the geographical position of the target.

- **Small and compact**

The device can be easily concealed on persons and things for GSM tracking.

- **Easy to program**

with SMS messages transmitted by a mobile phone.

- **Low power consumption**

- Developed with a great attention for each component consumption to improve the battery duration.
- The device is usually asleep. It wakes up according to the configuration set. This allows also to deploy the unit some weeks in advance before the operation starts.

- **Quadraband**

- Operates on 850, 900, 1800 and 1900 MHz frequency bands, enlarging its use to several Countries.

CSS

The information on the target location sent by the **QUAD FINDER LL** can be processed and reported on maps using **DOGE** software, which displays the area associated with the BTS(s) where the device is located (Time Advance location estimation).

When no database of the BTS position is available, it is possible to create the GSM map of an area using the **CSS** (Cell Site Survey System), thus tracking targets without GPS availability.

CSS is a useful tool for all customers who use the **QUAD FINDER LL** for the GSM tracking because it provides more precise target localization than Time Advance estimation alone can.

The information sent by the **QUAD FINDER LL** is compared with data stored in the data base and the most likely target positions are visualized on the mapping display.

GSM Tracking

QUAD FINDER LL

GSM Tracking

QUAD FINDER LL

Microtransmitter - GSM tracking device (battery and battery charger included)

compatibility	GSM 850/900/1800/1900
power supply	3.6÷4.5 V
stand-by consumption	0.130 mA @ 3.6 V
GSM registered	30 mA
SMS in/out	350 mA for 2 second
GSM registration	350 mA for 20 second
external battery	rechargeable LiPo 3.6V 1900 mA
weight (gr.)	25
dimensions (mm)	45 x 35 x 8



DOGE SWE

Software interface able to display the position sent by the **QUAD FINDER LL** via SMS on a MapPoint 2006 map (MapPoint not included) when the user has available the official BTS database from the provider. **QUAD FINDER** configuration is performed via SMS.

DOGE SWE can also manage the following BEA's remote units **TESEO**, **POLO**, **QUAD FINDER**. It can be implemented by **DOGE CSS SW**.



DOGE KUE

Software license

- it enables to complete and correct usage of **DOGE SWE**
- each license can be used on one PC only

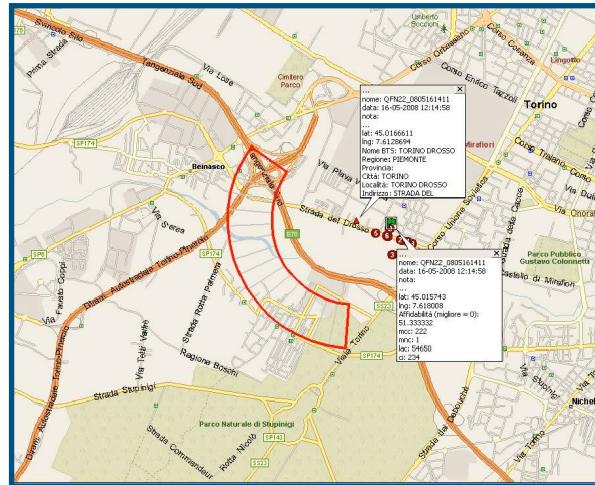
CSS

CSS (Cell Site Survey System) is an innovative tool developed by BEA to support GSM tracking.

The information on the target location sent by the BEA's GMS tracking devices like the **QUAD FINDER**, **QUAD FINDER LL**, **POLO** etc can be processed and reported on maps using **DOGE** software, which displays the area associated with the BTS(s) where the device is located (Time Advance location estimation).

When no database of the BTS position is available, it is possible to create the GSM map of an area using the **CSS**, thus tracking targets without GPS availability.

CSS is a useful tool for all customers who wants to carry on GSM tracking because it provides more precise target localization than Time Advance estimation alone can.



Main Features

The system is composed of:

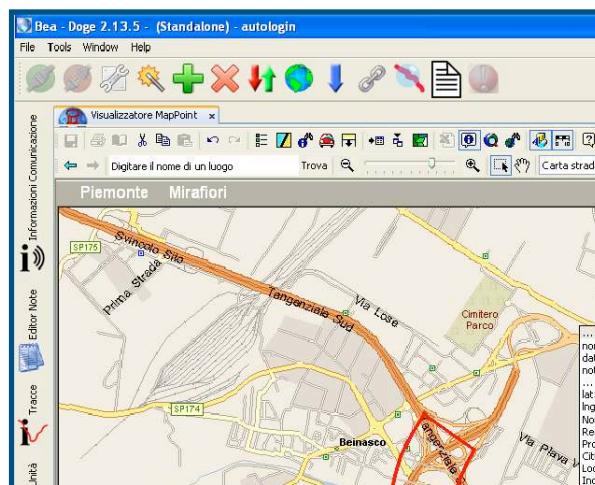
- **CSS COLLECTOR**: unit devoted to record a set of information about the main BTS to which it is registered and of its adjacent cells and to correlate them with the corresponding GPS position.

The unit acquires one provider at time, according to the SIM card installed.



- **DOGE CSS SOFTWARE**: management software that acquires the data collected, stores and manages them via a flexible and reliable data base.

The information sent by the GSM remote units are compared with data stored in the data base and the most likely target positions are visualized on the mapping display thus allowing a tracking via SMS, even if no database from the provider is available.



GSM Tracking



knowledge and imagination

CSS

GSM Tracking

CSS COLLECTOR

Remote unit - GPS receiver, track memory and data transmission via serial cable or GSM 850/900/1800/1900.

power supply	4.75÷35 V dc
consumption	from 70 microA to 200 mA @ 12V
memory	300,000 points
GPS received channels	16
dimensions (mm)	110 x 60 x 30



CSS DOGE SWE

With **CSS DOGE SWE** the user is able to set the **CSS COLLECTOR**, download the collected data and to store them into the database. When the GSM remote unit sends an SMS with a GSM positions the software searches and matches them in the database and displays the position on a MapPoint 2006 map (MapPoint not included)

It is an extension of **DOGE SWE**, so it requires a previous **DOGE SWE** installation.



CSS DOGE KUE

Software license

- it enables to complete and correct usage of **CSS DOGE SWE**
- each license can be used on one PC only

VIC280 SD

VIC280 SD is a digital audio micro recorder, extremely effective and easy to use.

Suitable for a multifunctional application, it is completely programmable and has an high memory capacity. Its features place the **VIC280 SD** among the smallest professional recorders for intelligence use.

VIC280 SD is normally provided in a compact black sheath packaging, that facilitates installation and concealment. It can be also supplied in a small metal case or camouflaged depending on need.

Where required, the **VIC280 SD** can be customised in order to adapt its physical and electrical characteristics to the Customers's specifications.



Main Features

• Fidelity of the recording

Knowles active microphones ensure a faithful source acquisition and an optimal intelligibility of speech, even in presence of strong background noise, without the typical artefacts associated with the analysis/ synthesis type of coders (e.g. GSM, CELP).

The internal settings of the **VIC280 SD** recorders can be changed to extend the bandwidth of the recorder to a maximum of 8 KHz and the the achievable signal to quantisation noise ratio is well beyond 60 dB.

• Wide range of solutions

VIC280 SD recorders are available in different models according to the needed application: **VIC280 SD** holding just one microSD, **VIC280 2SD** holding two microSD cards, **VIC280 2SD SLIM** holding as well two microSD card but in a thinner shape.

• Removable and scalable memory

Date are recorded on removable microSD memories enabling the quick collection of the information. Each model of the **VIC280 SD** recorded family loads card from 1 to 2 Gb per slot.

• Secure

Audio recording on the internal memory is done with a proprietary encrypted format.

• Time evidence

Time and duration of each recorded track is reported.

• Programmable VOX

Vox features can be activated/deactivated with setting of a sensitivity threshold and release time interval.

• Rechargeable Li-Ion battery

Standard power supply with miniaturized Li-Ion rechargeable battery.

• Quick and intuitive management

the dedicated software **ADM FLASH** allows to:

- programm the recorder for the different applications
- download the recorded tracks on the PC and to convert them into .WAV and .MP3 format, that can be played on any platform
- graphically visualise a preview of the compressed file, allowing the operator to concentrate on areas where a vocal activity is visible
- enhance the perceived signal to noise ratio in real time, with the inclusion of a set of parametric filters and a dynamic processor.

Operational status of the recorder is signalled by the LED.



VIC280 SD

Digital Microrecorders

VIC280 SD

Programmable digital audio recorder, with internal battery, one microphone, one microSD card. It is supplied with **ADMFlash** software, battery charger/USB controller **VIC231 L**, power supply **VIC125 AM**, card reader.

audio code with variable rate	from 20 to 80 Kbps
band	from 4 to 8 KHz, according to recorded quality
audio dynamic range	60 dB
power supply	3,6 V
internal battery	rechargeable Li-Ion
battery autonomy	approx 5 hours
memory capacity	unit accepts 1 and 2 GB transflash/micro SD card
recording quality	medium: 50 hours/GByte / high: 25 hours/GByte
Vox	activation/deactivation, thresholds and timeout
dimensions (mm)	25 x 35 x 12



VIC280 2SD

Programmable digital audio recorder, with internal battery, one microphone, double microSD card. It is supplied with **ADMFlash** software, battery charger/USB controller **VIC231 L**, power supply **VIC125 AM**, card reader.

audio code with variable rate	from 20 to 80 Kbps
band	from 4 to 8 KHz, according to recorded quality
audio dynamic range	60 dB
power supply	3,6 V
internal battery	rechargeable Li-Ion
battery autonomy	approx 5 hours
memory capacity	unit accepts 1 and 2 GB transflash/micro SD card
recording quality	medium: 50 hours/GByte / high: 25 hours/GByte
Vox	activation/deactivation, thresholds and timeout
dimensions (mm)	25 x 43 x 13



VIC280 2SD SLIM

Programmable digital audio recorder, with internal battery, one microphone, double microSD card in a thinner shape. It is supplied with **ADMFlash** software, battery charger/USB controller **VIC231 L**, power supply **VIC125 AM**, card reader.

audio code with variable rate	from 20 to 80 Kbps
band	from 4 to 8 KHz, according to recorded quality
audio dynamic range	60 dB
power supply	3,6 V
internal battery	rechargeable Li-Ion
battery autonomy	approx 5 hours
memory capacity	unit accepts 1 and 2 GB transflash/micro SD card
recording quality	medium: 50 hours/GByte / high: 25 hours/GByte
Vox	activation/deactivation, thresholds and timeout
dimensions (mm)	55 x 17 x 11



ADMFlash

Software application running on the Windows Operating System for the management of the **VIC280 SD** series of miniature digital audio recorders. The software is supplied in the USB key

The application is able to:

- set up of important internal parameters of the VIC280, such as the recording quality, automatic activation and internal clock.
- retrieve the content of the removable Flash Memory, listen to the recorded material and perform a number of audio enhancement operations, as well as writing notes/transcriptions and exporting the audio to a non-proprietary file format.

GATE 2007

GATE 2007 is a Hardware/Software system designed to monitor communication.

GATE 2007 is a system:

- **expandable**

it allows to add more servers to increase the performances and the lines to be monitored in a transparent way

- **multimedia**

it is able to carry on different monitoring activities like telephone and room eavesdropping (point to point both inbound and outbound), internet, E-mail, fax, video calls and GSM localisation.

- **secure**

the data are acquired and recorded on server, with access enabled according to the defined operational hierarchies. The clients transmit the entry request to the service connection manager in an encrypted way. No information on the access (like log-in or password) are memorized in permanent way on the clients. The data are exported on Cd-rom/DVD with encoded algorithm to avoid any reading by unauthorized people, in case of loss of their lost.

- **reliable**

GATE 2007 has been completely new designed using the development platform Microsoft.NET, to guarantee an outstanding reliability and an optimal protection against unwanted accesses.



Applications and Features

GATE 2007 allows to receive, to record and to play the data acquired by monitoring a target via fixed and mobile telephony, environmental audio monitoring devices, fax, SMS, E-mail and Web (in this case Internet pages are reconstructed as they have been visualized by the target person).

The graphic interface of **GATE 2007** is simple and intuitive. The functionalities and the tools are available on a single screen, for an easy and immediate access to the information and their elaboration.

The recorded data are easily accessible on the table of the records, that sums up the most important information related to each record and that allows to search it, also via the selected filters.

It is possible to slow down the playing of the audio files without modifying the tone and to insert some personalised markers to highlight the most important parts of the track. The quality of the recordings can be improved by the noise reduction function.

The "positioning" feature visualises the cell from which the communication originated and allows to draw the maximum ray within which the mobile unit is available.

An integrated text editor allows to transcript the speech and to format the text with the typical tools of a word processor.

The data summing up each monitoring activity (labels) can be searched and organised through simple and intuitive operations.

In the case of a fax, it is possible to visualise its image just by clicking on it.

The system has also an integrated address book, an editor to create customised templates and a text editor, complete of all functionalities to create and format a report.

GATE 2007

Multimedia Recorders

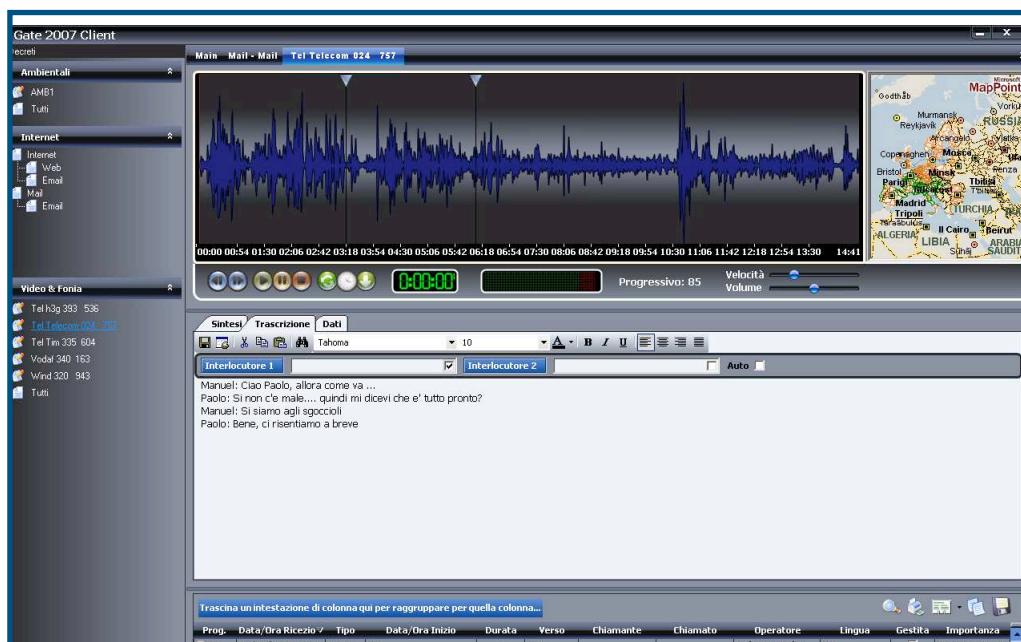
Environmental and Telephone Audio Monitoring

It is possible to select a record from the record table and access to its track in order to play it and, in the same time, to write down its text or to write a brief summary of it.

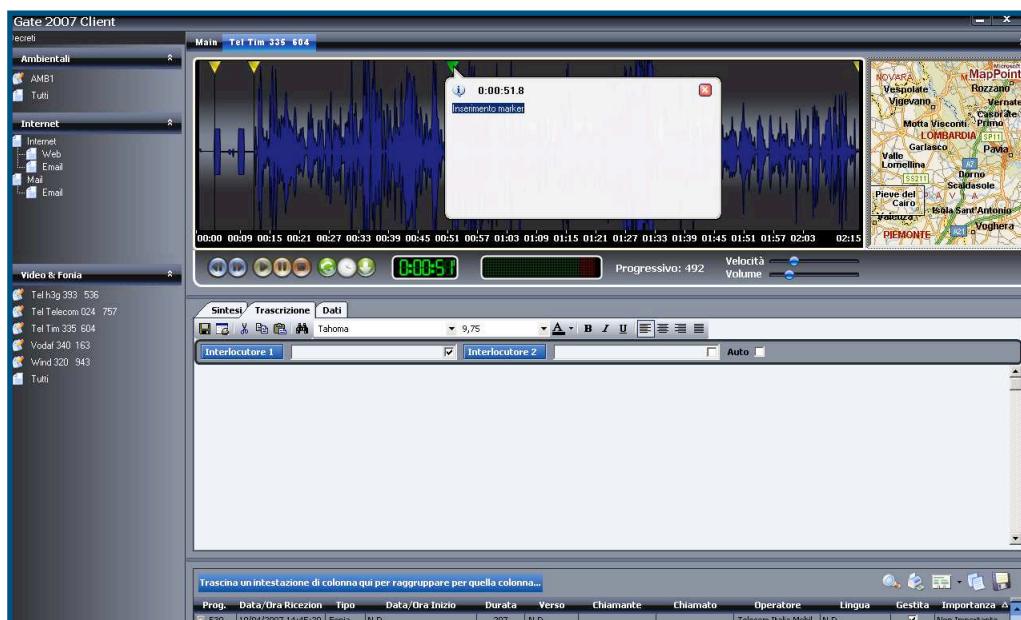
To facilitate the editing of the blotter it is possible to set the option of cyclical repetition of the track listened. This functionality can be directly managed by keyboard, avoiding to interrupt the writing for activating the replay command with other tools, like for ex. the mouse.

In case of recordings with a fast speech or with strong pronunciation, the transcription can be facilitated slowing down the speed of execution, without however altering the timbre and the tone of it. The speech identification is made easier by an anti-noise filter.

The SMSs and their content can likewise be visualized.



The system allows to insert on the eavesdropping graph some markers and notes in correspondence of particularly interesting events, with the purpose to immediately found the track of interest and to cyclically replay it.

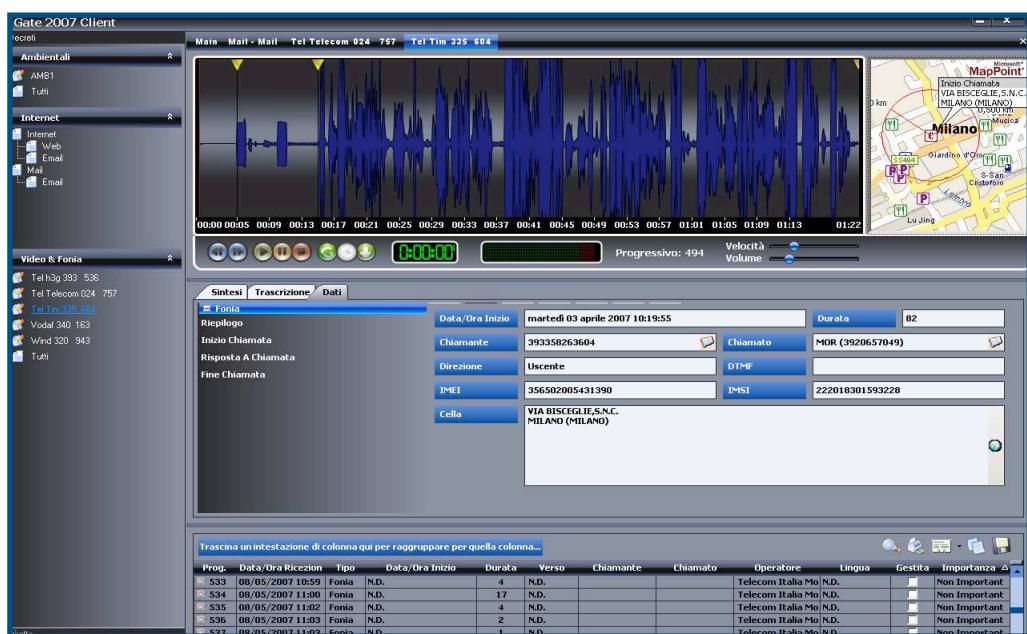


GATE 2007

Multimedia Recorders

Positioning

GATE 2007 has got a display where it is possible to locate the BTS on the geographical map. The least and maximum ray of action of the mobile phone is also reported, as well as a sequence of cells to which the target was registered during the monitoring.



Video Call

With **GATE 2007** also video calls can be traced. In this case, besides the audio, it is also possible to visualize the video recordings done by the calling phone and by the receiving one.

FAX Module

The integrated conversion module allows to graphically visualise the received/sent faxes. It is possible to view the fax in real time clicking on the related icon as well as to save the image file or to directly stamp the fax.

Internet and E-mail

All the web pages visited are saved in the order of visit. Selecting a record, it is possible to surf the page and to reconstruct the path followed by the target.

It is possible to monitor the mails of a target by creating a fictitious address to which relaunch the information.

Address Book

The integrated index book allows to add and to consult the telephone numbers inserted at any time.



knowledge and imagination

GATE 2007

Multimedia Recorders

Print of the Blotter

It is possible to print the blotter at any time. The identity data of the record are automatically printed on the top of the page.

Label

The label reporting all recap data of the activity is automatically created.

Decrees Filter

GATE 2007 allows to effectively filter all the recorders using all available column headings.

Word Processor

The word processor integrated in **GATE 2007** allows to create and save text documents and to export their file on PC.

Templates

With **GATE 2007** it is possible to create an unlimited numbers of templates and to set headers and footers.

Administration Tool

This tool is dedicated to the system manager that can easily act on three sessions:

Three sections available:

- **Operators**, to create, modify or delete the profiles associated to the software users.
- **Team**, to create, modify or delete the investigation teams.
- **Decrees**, This session not only allows to create, modify or delete a decree, but also to export it as backup.
Each database line corresponds to a decree. Clicking on it the administrator directly visualises and can modify all details about the decree. The “burn” feature sets the selected burning device and the backup interval.

SIC3

The **SIC3** is **BEA**'s system for detection and jamming of mobile phones operating. **SIC3** is designed for use in controlled buildings or restricted areas where the safety and security of the personnel is paramount.

Because cellular phones are often used for illegal purposes (bugging, triggering bombs, etc.), the **SIC3** system was developed to monitor cellular phone activity and, where necessary, employ jamming techniques to block cellular phone signals.

The **SIC3** system is therefore ideal for installation in prisons, military bases and other restricted access areas, special controlled access buildings where cell phone use is restricted.

BEA is making this specialized advanced system available because of today's heightened security and safety concerns. We welcome the opportunity to discuss your needs and customize the system design to satisfy customer specific requirements.

Main Features

• Range

Detection and jamming of communication on 2G (900 and 1800 MHz) and 3G (2100 MHz) frequency range

• Controlled jamming

The inhibition activity can be manual or automatic and it is limited exclusively to the area where the targeted signal is detected and is present only duration of the targeted communication

According to its composition, **SIC3** system allows to:

- detect the telephone traffic - active mode
- detect and jam the telephone traffic - passive mode

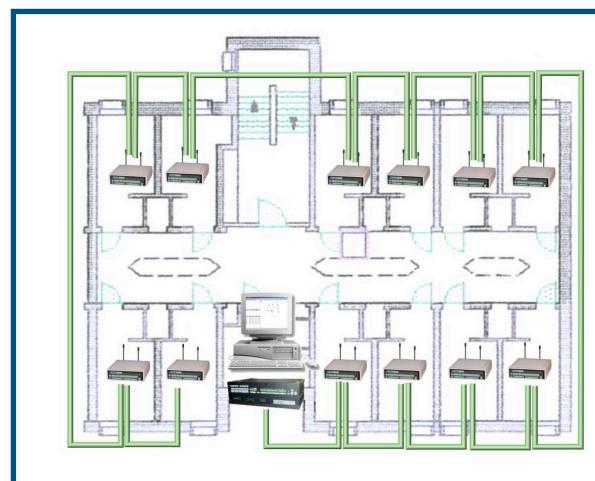
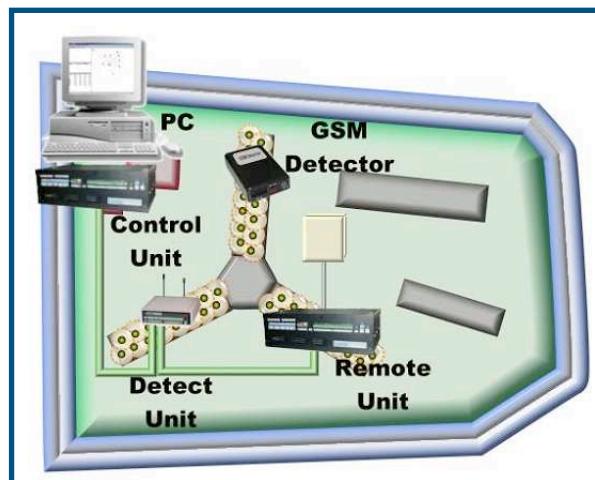
• SMS detection

SMS messages, although short in duration, are also detected and jammed by the remote units.

• Modular and configurable

The **SIC3** system basic configuration includes the **CENTRAL CONTROL UNIT** connected to a PC running the **SIC3** software and an application specific number of remote units which are connected to the **CCU**.

The modular structure of the **SIC3** allows the system to be configured to meet each customer's requirements and deployment environment.



SIC3

Detection and Jamming of Mobile Phones

CENTRAL CONTROL UNIT

The **CENTRAL CONTROL UNIT (CCU)** is the core of the system.

The primary function of the **CCU** is to verify current status and operation of the remote units that comprise the **SIC3** system.

The **CCU** is connected to a dedicated PC running the **SIC3** software. The **CCU** combined with the dedicated software is capable of managing the operation of systems with over 200 remote units installed. Despite this complexity the entire network can be managed by one operator.



SIC3 SOFTWARE

SIC3 SOFTWARE: runs on a PC that is connected to the **CCU** and is dedicated to the monitoring and control of the **SIC3** system.

The user friendly interface makes all aspects of system operation quick and easy. After all the remote units have been configured, the system can be set to run unattended with automatic detection and/or jamming of the radio signal traffic.

The software also compiles a database with statistical information on cell phone activity, jamming and any operational notes for each sector. Analysis of this information can identify possible trouble spots where further surveillance might be necessary.

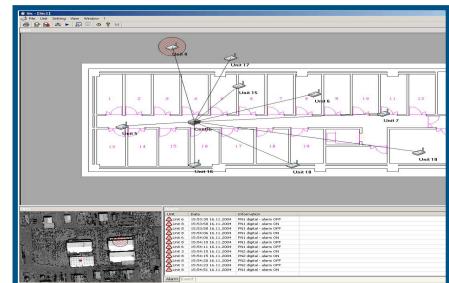


REMOTE UNIT

REMOTE UNIT (RU) is installed in one sector of the total target area and is connected to the other units and to the **CCU** via RS485 cable.

The **RU** coverage area is dependant on the environment in which it is installed. Therefore, the number of remote units that are required will be determined after an accurate technical analysis of the building(s) and/or area to be monitored is completed.

There can be several type of **RU** according the the function required, i.e. whether to work as both a signal detector and jamming device and on which frequency it has to operate.



Technical Features

		GSM 900	DCS 1800	DECT 1900	UMTS 2100
detection	band sensitivity	880÷915 MHz -70 dBm	1710÷1785 MHz -70 dBm		1920÷1980 MHz -90 dBm
jamming	band power	930÷960 MHz 7 W	1800÷1880 MHz 10 W	1880÷1900 MHz 8 W	2110÷2180 MHz 1 W

auxiliary alarms over temperature, alarm test pushbutton, power supply for mains, battery discharged, unit tampering, digital input 1, digital input 2, defect

others

digital output 1, digital output 2
power supply 100÷240 V ac 47/63 Hz
max consumption (per remote unit) 300 W
back up battery 1.2 Ah
weight (gr) 6000
unit box dimensions (mm) 390 x 310 x 130

SIC3 JAM BAG

SIC3 JAM BAG is a portable unit, dedicated to the inhibition of cellular telephones in limited areas.

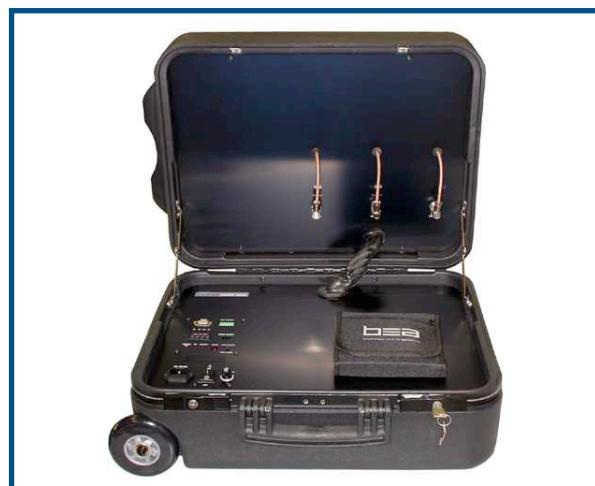
Based on experience by **B.E.A.** with other systems of detection and inhibition of the mobile traffic, **SIC3 JAM BAG** inhibits GSM, DECT and UMTS frequencies.

The device is assembled inside of a trolley in order to camouflage and for easy transport it.

The antennas are placed in the cover and, in case of need, it is possible to plug external accessory ones.

The rest of the suitcase houses the device and two rechargeable batteries. **SIC3 JAMM BAG** can be connected to main, for a greater operating autonomy.

BEA is making this specialized advanced system available because of today's heightened security and safety concerns. We welcome the opportunity to discuss your needs and customize the system design to satisfy customer specific requirements.



Technical Features

GSM 900

detection	band sensitivity	880÷915 MHz -70 dBm
jamming	band power	930÷960 MHz 7 W

DCS 1800

detection	band sensitivity	1710÷1785 MHz -70 dBm
jamming	band power	1800÷1880 MHz 10 W

DECT 1900

detection	band sensitivity	
jamming	band power	1880÷1900 MHz 8 W

UMTS 2100

detection	band sensitivity	1920÷1980 MHz -90 dBm
jamming	band power	2110÷2180 MHz 1 W

case

power supply	100÷240 V ac 47/63 Hz
max consumption	300 W (220 V ac) 3.2 A (24 V dc)
back up battery	1.2 Ah



• Jamming mode

- **automatic:** the unit inhibits the GSM and UMTS frequencies only on signal detection.
- **continuous:** all frequencies are continuously jammed.



knowledge and imagination

Technical Beanews

JAM BOX

JAM BOX is a stand alone jamming unit developed to inhibit GSM, DECT and UMTS frequencies.

The unit can be easily concealed even in small environments thanks to its compact dimensions.

The **JAM BOX** can be remotely controlled: start/stop of the inhibition activity and output power increase/decrease.



Technical Features

- **Small**

The unit is ideal in those applications where there is lack of installation space.

- **Easy configuration**

Frequencies and output power can be simply configured via user friendly handheld remote control that allows to switch the unit on/off and to adjust output power at any time.

- **Omnidirectional antennas**

JAM BOX is normally supplied with four omnidirectional antennas. It can be customised with other antennas like directional ones.

- **Continuous jamming**

The unit, once powered, jams continuously, independently from the signal detection.

	GSM 900	DCS 1800	DECT 1900	UMTS 2100	power supply	weighth (gr)	dimensions (mm)
jamming	band power	band power	band power	band power	100÷240 V ac 45/55 Hz	1800	231 x 106 x 33
	930÷960 MHz 1.5 W	1800÷1890 MHz 1.5 W	1890÷1900 MHz 1.2 W	2100÷2180 MHz 1.2 W			



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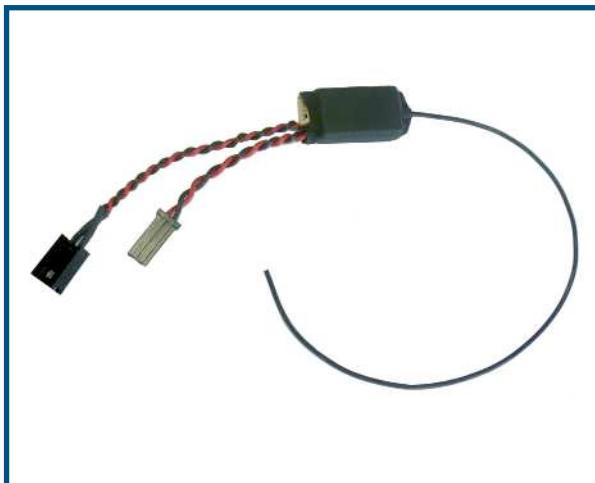
Technical Beanews

VIC135 B

The remote switch **VIC135 B** is the right solution for radio controlling of any electronic equipment, working with DC power supply up to 15Volt.

VIC135 B is small and ready to use, greatly useful to connect external devices and to control them remotely. It is easy to set up because it just has two connectors: one to connect the DC Power Supply, the other to connect external equipment.

Using the remote control, separately supplied, it is possible turn ON or OFF the equipment connected to the output of receiver.



Technical Features

• **Easy configuration**

All code keys in the memory of **VIC135 B** can be configured using a dedicated Configuration Software and connecting the receiver to a PC through a USB/RS232 adaptor (VIC 231-B) and a data cable.

• **Immediate feedback**

The **VIC 135 B**'s LED gives an immediate feedback to the operator. Through small flashes it shows if the command has been properly received and relaunched to the connected external equipment.

• **Channels control**

The standard receiver can drive only one external equipment. It is possible, on request, to drive up to 3 independent channels: two with maximum load of 5 A and one with maximum load of 2 A.

• **Digital I/O**

Furthermore, on demand, it could be implemented with five digital I/O that can work as interface with external electronic equipments.



working frequency	372.5 MHz
sensitivity	-90 dBm
receiver access code key	8 bit
function mode key	8 bit
maximum switch resistance	40 mΩ @ 5 A
maximum switch current	5 A (continuous operation)
power supply voltage range	5÷15 V
average consumption	180 µA (with LED off)

Complementary Tools

Technical Beanews

VICRECORDER

VICRECORDER is a software that can be used to directly process and record on a PC the audio signal coming from receivers such as **MASTER** or **DIGIMICRO R**.

If a suitable modem is connected, the application can also manage audio content delivered through the GSM network.

The audio signal is recorded on the computer's HDD without alteration and, for monitoring and playback purposes, **VICRECORDER** allows the user to apply audio enhancement in real time to both "live" and recorded signals.

Recorded files are easy to manage and a comprehensive waveform visualiser is provided, allowing the operator to concentrate on areas where a vocal activity is clearly visible.



Main features

VICRECORDER can acquire the incoming audio using a variety of sampling rates and file formats, allowing the user to choose the best solution according to the type of audio source.

The user can listen to the audio signal and save it in a local folder using a simple user interface.

VICRECORDER can acquire the signal in three different ways:

- **Signal-driven trigger**

The application monitors the level of the incoming signal and begins recording once a set threshold is exceeded

- **Manual recording**

Recording is manually initiated by the user via simple commands on the user interface

- **Modem trigger**

Recording is initiated once an incoming call is detected on a GSM modem connected to the PC

VICRECORDER has a set of tools that can aid the operator during the transcription process.

VICRECORDER provides the user with a set of accurate filtering and analysis tools:

- Frequency analysis
- FFT manual filter
- FFT tone filter
- Broadband FFT filter
- Low Shelf/High Pass filter
- Fully Parametric/Band Pass filter
- High Shelf/Low Pass filter

The software is provided on a hardware dongle.



knowledge and imagination

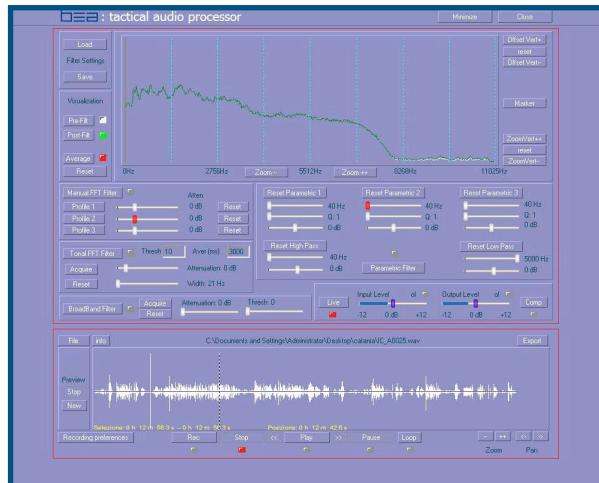
VICFILTER

VICFILTER is a software designed to provide real-time analysis, filtering and enhancement tools for audio signals acquired via the sound card of the PC. The processed signal can be also recorded directly to disk.

Its simple user interface and low MIPS requirements makes it ideal for those operational scenarios where only a small laptop can be used.

It also allows to process previously recorded audio files stored on various memory support (HD, CD, DVD, USB key).

VICFILTER's tools allow to reduce the audio noise and improve speech intelligibility. The user interface gives a rapid and accurate access avoiding complex windows and menus. A comprehensive waveform visualiser is provided, allowing the operator to concentrate on areas where a vocal activity is visible.



Main features

VICFILTER can be used in two different managing modes:

- **Direct mode**

The audio, coming from the default port of the PC sound card, is acquired and processed in real time by the software at sampling rate of 44.1KHz, thus allowing no noticeable degradation of the incoming signal during the digitalization process. The user can listen to the incoming audio and save it to a local folder via the user-friendly commands in the playback and recording control panel.

- **File mode**

Listening and filtering a previously recorded audio file it is also possible.

The result of the processing can be exported to a local folder or other memory supports.

VICFILTER can manage a wide range of different audio formats (.wav, .alf, .aiff, .aifc, .au, .snd, mpeg1 Layer III).

VICFILTER enhances the perceived signal to noise ratio in real time, using various time and frequency domain filters.

The control panel provides the user with a set of accurate filtering and analysis tools:

- Frequency analysis
- FFT manual filter
- FFT tonal filter
- Broadband filter
- Low Shelf/High Pass filter
- Fully Parametric/Band Pass filter
- High Shelf/Low Pass filter

The software is provided on a hardware dongle.

Complementary Tools



knowledge and imagination



knowledge and imagination

POWER SUPPLY

The power suppliers of the **VIC-AL** series are featured by compactness and great versatility. The output tension is extremely stable and the devices are noiseless.

They are provided with protection against overload and short circuits.

	Dimensions (mm)	V in	V out	I out (n)	Ripple RMS 100 Hz
VIC940-AL	36 x 12 x 10	230 V ac ($\pm 10\%$)	9 V	40 mA	< 5 mV
	36 x 17 x 12	230 V ac ($\pm 10\%$)	9 V	90 mA	< 5 mV
	33 x 17 x 13	230 V ac ($\pm 10\%$)	6 V	100 mA	< 5 mV
	48 x 19 x 17	230 V ac ($\pm 10\%$) 120 V ac ($\pm 10\%$)	9 V	500 mA	< 20 mV
	48 x 19 x 17	230 V ac ($\pm 10\%$) 120 V ac ($\pm 10\%$)	12 V	500 mA	< 20 mV

The power suppliers of the **PW** series are featured by compactness and great versatility. The output tension is extremely stable and the devices are noiseless.

The **PW MK2** integrates protection against short circuits.

	Dimensions (mm)	V in	V out	I out (n)
PW MK2	44 x 24 x 10	220 V ac ($\pm 10\%$)	12 V	30 mA
	30 x 9 x 7	220 V ac ($\pm 10\%$)	10 V	3 mA

Complementary Tools

