

# INTERCEPTION AND MONITORING SYSTEMS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

**PKI 1100**

## Monitoring System for E-Mail, Internet, Phone and Fax

Connection of the **PKI 1100** is effected parallelly to a 4-wire analogue telephone line. The system includes a data base to view the captured information together with date, time and duration of monitoring. The current monitoring state can also be shown here, based on recorded, processed, printed and archived data, among others. The system intercepts telephone, modem, fax and compiles interception databases. This sophisticated recording system with data storage on removable disc archiving looks like a standard Notebook.

Results are displayed by means of the standard internet explorer, as well as Microsoft Outlook Express. Line status – detection of hook, pulse, DTMF, wiretap – depends on the highest possible data rates. **PKI 1100** can interface an analogue line with either a two-wire serial connection by means of an extra tapping device or a two-wire, resp. four-wire parallel configuration.

**Specifications:**

- Monitoring of 4 telephone lines simultaneously
- Combined voice, fax, e-mail and internet monitoring in one system
- Sophisticated recording system



- Data storage on removable disc
- Low speed modem protocols V.21; Belli 03; V.22bis; Bell 212A; V. 23
- Error correction procedures MNP 2-4; V. 42
- Data compression procedures MNP 5, V. 42 bis
- Synchronization and data transfer PPP; SLIP; CSLIP; LCP; NCP; Van Jacobsen; IPCP; CCP; MS PPC
- Protocols in accordance with OSI model

- are compatible
- Data link layer HDLC, PPP, Slip, Cslip
- Network layer IP
- Transport layer TCP, UDP
- Session layer SMTP, POPs, IMAP, HTTP, FTP, Telnet, Chat
- Operating temperature 0° to 50°C

**PKI 1200**

## GSM Repeater

This GSM repeater amplifies received signals of all networks which considerably enlarges the action range. Especially in rooms where GSM-reception is restricted or even impossible, this is very important. Often this is the fact in buildings and constructions out of concrete and steel. The **PKI 1200** repeater is designed for specific application and ensures successful data exchange at full signal strength. It comes with power adapter 220 V AC / 12 V DC, instruction manual incl. circuit diagram, installation material and antenna.


**Specifications:**
**GSM amplifier: 70 dB - 900 MHz**

- Frequency: uplink: 890 - 915 MHz downlink: 935 - 960 MHz
- Power: uplink: 19dBm downlink: 19dBm
- Gain: 70dB
- Bandwidth: 6 MHz – 25 MHz
- Return loss: <-18 dB
- Noise coefficient: <5 dB
- V.W.S.R. < 1.5
- Delay: 1 µsec
- Impedance: 50 Ohm
- Power supply: 220 VAC / 12 VDC (included)
- Connector type: N-female
- Size: 200 x 150 x 40 mm
- Option: ext. step down converter DC/DC 24V/12V

**GSM amplifier: 55dB – 1800 MHz**

- Frequency: uplink: 1710 - 1785 MHz downlink: 1805 - 1880 MHz
- Power: uplink: -32dBm - -27dBm downlink: -38dBm - -37dBm
- Gain: 55 dB
- Bandwidth: 6 MHz – 25 MHz
- Return loss: <-18 dB
- Noise coefficient: <5 dB
- V.S.W.R. < 1.5
- Delay: 1 µsec
- Impedance: 50 Ohm
- Power supply: 220 VAC / 12 VDC (included)
- Connector type: N-Female
- Size: 300 x 200 x 50 mm
- Option: ext. step down converter DC/DC 24V/12V

**G3 – UMTS amplifier: 60dB- 2100 MHz**

- Frequency: uplink: 1935 - 1990 MHz downlink: 2125 - 2170 MHz
- Gain: <60dB
- In-band fluctuation: < 2dB
- Output power: < 17 dBm
- Miscellaneous radiation: ≤-30dB,
- Time delay: ≤ 5µsec
- Third order intermodulation (dBm): 9K-1 GHz ≤ -36/1G-12.75 GHz ≤ -30
- Standing wave: ≤ 1.5
- Power supply: 220 VAC / 12 VDC
- Connector type: N-Female
- Noise coefficient: ≤ 5dB
- Impedance: 50 Ohm
- Size: 300 x 200 x 50 mm
- Working temperature: -10°C - +60°C
- Option: ext. step down converter DC/DC 24V/12V

## PKI 1500

### Cellular Monitoring System

**PKI** is worldwide one of the leading producers of monitoring devices of cellular phones.

This highly sensitive field of interception is of utmost importance to all government agencies, especially secret-service departments, as state-relevant information is globally frequently exchanged via cellular telephones. To control such tasks it is indispensable to use the **PKI** devices.

**PKI 1500** is a multi-channel cellular monitoring system designed for passive interception of GSM radio signals. It intercepts GSM network information data directly without interfering with the GSM network. It is completely passive and it will never be detected by the target person. The system includes eight duplex channels, control and data processing analysis software, UHF antennas and laptop. It has the advantage of compact design, friendly interface and is easy to operate. It can easily be put into a vehicle or anywhere you want for your action. The system provides voice monitoring and very accurate tracking and locating function of target mobile phone.

**PKI 1500** is the most advanced and unique GSM locating subsystem, without using any 3rd party GPS device and with the only built-in fabulous full angle antenna. The GSM locating sub-system is built-in and can be separated from the whole system. The system is equipped with a decryption module which is capable of handling A 5.0 and decrypting A 5.2 encryption protocols in real-time.

#### Basis functions

The system provides eight duplex channels using the following frequency ranges of 900 MHz, 1900 MHz or 900/1800 MHz. According to some feature of the signal, the system can automatically select the best channel to monitor and record. The system supports simultaneously operation on multiple networks and is suitable during mobile operation. While operating in an area where many cellular phones exist **PKI 1500** offers two working modes: in random interception mode it can monitor and record up to 8 full duplex calls and SMS including the relevant duplex phone identities such as TMSI, IMI, IMEI, BCD number, target distance from the base station etc.. In special mode the system can monitor and record incoming and outgoing calls and SMS of special target phones and at the same time the system can extract all relevant phone identities of target phones.

#### Localisation

**PKI 1500** works in real time and with a locating accuracy of approx. 2 meters. It uses vehicle and personal locating subsystems in order to locate the target phone. The position of the inactive target phone will be rapidly (10-15 minutes) located without becoming aware by the phone user. Should the operator know the location area and cell IDs of the target phone in advance the locating time will be even much shorter.



#### Monitoring

**PKI 1500** provides three modes, i.e. target phone monitoring, blind interception and short message monitoring in the unencrypted GSM network. When target phone monitoring is required the system monitors all details concerning the target phone call, i.e. it provides the phone number of both parties, voice, cell parameters, when calling started and ended, distance from the base station etc. In case of blind interception the system collects call information in a local region. By using its 8-duplex-channels **PKI 1500** records conversations, calling and called numbers simultaneously. The provided information can be listened to in real time or as playback later. The third mode is the short message monitoring mode which allows not only blind interception of short messages in local regions but also direction finding and locating of the target phone sending short messages.

#### Soft Ware

**PKI** delivers a special developed software with C language. We provide a pre-installed laptop and media installation for backup. All intercepted communications (voice, SMS and the relevant identity datas) are stored on a hard disk which can be easily accessed by the operator. The software has a strong ability to query target records and to relisten.

#### Installation

The host equipment will be placed in the vehicle whereas the antenna can be camouflaged in any roof box.

#### Delivery Scope

The total system consists of:

- base station

- Laptop with built-in management software (English interface)
- Antenna direction finding subsystem
- Activating device (mobile phone)
- Data transceiver
- Personal locating subsystem
- Power supply

#### Specifications:

- Frequency range: 900 MHz, 1900 MHz, 900/1800 MHz
- Supports GSM/CDMA/OCS network
- Direction finding system (distance between personal locating system and target): up to 3000 m
- Direction finding degree of accuracy: +/- 1°
- Recording time: up to 72 hrs
- Antenna unit dimensions: 800 mm Ø, 200 mm height, 25 kg weight
- Base station dimensions: 19" rack
- Weight: 12 kg without backup battery
- Power supply: 220 AC for fixed location, 12 DC backup battery for mobile use, rechargeable
- Durability of battery: 1 month in mobile status
- Dimension of battery: 10x18x12 cm, 6 kg
- Sensitivity of receiver: 1 microvolt
- Distance between vehicle and personal locating subsystem: max. 2000 m
- Locating accuracy (personal locating system): 2 m
- One target locating every time

Please note that we can also deliver A 5.1 decryption and 16 channels on request

**PKI 1800**

## Digital Telephone Monitoring System

The **PKI 1800** is a comprehensive and state-of-the-art end-to-end solution for monitoring, processing, analysis and dissemination of intercepted telecommunication interactions. Due to rapid structural changes in worldwide telecommunication systems a solution integrating all such tasks is provided by the **PKI 1800**. It offers facilities to monitor ISDN, Digital, PCM30 transmissions as well as all other forms of communication whether they be voice, fax, modem, radio communication or other data transfer. Based on a single, unified platform, **PKI 1800** handles all kinds of telephone and Internet data and thus offering unprecedented features. It provides security agencies with flexibility, reliability and versatility in signal intelligence interception and analysis. The **PKI 1800** combines all these facilities to comfortably managing unlimited amounts of intercepted communications together with instant target information by just using a minimal amount of space and manpower. The major feature of the **PKI 1800** is its flexibility and extraordinary storage capacity, linked to its ability to instantly recall, via the displayed data management target software, intercepted target telephone calls without interrupting the digital tape recording and archiving process. This enables the operator to either carry out interception and playback from one system, or optionally via a separate playback unit. This means that highly classified and priority interception can be configured for transfer by authorised users on a real time basis to a selected location ensuring that the right persons are informed on time.

The **PKI 1800** is available in several versions, depending on the number of channels and end-users monitoring requirements, from minimum 8 channels to 64 or max 128 channels. The major criteria of the **PKI 1800** software is to display all information immediately and to enable instant evaluation, thus dramatically reducing the time needed, compared to time-consuming evaluation of reel or audio tapes. The software is known as the target evaluation and configuration interface (TEC) which is installed onto the delivered workstation. The sophisticated menu provides optimal guidance for selection/viewing and processing of large quantities of data. The TEC software has one control menu and 4 submenus being linked to user's authorisation key code. They are easily accessible and can be seen at a glance on the display monitor. Upon entry to the main control menu selection, the user will see - displayed on the screen - the current channel status which provides activity information as well as remaining tape time, disk end time and selection for the 4 submenus via the preprogrammed password. The configuration menu enables the user to select and change the technical characteristics of each channel depending on the input conditions. This enables the **PKI 1800** to monitor telephone interception from various types of exchanges and radio communication input channels simultaneously.



### PKI 1800 Digital Playback Unit

The optional extras available include the digital playback unit which recalls earlier recordings either directly from the DAT cassette of the **PKI 1800** or from archived versions. It is an essential accessory to the **PKI 1800**. Housed in a standard desk top PC with built-in 4 channel voice card, hard disk and loudspeaker the digital playback unit is used for a number of applications. Usually used as a playback unit for evaluation of recorded data it alternatively can be used as a mass storage facility for archiving or as a supervising position. It incorporates the standard **PKI 1800** software enabling instant recall and evaluation. The intercepted data is loaded onto the digital playback unit from the DAT cassette or linked to the **PKI 1800** for automatic download. The unit can be installed with one or two DAT drives, enabling the evaluated data to be downloaded onto the 2nd drive with the non-essential data being ignored, cancelled or simply kept on the 1st DAT for archiving. The optional extras include a built-in fax and data interception system plus a transcription interface.

### Specifications:

- Channels: 8, 64 or 128
- Voice interface cards: 4 voice channels per card, each channel digitised to 64 kbits/s using ADPCM conversion. User selectable data compression to 32 kbits/s or 16 kbits/s
- Frequency response: 300 Hz to 3.400 Hz

- Non detectable input impedance
- Simultaneous playback and on-line recording
- Network upgradeable, high MTBF reliability, 1/T1 interception

- Automatic monitoring, interception and recording
- Password protection
- Selectable input characteristics, PABX interfaces
- Analogue/ISDN line, LAN/WAN facility
- Tape / DVD archiving



- Line inputs: Parallel telephone input impedance - > 30 kOhm (isolated to 3000 V) warning bleep (as CCITT 180)
- Transformer isolated: input impedance - 600 Ohm (isolated to 3000 V)
- E1/T2: 2.048 MHz E1 & 1.544 MHz T2 digital data link
- Line outputs
- Transformer isolated: output impedance - 600 Ohm (isolated) output signal - 0 dBm 0=1.23 Vrms
- Monitor output
- Internal speaker
- Headphone jack socket
- Data interface cards: 4 channels per card, synchronous/asynchronous RS232/RS422 serial data data rate up to 64 kbits/s rapid access
- Storage: 1 GB hard disk
- Archival storage: digital audio tape (DAT)
- Recording time: 1 GB hard disk - 1 hr for 64 channels at 32 kbits/s. tape - up to 24 hrs for 64 channels at 32 kbits/s depending on capacity of the storage device
- Reliability: MTBF - 80.000 hours
- Power supply: single phase AC 240/115 V 50/60 Hz
- Power consumption: < 150 W
- Weight: 8 channels 55 kg 128 channels 165 kg
- Dimensions: 8 channels 56 x 38 x 70 cm 128 channels 60 x 157 x 70 cm
- PC requirement min 286 based PC or better/ EGA or VGA display



## PKI 1830

### Wireless Network Monitor, Decrypter and Viewer via WLAN or Bluetooth

**PKI 1830** is a powerful wireless network monitor and analyzer that enables you to monitor and view any wireless 802.11 a/b/g/n communication around you. The system detects and displays all wireless access points and stations within reception range and provides important information about each of them. Now, after all necessary data is in front of user the target can be selected and capturing of all transmissions can start. **PKI 1830** is a comprehensive and affordable tool for wireless LAN administrators, security professionals, network programmers, or anyone who wants to have a full picture of the WLAN traffic. The application requires Windows 2000/XP/2003/Vista/2008 and a compatible wireless network adapter. **PKI 1830** can also be used for interception via Bluetooth.



#### **PKI 1830 provides the following features:**

- scanning for WiFi stations and access points
- capturing 802.11a, 802.11b, 802.11g and 802.11n WLAN traffic
- WEP or WPA keys specification to decrypt encrypted datas
- display of detailed per-node and per-channel statistics
- display of detailed IP connections statistics: IP addresses, ports, sessions, etc.
- reconstruction of TCP sessions
- configuration of alarms that can notify you about important events, such as suspicious datas, high bandwidth utilization, unknown addresses, rogue access points etc.
- creation of "pie" charts of protocols
- monitoring of bandwidth utilization
- browsing of captured and decoded datas in real time
- searching of strings or hex data in contents of captured data
- creation of files containing individual or all data packets
- offline loading and display of captured files

## PKI 1850

### PC-supported Telephone Monitoring System

The surveillance of any kind of telecommunication, of course, is our main field of business. Whether analogue, digital or cellular, you will find the corresponding monitoring device in our scope of supply and in this catalogue. The **PKI 1850** has been developed for the monitoring of digital and ISDN telephone lines. But the main advantage is that it can be used for stationary and mobile use. Without any problem each necessary data, like telephone number, date, time and other criteria can be stored on a laptop. Each call will be stored as a WAV-file. By means of the supplied software, the WAV-file can easily be administrated and can be opened to hear the content of each call plus indicating the relevant data. Each WAV-file can be stored in compressed or uncompressed version for further action.



#### **Specifications:**

- Dimensions of unit without laptop approx. 76 x 55 x 19 mm
- Weight of unit without laptop approx. 50 g
- SO-interface ITU-Standard I.430
- Connection 2 x RJ45 Western Modular
- Tests Polarity, Framing, Power, Protocol
- Channels 2 x (D, B1, B2), E, M, A, Q, S
- USB 1.1 and 2.0 (full speed)
- USB socket USB Type B
- Power < 90 mA
- LEDs 4 x red/green
- Storage: 16 KB per second/call, uncompressed WAV file.
- Sampling frequency 8000 Hz
- WAV format A-Law Stereo, Mono, MP3, GSM
- Operating System required on PC/laptop: Windows 2000, Windows Server 2003, Windows XP, Windows Vista
- Software disk space max. 140 MB
- Processor 500 MHz (min for single device operation)
- Connection to telephone system Point-to-Point or Point-to-Multipoint
- Device package includes **PKI 1850** device, Software-CD, USB and ISDN cables, instruction manual

**PKI 1855**

## Hard Disc Converter

With **PKI 1855** it is easy to copy datas from built-in hard discs. Just connect the hard disc to the USB port of your PC by means of the **PKI 1855**. Compatible with all standard 1,8", 2,5" and 3,5" IDE hard discs. By means of this copying converter you can easily obtain all important information. Furthermore this converter is also suitable for testing and connection of all types of hard discs and burner via USB 2.0 port.

**Specifications:**

- Hard discs: SATA (L-type) and IDE, copying possible
- Sizes: 1,8", 2,5" or 3,5"
- Comes with: converter, adapter, power plug, SATA-cable
- Various: no installation inside PC necessary

**PKI 1860**

## Telephone Tapping Device

The **PKI 1860** can easily and quickly be installed on telephone lines, subject to entering the room at least once or for a short time. It allows continuous tapping of a telephone line without leaving outer traces. Just clip the contact clamp onto the telephone cable and listen to the conversation of both sides via the included headphones, or alternatively save it with a recording device.

**Specifications:**

- The only way to tap telephone lines without having to cut them.
- Impossible to be detected or located via TDR reflectometer.
- Easy and quick installation – just fix the clamp onto the cable and turn it on.
- Equipped with connection sockets for headphones and recording device (D 1300)
- Dimensions: approx. 34 x 20 x 114 mm

**PKI 1865**

## Digital Telephone Conversation Recorder

Small but powerful – a technological miracle. With this recorder all telephone conversations can be controlled. It works on both, analogue and digital telephone systems. Very simple installation between receiver and telephone set by means of the included connection assembly. Due to the integrated voice-control all telephone conversations will be recorded automatically and can be monitored either via the integrated speaker or earphones (included). Also included is a connection cable for playback via PC.

**Specifications:**

- Power supply: 2 x 1.5 V batteries type AAA
- Operating temperature: 0 - 40°C
- Frequency range: 500 Hz-3500 Hz
- Max. output: 200 mW / 8 ohm
- Operation time: more than 12 hours
- Display: LCD
- USB interface: USB 2.0 standard
- Weight: approx. 34 g w/o batteries
- Dimensions: 115 x 33 x 15 mm
- Supported data formats:
  - 1) MP3 (MPEG 1,2 and 2,5 with audio layer 3)

## 2) WMA (Windows-Media-Audio)

- Data stream
  - 1) MPE (8 to 320 kbps) on playback
  - 2) WMA (32 to 192 kbps)
- Recordings: Telephone, integrated and external microphone, line-in
- Max. number of recorded segments: 2 x 200 segments / files
- Name of directories and data type: (directory/recording quality/data type)
  - IP \*1 / „ACT“ data type

## SP \*1 / „WAV“ data type

## MP \*1 / „MP3“ data type

\*1 IP, SP und HP = low, standard and high performance

- Average recording capacity: 1 GB Memory – depending on recording quality and type:
  - (HP) \*1 10 h
  - (SP) \*1 70 h
  - (IP) \*1 282 h



## PKI 1870

### Analogue Conversation Recorder

This analogue conversation recorder stores your telephone conversations automatically onto standard audio cassettes. Due to the integrated voice control the recording does not start until beginning of a conversation and automatically stops at its end. The total recording time is up to 8 hours. With the **PKI 1870** you have the possibility to control all telephone conversations in your house during your absence. A similar device for digital telephone systems is part of our product range as well. Please contact us for detailed information.

#### Specifications:

- Recording time: 8 h on standard 120 min. audio cassette
- Integrated microphone for notes
- Output for headset
- Included: adapter for telephone receiver, audio cassette, power plug



## PKI 2205

### Analogue Room Transmitter

Room monitoring requires a small but powerful audio transmitter. Latest technology and consequently low current consumption allows up to 15 hrs continuous surveillance operation. Only by implementation of SMT (surface mount technology) its extremely small dimensions could be achieved. Metal housing manufactured by rotary-grinding from one metal block provides excellent emission characteristics. The placing of a bug has to happen very quickly. The **PKI 2205** room transmitter with its external power supply solves the problem, because only the external battery has to be connected and the unit is ready to operate. The **PKI 2205** Room Transmitter is available in standard frequencies within UHF band. VHF, SHF or special frequencies are available on request.

#### Specifications:

- Standard Frequency UHF
- A 427.125 MHz
- B 427.475 MHz
- C 427.825 MHz
- others on request
- RF Output Power 100 mW
- Modulation / Deviation NFM @ 5 kHz
- Spurious Suppression better than 50 dB
- Operation time 15 hrs / 9V standard battery
- Microphone internal electret
- Microphone Sensitivity -62 dB
- Dimensions (LxWxH) 30x16x8 mm



## PKI 2210

### Analogue Telephone Transmitter

If a telephone monitoring operation is on long term basis or access to the target area is restricted then the **PKI 2210** Telephone Transmitter is the perfect solution. It is not necessary to have direct access to the telephone set. Any location along the telephone line can be used for monitoring. This transmitter operates automatically, i.e. the internal off-hook detection circuit automatically switches from standby to activation and transmission. Only transmitting when a telephone conversation takes place, this wireless bug is undetectable. The sensitivity on the telephone line can be adjusted manually. Another advantage is its independence from short-lived power supplies like batteries, so that a continuous monitoring of the target area is guaranteed. The installation on the telephone line should be made in serial mode. Both polarities are allowed. **PKI 2210** is available in standard UHF. Special frequencies on request.

#### Specifications:

- Quick and easy installation
- Designed for professional use
- Automatic off hook on telephone lines
- Ideal for long term, unattended operation
- Smallest dimensions
- Unlimited operation time
- 5 mW output power
- UHF frequency
- External antenna
- Dimensions: 24x14x8 mm



**PKI 2215**

## Analogue Stethoscope Transmitter

Listening through solid structures as well as through windows is an important task for special operational teams. The **PKI 2215** Professional Stethoscope Transmitter is the perfect solution for this purpose. The **PKI 2215** has excellent clear audio pick-up and can be adapted to the customer's requirements. On request **PKI 2215** can be delivered with amplification which is adapted to the local environment, such as wall thickness and window characteristics. The sensitivity can be adjusted by a miniature trim potentiometer. This adjustment also influences the frequency characteristic, which means that for walls the higher frequency part will be amplified, on windows vice versa. Additional adjustment is possible by using different thickness of the adhesive paste between sensor and pick-up

surface. The unit is absolutely suitable for professional use. The highly sensitive sensor and the electronic parts are integrated in a solid metal case.

**Specifications:**

- Monitoring of inaccessible rooms
- Listening through solid structures like walls and windows
- Optimal audio performance
- Metal housing
- Installation with adhesive paste
- UHF frequency around 427 MHz
- 1 mW output power
- Standard Lithium battery
- 24 hours operation time
- Dimensions 64x21x6 mm

**PKI 2220****PKI 2225****PKI 2230****PKI 2235**

## Pocket Receiver, Handheld Receiver, Scanning Receiver, Universal Receiver

Special surveillance operations ask for modern and first-class devices that are able to fulfil all requirements. **PKI** offers various receivers with numerous frequency ranges for all applications. In order to guarantee highest possible transmission and reception ranges all **PKI**-receivers offer outstanding input sensitivities. **PKI 2235** not only includes a built-in digital recorder like **PKI 2230** but also a digital receiver, i.e. this receiver can be used universally for all **PKI** transmitter, whether analogue or digital or VHF, UHF, SHF.

**Specifications:****PKI 2220**

- Frequencies: VHF 130-174 MHz or UHF 370-430 MHz
- Channels: 3
- Power supply: 9V battery
- Demodulation: FM narrow band@6 kHz
- Sensitivity: better than 0,5µV@20 dB S/N
- Operation time: 8 hrs
- Squelch range: 0,2µV – 1,5µV
- Antenna: 50 Ohm
- Weight: 250 g
- Dimensions: 140 x 77 x 24 mm

**PKI 2225**

- Frequencies: VHF 130-174 MHz or UHF 370-450 MHz
- Channels: 10 selectable channels
- Power supply: 7,5V DC/700 mAh rechargeable batteries
- Sensitivity: 0,25µV at 12 dB
- Frequency steps: 20 kHz
- Operation time: 8 hrs
- Weight: 350 g
- Dimensions: 112x54x45 mm
- Audio output: headphone, recorder

**PKI 2230**

- Frequencies: 1.6 MHz – 3,3 GHz
- Channels: \_ 1000
- Power supply: 3x batteries type AA
- Sensitivity: 0,4µV – 5,6µV
- Frequency steps: 20 kHz
- Operation time: 6 hrs
- Weight: 320 g
- Dimensions: 60 x 142 x 35 mm
- Audio output: headphone

**PKI 2235**

- Frequencies: VHF 130-174 MHz UHF 370-450 MHz SHF 1000-2450 MHz

- Digital receiver: 400-440 MHz
- Modulation: FSK@100 kHz
- Power supply: rechargeable batteries, Li-ion
- Sensitivity: 0,4µV – 2,8 µV
- Frequency steps: 20 kHz
- Operation time: 20 hrs.
- Weight: 4,2 kg
- Dimensions: 300 x 220 x 60 mm
- Audio output: headphone
- Antenna socket: SMA 50 Ohm,
- Audio: squelch, equalizer
- Extras: programming software for PC
- Frequency stability: +/- 6ppm (+10° to +60°C)
- Various: fits in every briefcase
- Comes with: charger, antenna, earplug and instruction manual in English





**PKI 2240****Professional Transmitter / Receiver Set with Digital Recorder**

Small and light-weight, but full capacity - that is the **PKI 2240**. An excellent transmitter and receiver set for immediate monitoring. The frequency-stable transmitter is designed for room monitoring and can also be worn on the body. The sensibility of the microphone can be adapted to environmental circumstances (dynamic compressor). The receiver equipped with high 0,4µV input sensitivity guarantees coverage of farthest distances between transmitter and receiver. The external recorder automatically captures signals from the receiver and stores them during up to 282 hours, which means that the signals of the pocket receiver can be listened to directly as it works fully automatically and autarkic. Application of the **PKI 2240** is self-explanatory and does not need any instruction. Please read the technical datas carefully – you will be impressed about latest techniques developed by our **PKI** specialists.

**Specifications:****Transmitter**

- Dimensions: 45x25x10 mm
- Weight: 40 g
- Frequency: UHF 427 MHz, VHF and SHF on request
- RF Output power: 50 mW
- Modulation: NFM@5kHz
- Spurious suppression: better than 50 dB
- Operation time: 15 hrs
- Power supply: Lithion-lion batteries
- Microphone sensitivity: -62dB
- Microphone: internal electret
- Various: charger included in the set

**Receiver**

- Dimensions: 100x 60 x 20 mm
- Weight: 110g
- Frequency: UHF-range 427 MHz, VHF and SHF on request

- Receiver sensitivity: better than 0,4µV@12dB sinad
- Modulation: NFM@5 kHz
- Spurious suppression: better than 40 dB
- Frequency stability: better than +/- 2 ppm(0-50°C)
- Operation time: 20 hrs
- Power supply: Lithion-lion batteries
- Features included: channel selector, squelch control, volume control, head phone output and recorder, antenna connector
- Comes with: charger and antenna, on request recorder can be integrated into receiver, dimensions will enlarge accordingly

**Recorder**

- Dimensions: 60 x 35 x 20 mm
- Weight: 90 g
- Frequency range: 500 Hz-3500 Hz



- Output power: 200 mW / 8 Ohm
- Interface: USB 2.0
- Play-back: via PC, earplug
- Average recording capacity at 1 GB: (HP) 10 hours (SP) 70 hours (IP) 282 hours
- Power supply: by receiver
- Data: MPE 8 to 320 kbps
- Max. recording segments: 2 x 200
- Environmental temperature: 0-40° C
- VOX-control: recorder starts automatically on reception of signal from receiver

**PKI 2250****Analogue HF-Repeater**

The **PKI 2250** portable crossband repeater is primarily designed for extending the range of low power monitoring devices. Due to its capacity to work from three different types of power supply this system is suitable for work inside buildings, in cars and in the field - independent of supply conditions. The electrical input characteristics of the 3 channel receiver section of **PKI 2250** are adapted to **PKI's** crystal stabilised low power transmitters. With the high output power of the **PKI 2250** a distance of up to 15 km may be bridged under ideal conditions. The totally selectable transmitter/receiver frequency pairs, various power supply adaptations and direct listen-into possibility make this system easy to operate and versatile for any kind of surveillance task. A hand-held 3-channel receiver for the outgoing frequencies of the **PKI 2250** is included in the set as well as every necessary high gain directional antenna plus tripods (transmitting and receiving).

**Specifications:**

- Frequency range
- Inputs and/or outputs: VHF 130 – 174 MHz channel frequencies to be specified by the customer UHF 370 – 430 MHz channel

frequencies to be specified by the customer SHF 1.3 – 1.35 GHz channel frequencies to be specified by the customer

- RF output power selectable 1, 4, 5 or 10 W depending on frequency range
- Receiver sensitivity better than 0.4 µV @ 12 dB sinad
- Modulation / Deviation NFM @ 5 KHz
- Spurious suppression better than 40 dB
- Frequency stability better than +/- 2 ppm (0 - 50°C)
- Number of channels 6
- Power supply internal rechargeable battery external DC input 12 V (car) mains 115 V or 230 V AC
- Operation time at battery charge/depending on frequency: min 12 – 15 hours at 1 W continuous operation, or min 10 hours at 4 W continuous operation, or min 6 hours at 5 – 10 W continuous operation
- Charging method 115V or 230V or 12V DC (car)
- Transmission format clear analogue
- Audio monitor 2 W at 8 ohms
- Features included channel selector squelch control volume control headphone output
- Dimensions approx. 450 x 420 x 250 mm
- Weight approx. 25 kg incl. batteries

**Scope of supply:**

- Repeater in pilot's suitcase
- Directional transmitter antenna
- Directional receiver antenna
- Tripods for antennas
- Mains powered battery charger
- Car power adapter (cigarette lighter)

**PKI 2260**

## Analogue Equaliser

The **PKI 2260** graphic equaliser combines a 28 channel programmable equaliser and a spectrum analyser which provides a constant indication of the input signal to filter out unwanted noises recorded during surveillance operations. The setting can be automatic, which allows operation by semi-technical staff. Multi purpose input jacks are built-in, allowing connection of **PKI's** range of recorders.

**Specifications:**

- Frequency response: 10 - 100.000 Hz
- Dynamic range: > 110 dB
- THD: < 0.0021% 1KHz, 0 dBm
- XLR input balanced 20 k, max. +22 dBm
- XLR output balanced 50 k, max. +22 dBm
- Jack input unbalanced, 1 M, max +10 dBm
- Jack output unbalanced, 100, max +10 dBm

- Input gain +/- 12 dB
- Output gain +/- 12 dB
- Equaliser filters: 28 band 1/3rd octave filters on ISO centres +/- 12 dB or +/- 6 dB boost/cut in 1 dB or 1/2 dB steps
- Low cut filter switchable 15, 30, 45 Hz
- High cut filter 15 KHz
- Spectrum analyser: 28 band 1/3 octave filters on ISO centres overall level meter
- Presets: 100 non-volatile, editable user names
- Display 140 characters alphanumeric 7500 dots graphic
- Interfaces: 2 x Midi In, 1 x Midi Out, PC interface, remote controls
- Power: voltage selector 110-120/220-240 V, 50 - 60 Hz

**PKI 2265**

## Room Transmitter (PCB)

Wherever monitoring transmitters have to be used in disguised operations, this micro transmitter is the perfect choice, as it has been especially designed for camouflaged operations. Therefore, and to reduce the size to its minimum, just the printed circuit board (PCB) is supplied. For each and every government department's operation, this tiny little transmitter should be used for discrete observation of rooms. Because of its small size and unobtrusive pattern, it is a perfect tool to monitor rooms from inside a hidden place. A film-size plastic cover protects the components against environmental influences. Powered by battery and equipped with a highly sensitive microphone, this transmitter can be placed into any object of daily use and picks up the sound from up to ten meters. The crystal controlled transmittance

guarantees a totally stable frequency which only can be received by our special receivers like **PKI 2220**. Depending on surrounding conditions, a transmitting range of 800 to 1000 meters may be achieved.

**Specifications:**

- Easy to disguise
- Looks like installed standard parts
- Smallest dimensions – easily hidden in products of daily use
- UHF frequency around 427 MHz
- Crystal controlled
- 1-10 mW output power
- Battery operated
- Power supply 3-9 V DC

**PKI 2270**

## Telephone Transmitter (PCB)

In many cases of observation the telephone conversations have to be monitored. With the **PKI 2270** such tasks can easily be done. Due to its small size and unobtrusive appearance, this transmitter really is the champion in its class. The transmitter is supplied as a printed circuit board (PCB) only and is coated with a special protective lacquer which protects it against environmental conditions. This allows a fast and easy installation into every kind of analogue telephone set in which it looks like a standard component being completely inconspicuous to the user. The installation inside the telephone set should be made in serial mode; both polarities are allowed. **PKI 2270** is only transmitting when a telephone conversation starts and therefore is non-detectable when the telephone is not in use. Another advantage is the independence from

short-lived power supplies like batteries as the unit is continuously powered from the telephone line.

**Specifications:**

- Easy to disguise
- Looks like installed standard components
- Automatic off-hook detection
- Long term unattended operation
- Quick installation
- UHF frequency around 427 MHz
- Crystal controlled
- 5 mW output power
- Antenna via telephone cable
- Serial mode connection
- Both polarities allowed
- Dimensions 30x14x7 mm



**PKI 2275****Mains Transmitter (PCB)**

Monitoring of rooms essentially needs to have camouflaged transmitters, but in most cases no new items can be placed into the room in question. Therefore already existing devices have to be used and equipped with an unobtrusive transmitter. For this purpose, the **PKI 2275** is the right solution. Due to the very small size of this printed circuit board (PCB) mains powered transmitter, it does not need much space and very easily can be concealed in sockets, lamps, junction-boxes etc. Additionally the protective cover with a special lacquer shields from occasionally unwanted contacts and short-cuts. Depending on existing power supply, the **PKI 2275** can be supplied either in 110 to 115 VAC/60 Hz or 220 to 240 VAC/50 Hz versions. The integrated microphone of highest sensitivity allows to capture sounds from a distance of up to 10 meters. With its output power of 4 mW a

transmitting range of up to 800-1000 meters may be achieved (depending on surrounding conditions).

**Specifications:**

- Small size
- Easy to hide within existing objects like mains sockets, power distribution or lamps, radios etc.
- Looks like standard parts when installed into such products of daily use
- Infinite operation time
- UHF frequency at around 427 MHz
- 4 mW output power
- External antenna
- Mains operation by 115 / 230 V AC
- Highly sensitive electret microphone
- Dimensions 28x28x6 mm

**PKI 2280****Long Term Transmitter**

In every specific case it is difficult to select the most suitable transmitter for monitoring a room. Whether extended operation time, high output power or small dimensions are the main factors - at every time the operator has to make his own decision. But we have the right solution for all of these purposes. Every possible device for large transmitting ranges, high output powers and/or other features may be found in this catalogue. With the **PKI 2280** we offer a battery operated transmitter with the main advantage of extended operation time with one single set of batteries only. The supplied set of different battery adapters enable a variety of operation times from 24 hours to a maximum of approx. 2100 hours. The output power of 1 mW allows transmission in ranges of several hundred meters within the UHF-radio band.

**Specifications:**

- Continuous operation time of 24 to 2100 hours with one battery set depending on type of battery
- High sensitive microphone
- Various types of batteries supplied
- Set of battery adapters included
- Small size by SMD technology
- Crystal controlled
- UHF frequency at around 427 MHz
- 1 mW output power
- 5 KHz modulation/deviation
- Dimensions 14x22x8 mm

**PKI 2285****Long Range Transmitter**

Whenever large transmitting distances for monitoring devices have to be achieved, the **PKI 2285** really is the ideal instrument. The advantage of this monitoring transmitter, produced by **PKI Electronic Intelligence GmbH** is to cover distances of up to 1,5 km, just by using a single, standard 9 V battery. The maximum distance, of course, always depends on the surrounding conditions and the use of a suitable receiver. For this we highly recommend our **PKI 2220**, which is directly adjusted to the transmitting frequency by means of the same crystal. **PKI 2285** is small enough for a camouflaged or even body-worn operation. With its solid aluminium housing the **PKI 2285** even can withstand rough handling and harsh environment. Although its output power is very high which allows a large transmission range, its operating time can be up to 10 hrs with just one standard battery.

**Specifications:**

- High power output for extended distance between monitoring area and receiver station
- High sensitive microphone
- Internal and external microphone also for body worn operation
- Metal housing for excellent transmission
- Battery operation by 9 V battery
- Up to 10 hours operation time
- UHF frequency at around 427 MHz
- SMD technology for smallest dimensions (34x16x8 mm only)



**PKI 2290**

## Voice Activated Transmitter

In many cases the monitoring of a suspicious room has to be effected over a long time period, but the room only can be entered once and the monitoring device has to be installed quickly and easily. Furthermore this monitoring device can only be operated by batteries and should be activated only when persons are in the room. Therefore and in order to save battery capacity, the **PKI 2290** has been developed according to the latest technology standards as it is automatically activated by reception of noises/sounds. Whenever there is no sound, the built in automatic voice control (Acoustomatic) will switch the transmitter into a stand-by position.

This will save the battery capacity and also will make the transmitter being undetectable when not in use.

**Specifications:**

- Only activated during conversations
- Adjustable Vox-level control
- Adjustable delay period (5-20 sec)
- Economic power consumption
- Long operation time (approx 12 hours with 9 V battery)
- High sensitive microphone
- External microphone as option
- UHF frequency around 427 MHz
- 20 mW output power
- SMD technology for smallest dimensions (34x16x8 mm)

**PKI 2295**

## Advanced Remote Controlled Transmitter

Special areas continuously have to be observed but monitoring conditions may vary. For this task we, the **PKI Electronic Intelligence GmbH**, have developed the state-of-the-art **PKI 2295**. For any government agency this device is indispensable. The remotely controlled transmitter offers various functions. Its output power can be adjusted from 10 to 40 mW according to requirement either for shorter or larger transmitting distances. The lower output power will allow an extended battery life time at a reduced transmitting distance, while the higher output power provides a maximum of transmitting distance with a limited operation time. Furthermore a remotely controlled on/off switch is provided in order to save battery capacity and/or reduce the risk of being detected.

**Specifications:**

- Remote control on multiple functions
- Protection against counter measure
- High sensitive microphone
- Mains and battery supply
- 15 hrs operation by battery (9 V)
- Infinite operation from mains
- UHF frequency around 427 MHz
- Selectable 10 / 40 mW output power
- Crystal controlled
- Dimensions 48x28x8mm transmitter 140x77x24 mm remote control unit

**PKI 2300****PKI 2305****PKI 2310****PKI 2315****PKI 2320**

## Series of PKI Camouflaged Transmitters

All objects within this series are completely disguised transmitters and ready for use. They are used both in commercial and in private sectors. Providing an extraordinary sensitivity of the microphone all these camouflaged transmitters will capture sounds from approx. 10 m distance like all our other transmitters. Even whispered words will be transmitted wirelessly.

**Specifications:**

Several surveillance operations are only possible by using camouflaged transmitters hidden in objects of daily use or in body worn items. For this, we, PKI Electronic Intelligence GmbH offer a wide range of standard camouflaged transmitters such as:

- **PKI 2300 Table Lamp Transmitter**
- **PKI 2305 Remote Controlled Socket Transmitter**
- **PKI 2310 Keyring Pendant Transmitter**
- **PKI 2315 Cigarette Lighter Transmitter**
- **PKI 2320 Belt Buckle Transmitter**

Many other applications and implementations into products of daily use can be done according to buyer's request.

Each transmitter placed in such objects is a part of our own production. Full technical details are given upon request.





## PKI 2325

### Throwing Audio Transmitter

In many situations secret discussions are held in open areas and it always requires a large range of know-how, special technical devices and fantasy to pick up such conversations. This throwing transmitter covers all these criteria and has especially been constructed by **PKI ELECTRONIC INTELLIGENCE GmbH** for government agencies being involved in such special tasks. Thanks to its extremely strong construction, its very short antenna and long operation time the **PKI 2325** is the best choice for such applications. Just put the lithium battery cell into the unit and it is ready for operation. Now throw the **PKI 2325** into the direction of the persons to be observed. The highly sensitive microphone will pick up every sound from a distance of approx. 10 meters, so that even if the transmitter will not match the direct and correct place, the spoken words

clearly transmitted from the receiver can be stored on any recorder.

#### Specifications:

- Used wherever conversations take place outside. Just throw the **PKI 2325** directly to that place and listen.
- Special aluminium housing for high impacts with smallest dimensions of 20mm diameter x 10 mm only
- UHF frequency at around 427 MHz
- 3 mW output power
- 5 KHz modulation
- High sensitive microphone - 62 dB
- Operated by standard lithium cell
- Long operation time of 24 hours



## PKI 2330

### Digital Spread Spectrum Audio Kit

This Digital Spread Spectrum Audio Kit is the only answer to tasks where highest levels of security are required for monitoring purposes. The digitally scrambled signal is nearly impossible to decode and furthermore it will be transmitted on special frequencies spreaded over a wide frequency band. An unwanted listening to this transmission therefore is totally impossible.

#### Specifications:

##### Receiver

- Frequency: 300 – 400 MHz
- Receiver Sensitivity: -90 dBm +/-1 dBm
- Antenna: connector SMA (for using Yagi antenna)
- RF Bandwidth: > 40 MHz
- Audio Bandwidth: 6 KHz
- Audio: internal speaker / external

headphone connector

- Power supply: internal 9 VDC standard block battery or external 5-12 VDC mains adapter
- Power: consumption 40 mA
- Dimensions: approx. 90 x 35 x 113 mm

#### Transmitter

- Frequency: 300 – 400 MHz
- Active Range in City: approx. 250 - 400 meters
- RF Bandwidth: > 40 MHz
- Audio Bandwidth: 6 KHz
- Microphone: built-in
- Power Source: 2,5 – 9 VDC
- Power Consumption: approx. 1mA
- Operating time: approx. 60 days using a 9 V block battery
- Dimensions: approx. 11 x 4 x 36 mm



## PKI 2335

### Coded Monitoring System

This system consists of a concerted transmitter and receiver. Each sound from up to 10 meters will be captured up by the sensitive microphone of the transmitter and will be transferred wirelessly to the receiver in a coded form and then will be decoded at that place. Therefore this system is the ideal tool whenever monitoring tasks have to be carried out without the risk of unwanted listeners. Although this device is comparatively low priced, its capacity is amazing in regard to secured monitoring transmissions. Additionally the small size and the low weight of the transmitter allows a fast and easy installation wherever it is required. The built-in battery (9V standard) provides a continuous operation of approx. 15 hours.

#### Specifications:

- Set of transmitter and receiver for a secure, coded audio transmission where no third parties are allowed to listen.
- Built-in dynamic compressor
- Small sized transmitter 48x30x12 mm
- Light weight handheld receiver with dimensions 140x77x24 mm
- Narrow band FM modulation 5KHz
- Analogue dual band split scrambling
- UHF frequency around 427 MHz
- 15 hrs battery (9 V) operation



**PKI 2340**

## Frequency Hopping Transmitter System

Whenever unwanted listeners have to be locked out, the **PKI 2340** is the only solution. The method of frequency hopping transmissions worldwide is known as the most undetectable version of communication and as the one and only procedure to give total security to all kinds of radio communications. This state-of-the-art, digitally encrypted monitoring system is achieved by the use of latest electronic technologies and micro processors with the guarantee of highest reliability. Although the monitoring transmitter is equipped with a large number of electronic components, it still is compact enough to be hidden inside rooms fast and easily.

**Specifications:**

- Extensive protection against detection by digital encryption
- 2-channel transmission
- 500 hops per second with a hopping frequency range of up to 100 MHz
- 10 MHz of random hopping spread
- Burst length < 100 ms
- Transmitting frequency:  
850 – 950 or 750 – 850 MHz in buyer's option
- Burst radio remote control
- Dimensions: receiver 61x145x221 mm


**PKI 2345**

## Digital Recording Set

This system solves each problem in terms of long-time observation and is the most secure monitoring device available at this time. A great advantage of this system is that monitoring of telephone lines and observation of a room can be done without having an operator at site all the time. Monitoring and transmission is only made if necessary, i.e. that operation is only effected whenever it is secured that no other person can listen to the transmitting frequency. **PKI 2345** operates totally noiseless. Additional accessories for telephone observation, whether digital or analogue, as well as an external microphone for room monitoring can be connected. The digital recorder stores all telephone and room conversations. By means of the supplied remote control the stored information is transferred to the receiver by just pressing one button. From the integrated receiver all such information can be heard or stored on a separate medium.

**Specifications:**
**Analogue telephone adapter**

- Power supply from telephone line
- Connection in series
- Dimensions 10 x 20 x 6 mm
- Weight 120 g

**Digital telephone adapter**

- Power supply from telephone line
- Connection via S-Bus of ISDN
- Dimensions 40 x 20 x 10 mm
- Weight 200 g
- Channels A or B with jumper-adjustment

**Digital recorder with digital transmitter**

- Recording time up to 480 minutes
- Digital transmission 500 : 1
- Power supply 2 x Alkaline batteries type AAA or mains adapter
- Connectors for telephone adapters and/or microphone
- Weight 55 g

**Remote control receiver**

- Frequency range UHF-range, coded
- Power supply 9V-battery or mains adapter
- Dimensions 100 x 60 x 20 mm
- Weight 220 g

**Remote control transmitter**

- Frequency range UHF-range, coded
- Power supply 9 V battery
- Dimensions 140 x 75 x 22 mm
- Weight 350 g
- Operating distance approx. 1000 m

**Receiving station**

- Sensitivity - 109 dBm at WFM, -118 dBm at NFM
- Frequency range 400 – 470 MHz
- Power supply 7,2 VDC Lithium battery
- Dimensions 125 x 60 x 38 mm
- Weight 1.2 kg

**Digital transmitter**

- Frequency range 400 – 440 MHz
- Power supply from digital recorder
- Dimensions 55 x 25 x 15 mm
- Weight 240 g



## PKI 2350

### ISDN Connection with Miniature Digital Recorder

The complete system consists of a tiny little transmitter and a miniature digital recorder. The transmitter can easily be installed into a telephone set or directly into the ISDN-line for a continuous monitoring and recording of both sides of telephone conversations via ISDN-lines. The full conversation will be recorded by the supplied digital recorder, which will only start when a telephone conversation begins. This saves storage capacity and provides a long-term recording. Each message automatically is date/time stamped by the built-in real-time clock and stored messages can be played back using an earphone or downloaded to a PC as standard sound files. Furthermore the recorder incorporates a high sensitivity microphone, which covers a typical range of up to 8-10 meters.

#### Specifications:

- Professional connection to any ISDN- telephone system with automatic recording of conversations on digital recorder
- up to 140 hours recording time
- Automatic channel selection via jumper at S-bus of ISDN central
- Easy connection by supplied cables between S-Bus and recorder
- Digital recorder included
- VOX (voice control) of recorder is supported



## PKI 2355

### Telephone Probe Transmitter

The unit is used for a fast and uncomplicated installation on telephone lines whenever time is limited and the room can only be entered once. It stands for continuous monitoring of telephone lines whilst there is no need for a fixed connection directly into the wires. Just clip the clamp over the telephone wires and the conversation of both parties can be heard via the supplied headphones. Additionally the **PKI 2355** provides a radio transmitter within the UHF range. Just by switching this on, the full information and the complete conversations will be transferred wirelessly to a corresponding receiver. Due to the high output power of the integrated transmitter a range of several hundred meters can be achieved (depending on surrounding conditions).

#### Specifications:

- The only way to monitor telephone lines without opening these
- No detection or location by TDR-reflectometers
- Quick and easy installation by just placing the clip over the telephone line and switch on transmitter.
- UHF frequency around 427 MHz
- 20 mW output power
- Direct connection to headphone or recorder
- Dimensions 85x61x22 mm



## PKI 2360

### ISDN-S-Bus Telephone Transmitter / Receiver

The complete system, consisting of transmitter and receiver, is to be used especially for ISDN-Bus telephones with a direct connection to S-Bus of NTBA. Each part of the system features small size, robust metal housing and easy handling. The minimised size of the transmitter allows an easy installation into the junction box at NTBA S-Bus. ISDN channel selection provided by a jumper and the high output power of approx. 20 mW is the guarantee for a transmitting distance of at least several hundred meters. Under good surrounding conditions even one kilometer or more is possible. The receiver is equipped with connection for any digital recorder.

#### Specifications:

- For direct connection to S-Bus of NTBA
- Wireless transmission of all conversations to supplied receiver
- ISDN channel selection by jumper
- Battery operated receiver with dimensions 55x25x112 mm
- Transmitter's power supply by NTBA
- 20 mW output power at around 418 or 433 MHz
- Dimensions 65x35x15 mm



**PKI 2385****Voice Recorder Watch**

For completely unobtrusive voice recording our watch equipped with an integrated microphone is the perfect equipment.

The fully functional watch captures conversations of up to 5 m distance on its digital recorder and stores them on its 256 MB flash memory. Recording up to 9 hours is possible with one battery. Playback can be done via PC or directly by earplug.

**Specifications:**

- Power supply: Hi-Li-ion 150 mA / 3,7 battery
- Dimensions: standard watch
- Microphone: elektret
- Flash memory: 256 MB integrated for 16 hours recording, 9 hours per battery
- USB interface: 1.1 (max. 5 Mbps)
- Frequency: 20 Hz – 20 kHz
- Compatible operating systems: Window 98/Me/NT/2000/XP

**PKI 2390****Hybrid Recorder with Remote Control and Data Transmission**

In these times nearly everything is possible in terms of surveillance. A small black case comprises a microphone, digital recorder as well as a remote-controlled transmitter/receiver and can be activated via remote control. The recorded information will be transmitted digitally and wirelessly to the corresponding digital receiver, also with built-in recorder.

Powered by mains, the camouflaged **PKI 2390** can now capture information during years and recordings can be listened to at any time as per the eavesdropper's request. In spite of this incredible performance, the housing of **PKI 2390** only measures 95 x 55 x 18 mm.

**Specifications:**

- Dimensions/weight:  
95 x 55 x 18 mm, recording device 170 g  
125 x 60 x 38 mm, digital recorder incl. remote-controlled transmitter 220 g
- Frequency: 868 MHz

**Recorder**

- Recording time: 70 hours
- Frequency: 500 Hz – 3500 Hz
- Miscellaneous: power supply by mini power plug 100 – 240 V AC.  
DC-socket for 9-12 V battery included

**PKI 2405****PKI 2410****PKI 2415****PKI 2420****Digital Transmitter / Receiver Set with Remote Control**• **PKI 2405 Digital Room Transmitter**• **PKI 2410 Digital Phone Transmitter**• **PKI 2415 Digital Stethoscope Transmitter**• **PKI 2420 Digital Receiver with Remote Control**

This set offers all possibilities for digital monitoring. Whether the **PKI 2405** for room monitoring with battery and power plug, the **PKI 2410** for phone surveillance, the stethoscope **PKI 2415** or the receiver **PKI 2420** - all digital transmitters are remote-controlled on/off (integrated in receiver) and low-high power. The digital receiver has a sensitivity of -109 dBm on WFM and -118 dBm on NFM. Power of remote-control is 3 W on ASK modulation, burst time will be 6 sec. The integrated loudspeaker transmits audio power up to 300 mW. Li-polymer batteries (rechargeable) 7.2 V DC for power supply are integrated in the set. Furthermore, the receiver is equipped with 100 memory channels as well as search and scan function.

**Specifications:**

- Frequency: 400 – 440 MHz
- Modulation: FSK@100 KHz
- Audio coding: nonlinear PC M
- Data transmission rate: 100 kb/sec
- Power output:  
low power + 10 dBm  
High power + 18 dBm
- Power supply:  
3.6 V Lithium battery 230 mAh
- Microphone: Electret
- Audio dynamic: 15 dB
- Operating time:  
standby up to 10 months,  
low power 7 hours, high power 2 hours
- Frequency for remote-control:  
315 MHz
- Dimensions:  
48 x 23 x 12 mm **PKI 2405**  
60 x 40 x 15 mm **PKI 2410**  
50 x 30 x 12 mm **PKI 2415**  
120 x 54 x 34 mm **PKI 2420**





**PKI 2425****Digital Audio Recorder**

The **PKI 2425** is an all-in-one high quality Audio Recorder system with MPEG 2 Layer 3 (MP 3) compression for recording and transmission by internal GSM 900/1800 HSCSD modem. The recording time is min. 12 hrs stereo (extendable to 24 hrs) with adjustable bandwidth from 3 to 8 kHz on compact flash ATA memory. Power control is effected by SMS. The PCbased system management software provides full command of the **PKI 2425** audio recorder including download and audio playback.

**Specifications:**

- Audio Bandwidth: min. 3 to max. 8 kHz
- Audio Compression: MPEG II – Layer 3 (MP 3) with selfadapting data rates
- Microphones: 2 external microphones with cabling up to 5 m including

phantom power and single switching of the mics

- Record modes: tape recorder mode or loop recording mode with Pre-Roll
- Time control: internal realtime clock with dump battery, hardware watchdog
- Memory (Media): compact Flash ATA
- Data transmission: GSM 900 / 1800 (HSCSD) full speed USB 2.0 interface
- Actual Download rate: 9,600 bps – 28,800 bps
- Upload Transfer Data: remote control commands, firmware updates
- Power supply: typ. 12 V DC, 8 to 15 V DC self resetting fuse 500 mA
- Operating Temperature: -10°C to +50°C

**PKI 2430****Digital Data Link**

The wireless digital data link system consists of a Digital Transmitter with internal remote controlled receiver and a Receiver with internal remote controlled Transmitter. The **PKI 2430** wireless digital data link is based on USB 2.0 full speed interface. The transmitter is connected to the **PKI 2425** audio recorder to read out data and to transmit it error-free and encrypted to the **PKI 2420** Receiver, which is connected to any PC or Notebook. Operation of the system is controlled either by pre-programmed time periods or directly remote controlled by software.

**Specifications:**

- Up-Link: band of operation: 902-928 MHz (ISM) with 27 FDMA channels
- Down-Link band of operation:

340-370 MHz with 31 FDMA channels (carrier separation 1 MHz)

- encryption: encrypted link
- Keystream: complex, nonlinear sequence with a keystream length of >280
- Key: programmable
- Randomizing: overlay code generator (on multiframe), nonlinear sequence with a length of 220

**Transmitter**

- RF Power 1 W max.
- Power Control 30 dB
- Supply Voltage 6 -15 V DC
- Dimensions: 140 x 80 x 30 mm

**Receiver**

- RC Transmitter: 1 W max.
- Supply Voltage: 6 -15 V DC
- Dimensions: 160 x 100 x 28 mm

**PKI 2435****Bone-microphone Communication System**

This highly sensitive "Bone Vibration Microphone" is the perfect solution for any disguised communication. It is the only system available with a wireless push-to-talk button (PTT). This unique system consists of a bone-microphone, an inductive loop, a wireless push-to-talk button and a wireless ear-piece. The complete set can be connected to any mobile phone, monitoring receiver or commercial transceiver (walkie-talkie). For assembling the system with the correct connector, we only need to know the type of communication system to which the **PKI 2435** should be adapted. For any special application the different connecting plugs are available. For any further technical details please contact us with your special request and we shall immediately give you our personally tailored proposal according to your specific requirement.

**Specifications:**

- Microphone type: omni-directional electret microphone
- Output impedance: at 1 KHz 4,4 KOhm
- Frequency range: 101 Hz – 10 KHz
- Sensitivity: at 1 KHz (dB re 1V/1PA) -33 +/-3 dB
- Power supply: 1,5 to 10 VDC
- Operating temperature: - 17 to + 63°C
- Length of induction loop 80 cm
- Power supply: for induction loop directly from receiver
- Input signal: max. 2 V effective
- Impedance: 40 Ohms
- Battery: operation time min. 1 year
- Operating distance: of loop approx. 45-90 cm



**PKI 2440**

## Wireless Miniature Earphone

This new set especially has been developed for the professional use in disguised operations. Due to its high quality of voice transmission, and in combination with the inductive receiver it offers the ideal solution for all these purposes. A coil, connected to a suitable receiver, inductively transfers the signals in a range of up to 20 cm to the earphone. The coil has to be fixed on the shoulder, underneath the shirt. Then it is perfectly disguised and no cable connection to the earphone is required. The earphone is powered by an integrated coin cell battery. The set includes the inductive loop, push-to-talk button (PTT) with integrated microphone, distribution box, inductive receiver and suitable plug to customer's communication system.

**Specifications:**

- Unobtrusive, nearly invisible system
- Wireless information to disguised earphone with smallest size
- Inductive coil hidden inside clothing transfers signal from any receiver to earphone
- Especially useful with PKI's receivers and radio systems
- Battery operated earphone
- Inductive coil powered by receiver
- Variable loudness on earphone

**PKI 2445**

## Miniature Receiver

This small device is really a phenomenal achievement in the field of electronic microchip technique. **PKI 2445** is the worldwide smallest in-the-ear receiver. This earphone-receiver should not be missed in any observation where tasks have to be carried out in public areas. A complete VHF Receiver, with integrated power supply, by means of a small-sized coin cell, is placed in an ordinary earphone. It picks up the required signal and performs a perfect sound reception. The specially developed circuit board offers audio functions which normally only can be expected by large and professional radio receivers. **PKI 2445** is equipped with a carrier-frequency- controlled squelch, noise filter, automatic frequency control (AFC) and two adjustable volume levels.

**Specifications:**

- Max. Distance: approx. 1.000 meters
- Frequency range: 138 – 240 MHz special frequencies upon request
- Operation time: up to 15-30 hours
- Automatic Frequency: Control included
- Squelch and Noise Filter: included
- Accessories: Cleaning set, batteries, etc. are included

**PKI 2450**

## Digital Audio Recorder

The high professional technique of the **PKI 2450** is self-explanatory. A 16 MB flash memory and SD/MMC-card slots plus direct connection to a PC are only some of the features this unit provides for a perfect recording and further-on handling of conversations which may be taken from even 10 m distance. Adjustable microphone sensitivity and automatic gain-control are further features of the **PKI 2450**. Also, the built-in and adjustable sound-level-control (VOS) prevents from unwanted recordings, i.e. these will only be made when there is a noise or conversation inside the monitored room. In case of evidence, the date and time will also be stored. A Super-High-Sound Quality is stored with a sampling rate of 11,5 Kbps. Downloads of recorded data to a PC is possible on a fast rate of 500:1; and vice versa with 1200:1 for uploads from PC to recorder.

**Specifications:**

- Recording time
  - 160 minutes "HQ" - high quality
  - 220 minutes "SP" - standard play
  - 480 minutes "LP" - long play
- Display large backlight LC-display
- Memory functions: once, daily, weekly
- Indicators
  - LED – green – for playback
  - LED – red – for recording
  - Battery capacity indicator
- Connectors: Sockets for earphone and microphone
- Power supply: 2 x Alkaline batteries, Type AAA
- Weight: approx. 55 g (without batteries)
- Accessories: CD for installation
  - USB-connecting cable for up-/downloads
  - Earphone, External microphone, Audio cable connection



**PKI 2455****Needle Microphone with Amplifier**

In some cases it is only possible to listen into a room through very small openings that can be used for the insertion of room-monitoring microphones in order to capture the spoken words. For this purpose our **PKI 2455** is the right choice to solve such problems. The complete unit comes with a highly sensitive and tiny little rigid microphone plus a pocket-sized amplifier. The electronic unit amplifies the incoming signals and offers a direct listening via headphones (included) or recording on any kind of recorder, whether analogue or digital. VOX-operation i.e. sound-level control of incoming signals is provided for an extensive use of the recorder for a fully automatic operation.

**Specifications:**

- **Microphone**  
highly sensitive electret microphone placed in rigid tube of 2,5mm diameter and 300 mm length
- **Acoustical distance:** up to 10 m
- **Operation time:** up to 60 hours
- **Microphone connection**  
2,5 mm jack
- **Power supply:**  
9 VDC standard block battery from amplifier also powering the microphone
- **Total weight:** approx. 200 g
- **Dimensions of amplifier:**  
approx. 95 x 60 x 25 mm
- **Accessories** Headphones included
- **Recommended recorder** **PKI 2450**

**PKI 2460****Digital Audio/Video Pocket Recorder**

No way to have smaller dimensions with the same features like the **PKI 2460** offers. With its size of 80 x 52 x 22 mm it really fits into a cigarette package and can perfectly be used for mobile and disguised observation tasks. In combination with our **PKI 5745** camera, it unites to a complete bodyworn system with most effective camouflaging. The on-screen display allows a very simple handling and each input can be done directly at the unit. For playback, a TFT-monitor is integrated (larger monitors can be connected). Audio and video recordings are stored on a 4 GB SD-card with approx. 65 minutes per 1 GB i.e. up to 260 minutes of recording time is possible. The relating SD-card slot is integrated into the unit. **PKI 2460** will also supply the necessary 12 VDC power for the camera.

**Specifications:**

- **Recording format:** AVI
- **Resolution:** 720 x 480 pixel, colour
- **Memory capacity:**  
up to 4 GB on SD-card, SD-card slot integrated
- **Power supply:**  
Li-Ion accumulator with charger/mains adapter, external power supply is also possible.
- **Dimensions:**  
approx. 80 x 52 x 22 mm
- **Weight:** approx. 90 g
- **Features:**  
Slow-motion-recording  
Single-picture recording
- **Connectors:** Audio input, PC interface, Mini USB 2.0

**PKI 2465****Wireless Mobile Phone Set**

For any secret service department the **PKI 2465** is an essential tool for covert communications. With this set, a disguised, unobtrusive and hands-free conversation over the mobile phone network is possible. Whenever you are using the **PKI 2465** with the mobile phone, you can hear and speak unperceived by others. The microphone is integrated into the inductive coil, which also transfers the received signals to the wireless earpiece. This tiny little wireless receiver is to be placed in the ear. The inductive coil just has to be placed around operator's neck and connected to the mobile phone. As standard, a mobile phone type NOKIA 3120 is supplied. Other types are available upon request. Then the mobile phone can easily be hidden in the pocket of a jacket or trousers without hindering operator's mobility.

**Specifications:**

- **Microphone:**  
highly sensitive electret, integrated into induction coil
- **Receiver:**  
inductive operating ear-piece
- **Power supply:**  
3 coin-cell batteries, type 675
- **Weight:** approx. 80 g



**PKI 2470****Needle Microphone with Amplifier**

Sometimes a room is only accessible via tiny holes or cracks, where only a needle microphone is small enough to be introduced and to capture conversations from inside the room. The signals are amplified by the integrated amplifier, so that direct listening via headphones is possible. The **PKI 2470** is equipped with an input socket for our digital recorder **PKI 1865**. Sounds are electronically adjusted, which means that low sounds are more amplified than louder sounds, so that the volume is maintained at a constant level.

**Specifications:****Microphone:**

- Highly sensitive electret microphone
- Needle  $\varnothing$ : 1.5 mm x 200 mm
- Range: approx. 10m
- Connection: 2.5 mm RCA
- Power supply: supplied by amplifier

**Amplifier:**

- Dimensions: 34 x 20 x 114 mm
- Power supply: 9 V battery
- Operating time: approx. 60 hours
- Accessory: head phones
- We recommend combination with our recorder D 1300

**PKI 2475****Larynx Headset**

The **PKI 2475** is especially designed for use at places with high ambient noise in order to assure a clear acoustic transmission. The larynx microphone records only vibrations of the larynx and no sidetones. Loud noises especially during open field operations won't disturb clean transmission anymore.

**Specifications:**

- Larynx microphone: Dual
- Plug-in connector: modular
- Plug: double 2,5/3,5 mm
- PTT-button: with clip

**PKI 2480****Security Headset**

This headset has been designed for discrete radio communication of security staff. The small, separate transmitter button can be fixed with a clip, a flesh-coloured earplug with a transparent and flexible tube and a miniature microphone offer clear transmission of the communication.

**Specifications:**

- Double plug: 2,5 / 3,5 mm
- Microphone: Electret
- Version: IP 55

**PKI 2485****PKI 2490****Noise Cancelling Earphone, Noise Cancelling Headphone**

In order to eliminate loud environmental sounds, such as street noise, etc. when receiving acoustic signals by a receiver, a directional microphone or a laser eavesdropping device you need this noise cancelling earphone and headphone. The miniature microphone of the earphone/headphone captures and eliminates the background noise so that a clear understanding without any disturbance is possible.

**Specifications:**

- Sensitivity: 110 dB S.P.L. at 1 KHz
- Impedance: 32 Ohm
- Frequency range: 20 Hz – 20 KHz

**Maximum input power:**

**PKI 2485** – 10 mW

**PKI 2490** – 100 mW

**Driver unit:**

**PKI 2485** – 13 mm

**PKI 2490** – 40 mm

• Active noise reduction level:  
40-1500 Hz \_ 10 dB at 300 Hz

• Cable length: 1,5 m

• Plug: 3,5 mm gold plated

• Power supply by: 1,5 V battery type AAA





## PKI 2500

### Digital Noise Filter System

Secret audio-recordings of wireless transmissions or direct recordings via digital-recorders most often need to have an after-treatment. This especially is necessary in cases where noises from surrounding sources are detrimental. Such unavoidable - but yet disturbing sounds - might be created by air-conditions, traffic, wind or any other noise-creating engine. We, **PKI**, as a leading manufacturer of surveillance systems hereto can offer a perfect solution to this problem, namely our **PKI 2500** Noise Filter System. With this device every department worldwide - like police, secret service or any other state-owned organisation - is able to restore and enhance such poor quality recordings. **PKI 2500** is based on a special software solution for filtering of noise-corrupted sound recordings.

#### Specifications:

Consisting of 19 different processing modules:

- Graphical equaliser
  - Manually adjustable equaliser sliders
  - Adaptive broadband noise filter
  - Adaptive frequency compensation filter
  - 4 adaptive stereo filters
  - Adaptive inverse filter
  - Pulse-like interference filter
  - Dynamic processing module
  - Waveform visualisation module
  - Playback speed alteration module
- Improves signal-to-noise ratio up to 50dB for tonal noise, up to 20 dB for broadband noise Operates as "Direct X plug-in" in any common sound editor Free adjustment of filtering parameters



- Restoration and enhancement of poor quality recordings
- Improvement of speech intelligibility
- Real-Time Noise Reduction

## PKI 2600

### Surveillance System Via UMTS Mobile Phone

The **PKI 2600** is the best long-range eavesdropping device in the market providing both audio and video coverage. It has been extensively tested in many countries, where it worked faultlessly and received excellent reviews. It is fully programmable and offers key features like:

- 180° adjustable camera lens
- Highly sensitive microphone for clear listening from up to 10 m
- Operator can make a call from the phone even if it is in surveillance mode.
- The target can be monitored in real time from anywhere in the world without using high power transmitters and receivers.

#### Specifications:

Within a second by "switching off the phone" (with a special code), the phone changes to surveillance mode with: dead screen, ringer off and keypad disabled. It is now ready to operate as an audio/video transmitter with infinite range. Whenever now the operator wants to see and listen to the target he only has to dial into that phone. **PKI 2600** automatically will answer, without indication to the user. The system only works with 3G phones (WCDMA). Please make sure that there is a 3G coverage and that a valid UMTS card is inserted. If a 3G connection is not available only the audio channel can be used. Once the phone is logged onto network, it may be used normally to make and receive video and audio calls like any other phone.



## PKI 2605

## PKI 2610

### GSM Surveillance Mobile Phone, GSM Surveillance Box

Both systems vary in their different fields of application. **PKI 2605** GSM Surveillance Mobile Phone preferentially is used for unobtrusive and concealed audio transmissions in mobile and flexible tasks, like conferences etc. The **PKI 2605** GSM Surveillance Mobile Phone is a highly sophisticated, modified GSM phone with enhanced Audio Pickup for secret listening into its surrounding area. **PKI 2605** uses a second SIM-card for the monitoring of persons at any time and place - regardless if the original GSM mobile is switched on or off. **PKI 2610** GSM Surveillance Box - on the other hand - has been developed by us for fixed installations, like in buildings, cars etc. Both systems will capture every conversation within a radius of 10 m and transmit this over GSM network worldwide. Both these units can easily be activated by just dialling the phone-number in question, no ringing or other status will be activated. Only by this

technique it is possible to monitor into every room and to every person without any range limits.

#### Specifications:

##### PKI 2605

- RF Power GSM class 2
- Power Supply /
- Consumption internal Lithium-Ion battery, standby time up-to 16 days, operating time 3-5 hrs
- Dimensions ordinary Standard Nokia cellular Phone with 2 SIM - cards and 2 GSM-units

##### PKI 2610

- RF Power GSM class 2
- Power Supply /Consumption 11 – 15 V DC External Power Supply standby = 40 mA, operation 600 mA, operating time 3-5 hrs
- Dimensions 170 x 82,5 x 7,5 mm



- Direct monitoring over GSM Network
- World-wide surveillance access
- Monitoring without range limits
- Multiple fields of application

**PKI 2615** **PKI 2620** **PKI 2625** **PKI 2630**

## GSM Room Monitoring, GSM Telephone Monitoring, GSM Stethoscope GSM Camouflaged Monitoring Socket or Table Lamp (on request)

These transmitters can be called via mobile phone worldwide. According to their configuration you can now capture conversations in rooms, at remote phones or from outside by stethoscope. Camouflaged GSM transmitters in a monitoring socket, table lamp etc. are invaluable for such purposes as well. Very comfortable is the power plug as this offers unlimited monitoring possibilities. The installation is easily done. You simply have to insert a customary SIM-card (mobile phone card) and you can call the GSM transmitter in question and listen to the conversation in the room where the GSM transmitter is installed. No noise will be audible when calling the GSM transmitter.

### Specifications:

- Power supply: 3,7 V DC, 800 mAh, rechargeable battery or power plug according to version
- Battery life: 48 hours standby time, then charging necessary  
(only valid for **PKI 2620** and **PKI 2630**)
- GSM-frequency: 900 MHz / 1800 MHz / 1900 MHz
- Microphone: Electret, except GSM stethoscope (sound wave receiver) Basic part for all 4 items  
GSM/SMS communication or GPRS TCP/UDP connection Possibility to obtain the target's latitude and longitude by SMS or GPRS and check position on Google earth auto report position information of the last location if the target enters into the blind area
- Monitoring and SOS feature
- GOS chipset: SirF III chipset
- Dimensions and weight:
  - PKI 2615** 51 x 46 x 17 mm, 80 g
  - PKI 2620** 51 x 55 x 17 mm, 100 g
  - PKI 2625** 51 x 46 x 27 mm, 120 g
  - PKI 2630** 380 x 60 x 60 mm, 280 g



**PKI 2635**

## GSM/GPS Audio Recording and Real Time Tracking

This complete surveillance device, integrated in a solid case, allows eavesdropping of the interior of a car and localizes its actual position at the same time. The system includes a complete set with all accessories, except the necessary SIM-cards.

### Specifications:

#### General data

- Dimension: 280 x 110 x 70 mm
- Weight: 2,15 kg.
- External power supply: 8-15 VDC
- Built-in battery: 12 V DC, 1300 mAh

#### Internal GSM

Standard frequency: 900/1800 (1900 on request)  
Frequency response: 200 Hz – 3700 Hz  
Antenna connector: SMA female  
Modem: 9600 AT command standard

#### Internal GPS

##### General

- Frequency L1, 1575.42 MHz
- C/A code 1.023 MHz chip rate
- Channels 20
- Max. update rate 1 Hz
- Processor speed 6, 12.5, 25 and 49 MHz
- Data bus 16 bit

##### Accuracy

- Position Autonomous: 10 meters  
CEP without SA
- SBAS: < 5 meter
- Velocity: 0.1 meters/second, without SA
- Time: 1 microsecond synchronized to GPS time

#### Date

- WGS-84

#### Time to First Position

- GSM < 20 sec., average
- 3 G < 20 sec., average
- CDMA < 16 sec., average
- Hot start < 18 sec., average
- Hot start (open sky) < 1 sec., average
- Cold start < 42 sec., average

#### Sensitivity

- GSM 15 dBHz

#### Power Consumption

- Stand-by: 210 mA
- With 2 wire ON and communication
- with headphone plugged and speaker
- ON max. volume: 400 mA
- With 1 GSM ON and communication with headphone plugged and speaker
- ON max volume: 600 mA (average)
- With 2 GSM ON and communication with headphone plugged and speaker
- ON max. volume: 1200 mA (average)
- Storage temperature: -10 – 80°C
- Operating temperature: -20 – 70°C
- Local maximum temperature: -20 – 55°C



- GSM antenna impedance: 50 ohm
- GSM antenna type: Biband passive, SMA male
- GSM transmitting power: class 4 (2W) a EGSM 900 Class 1 (1W) a GSM 1800 e GSM 1900
- GSM frequency band: dual-band EGSM 900/1800 GSM 850/1900
- GSM frequency band: active 3V, male SMA
- GSM frequency band: GPRS multi-slot class 10, class B mobile station
- Chipset and simultaneous satellites: SIRF STAR III 20 channels (200.000 correlations)
- GPS aerial impedance: 50 ohm
- GPS position accuracy: < 10 m CEP SBAS < 5 m
- Date GPS: WGS84
- GPS tracking speed: 500 km/h or lower
- GPS sensitivity: -159 dBm
- Time to first fix: 45 seconds standard
- GPS re-acquisition: 8 seconds

## PKI 2640

### GPS Vehicle Tracking System

This device combines the GSM/GPRS technology with a GPS receiver. The housing is water-proof and can easily be attached with a magnet to the target's car. The integrated motion sensor activates the device when driving and stops it at still stand with short delay. The antenna is equipped with a cable of 1,5 m length for proper installation. Information about position of the car will be transmitted to a mobile phone via normal cellular network and corresponding software.

#### Specifications:

- Dimensions: 70 x 25 x 400 m
- Weight: 100 g
- Power supply: external 3.6 V DC
- Communication: GSM GPRS / SMS
- Data capacity: 100 000 GPS points
- Operating temperature: -20° to +60°C
- Antenna: 50 ohm, dual band
- Transmitting power: 1 W
- GSM-frequency: 900/1800
- GPS-antenna: active 3V, 50 ohm
- GPS-sensitivity: -159 dBm typical
- Option: Audio monitoring is possible upon request.



## PKI 2645

### GPS Mobile Phone Location

With the **PKI 2645** you can locate the position of a mobile phone, respectively a person with an accuracy of +/- 250 m. It works all over Germany and is completely unobtrusive. The location found is sent either via SMS to your mobile phone or via internet, so that you are always informed, where the located person is. Any mobile phone with valid contract or pre-paid card can be used. Registration and installation can be done by us. Also available is a tapping function, by means of which you can listen to the conversations in the environment of the mobile phone. Please contact us for further details.

#### Specifications:

- Mobile phone networks: O2, D1, e-plus, Vodafone
- Suitable mobile phones: all standard mobile phones
- Operating time: 24 hours
- Information system: internet or SMS to a mobile telephone
- Remark: A registration SMS must be sent to the mobile phone that shall be located
- Comes with: locating software



## PKI 2650

### GSM Monitoring Transmitter

The future has already begun. This GSM monitoring transmitter can be called with a standard phone from all over the world. It allows monitoring of conversations from wherever you are. As soon as **PKI 2650** captures sounds and conversations it sends a SMS to your phone and you can listen to the conversation. Its sensitivity is adjustable via SMS. All you have to do is to insert a standard SIM-card in this device. **PKI 2650** works completely noiseless! This device allows clear transmission of conversations from all over the world which is absolutely fascinating!

#### Specifications:

- Network: GSM 900 / 1800 / 1900
- Power consumption: 20 mA standby mode, 200 mA monitoring mode
- Audio surveillance: -75dB
- Voice control: environment voice filtering or direct human voice sensor
- Device configuration method: password protected SMS text message
- LI-battery: 3.7 V DC at 900 mA
- Charging voltage: 5V – 6V DC 500 mA
- Charging input volt: 100-240 V AC
- Dimensions: 53 x 36 x 13 mm incl. battery
- Weight: 40 g



## PKI 2660

### GSM Monitoring Transmitter and GPS Tracking Device

This miniature monitoring device can be called from all over the world. Not only eavesdropping (inside, in a car or outside) is possible but also the location of the user. The device works with a standard SIM-card, protected by a password. Equipped with external antennas and a 10-36 V DC power supply it allows professional installation and optimal transmitting and receiving signals even under difficult conditions. **PKI 2660** can be connected to every car or truck power circuit. With the built-in Li-ion batteries of 3,7 V and 1500 mAh a standby-time of 48 hours is possible in case of power failure.

#### Specifications:

- Network: GSM / GPRS / GPS
- Band: 850 / 1800 / 1900 MHz or 900/1800/1900 MHz or 850/900/1800/1900 MHz
- GPS chip: SIRF 3
- GSM/GPRS module: Siemens MC 56
- GPS sensitivity: -159dBm
- GPS accuracy: +/-5 m
- Start-up time: cold status 45 s, warm status 35 s, hot status 1 s
- Working voltage: 10 V – 36 V DC
- Power supply: 3,7 V 500 mAh Li-ion rechargeable battery
- Standby: 48 hours



- Storage temperature: -40°C to +85°C
- Operating temperature: -20°C to +55°C
- Humidity: 5% - 95% non-condensing
- Dimensions: 85 x 63 x 25 mm
- Weight: 160 g



**PKI 2670****GPS Personal Tracking System**

The **PKI 2670** is an easy to use, but very efficient GPS tracking system offering the possibility to determine the exact location of a person. Its use is password-protected and it allows comfortable and easy control of a specific person. After switching-on, the **PKI 2670** works fully automatic and does not need any further data input or control. The operation status is indicated by 4 LED's. The position data is given every 60 seconds, either by pressing the "INFO" button or by activation of the integrated movement detector. This informs the operator of the location of the person, incl. name of town and street name. This information can also be shown on digital maps. The full data of the last 120 days can also be recalled. Furthermore, the supplied communicator allows direct calls from the system operator to the user and, by using the

"INFO"-button", the user can call for attention. The status of the "INFO-button can be transmitted to five different e-mail addresses. If **PKI 2670** is not moved it automatically switches back into stand-by mode and on detection of movements immediately returns into active mode. This automatic energy saving technology makes the built-in Li-Ion battery so efficient and allows continuous operation of up to 12 h.

**Specifications:**

- Weight: approx. 110 g
- Height: 8,6 cm
- Housing: ABS-plastic
- Operation time: 12 hours continuously
- Status transmission: every 60 seconds
- Power supply: Lithium-Ion battery, rechargeable

**PKI 2700****Digital Surveillance System**

This device especially is designed for absolutely professional use only. Smallsized, lightweight but sturdy aluminium housings distinguish every part of this system. The risks of interception and detection during critical observation tasks are reduced to a minimum. Depending on the surveillance situation the internal or external microphone can be activated. By this the **PKI 2700** ideally can be used for room as well as body worn operations. The transmission signal is created and scrambled in a digital pseudo-random code so that a highly secured transmission is guaranteed, so that the device provides a most secure and protected listening technique being hardly detectable.

**Specifications:****A) Transmitter Frequency**

- Between 300 MHz and 1 GHz typically 430-460 MHz or 850-870 MHz
- Output power: + 5dBm @ 850 MHz or + 10 dBm @ 433 MHz
- Modulation: FSK @ 76.8 kb/s
- Control: On/Off remote control from

receiver, internal or external microphone switching power level, audio gain

- Concealment: digital pseudo-random code scrambling
- Power supply: 2.5 to 6.5 VDC
- Dimension: 50 x 30 x 6 mm

**B) Receiver Frequency**

Between 300 MHz and 1 GHz, typically 430-460 MHz or 850-870 MHz

- Sensitivity: -97 dBm @ 850 MHz; -100 dBm @ 450 MHz
- Antenna: 50 Ohm connection, short whip antenna supplied
- Output: Headphone capable output, suitable for recording
- USB: interface
- Physical housing: Professional aluminium enclosure, can easily be body-worn or carried in a pocket
- Power: 1.5 VDC - takes internal AA cell
- Dimension: 102 x 62 x 20 mm



- Highly secured transmission
- Protected against counter measurements
- Designed for agent protection
- Frequency 430 – 460 MHz or 850 – 870 MHz

**PKI 2710****Disguised PC Observation System**

**PKI 2710** is the best possible unit to store any kind of signal from PC's. **PKI 2710** can be used in combination with every common PC, independent from the operating system. Of course, this unit also stores BIOS-Passwords of the monitored PC, enabling the observer to enter into any protected file of the PC-user. Camouflaged as an ordinary adapter between PC and keyboard, the **PKI 2710** stores up to 2 Mio signs, numbers and characters from the keyboard inputs. It is a perfectly disguised and effective way of PC monitoring as it can be installed within seconds. Just disconnect the keyboard from the PC and place the unit in

between. By this "PLUG AND PLAY" method an immediate monitoring of everything what the user is doing on this specific PC is stored and can be downloaded.

**Specifications:**

- Cable length: approx. 35 cm
- Fast and easy installation between keyboard and PC by means of connecting cable (plug and play)
- Storing capacity up to 2 Mio signs
- Stores BIOS passwords for easy access to any protected file being in use on the PC
- Unobtrusive as it looks like an ordinary adapter





## PKI 2715

### Computer Interception System

„Tempest“ is the common term for every kind of radiation emitted by computers. Each device and part - such as printed circuit boards, monitors and connecting cables - emit a specific radio signal (compromising radiation) which may contain the fullscreen content of the actual operation of the computer in question. Such signals can be received and reconstructed with our **PKI 2715**. This provides a fast and easy monitoring of a PC in order to see what work actually is done on this. By means of a directional antenna and the special receiver, the incoming data is synchronised and analysed. The received signal then can be seen on the provided display. Depending on type of computer to be monitored the max. distance may vary from approx. 10 to 50 meters. The complete system is supplied by us to government departments

exclusively in order to guarantee full prevention from unauthorised persons committed with industrial espionage, terrorism or any other criminal act.

#### Specifications:

- Scope of supply:  
Directional antenna,  
Special receiver,  
display
- Others:  
Due to security reasons no further technical data is mentioned here. Please contact us for full technical specifications indicating the position in your government department.



## PKI 2750

### Coded Radio Communication System

These handy radio communication systems are equipped with highly sensitive receiver for a superb receiving sensitivity which allows very good receiving distances even with the 1 or 5 Watt output power of the relative transmitters. The more important is the possibility to easily switch over from clear speech to the scrambling mode for secure communications. **PKI 2750**, with its userfriendly operation, is developed according to MIL standards i.e. a maximum of durability and effectiveness. This system can also be combined with our **PKI 2440** Wireless Miniature Earphone for perfect use in disguised operations.

#### Specifications:

- System according to MIL Standard 810 C,D,E
- User-friendly operation
- Automatic channel selection and individually programmable channels
- VOX function
- CTCSS / DCS subcoder for undisturbed communication with other persons using the same channel and subcode.
- Selectable calls for different users
- Pre-programmable emergency call frequencies
- Scrambling mode for secure communication
- 16 channels at 148-174 or 440-470 MHz with 12.5, 20, 25 KHz steps at 1/5 W output power (high/low-selectable)
- 7,5 V DC rechargeable battery, 1300 mA/h for 9 hours operation time
- 0,35µV receiver sensitivity
- Dimensions 130x42x60mm



## PKI 2755

### Duplex Communication

The use of these duplex communication devices is especially valuable when quick and easy observation is required. The pocket device works on full-duplex-procedure, i.e. transmitter and receiver use different frequencies at the same time which allows a communication like on the phone. Listening and speaking can be done simultaneously without any switching.

#### Specifications:

- Dimensions: 140 x 54 x 28 mm
- Weight: 120 g
- Frequency: 263 – 393 MHz
- Power: 1,2 W
- Channels: 21
- Max. user: 99
- Operating range: approx. 4 km

- Power supply: Li-ion battery 7,2 V
- Comes with: LCD display with light, micro processor controlled, PLL-system, charger



**PKI 2760**

## VHF or UHF Radio Set with Integrated Scrambler

This sound and handy radio set with power output of 4 W can be fixed by clip to any belt and is therefore always available when needed. **PKI 2760** offers various features which allow professional operation. Up to 128 memory channels are selectable. By means of the Vox-function it provides hands-free action which is very important for surveillance. The built-in scrambler makes transmission safe and avoids undesired eavesdropping. In order to offer long operating time the device can be switched manually from Hi to Low.

- Call tone: 1750 Hz
- Repeater tray: available
- Scan and priority channel function: available
- Scrambler: built-in
- Display: LCD with backlight
- Squelch: adjustable in 9 steps
- Keylock: available
- Channels and frequencies: selectable via keypad
- Power supply: battery pack 1200 mAh
- Various: comes with charger for Li-Ion battery, further radio sets available on request


**Specifications:**

- Dimensions: 115 x 63 x 31 mm
- Weight: 195 g
- Frequency: VHF 136 – 174 MHz, UHF 400-470 MHz
- Transmission power: 4 watt
- Channel distance: 25 kHz / 12,5 kHz

**PKI 2775**

## Scrambled GSM Phone

Most people think that mobile phone calls cannot be eavesdropped or tapped because the system already uses encryption. Unfortunately this is not the case! Actually in most countries the signals are encrypted between the mobile phone and the base station but this data stream can be decrypted with a normal PC. It is even easier to tap GSM phones with a device that simulates a base station which inserts itself between the mobile phone and the provider network. In Germany such easy-doing eavesdropping causes damages of approx. 10 billion Euro per year just in the field of industrial espionage. **PKI 2775** offers the right choice in order to be prevented from this! Each **PKI 2775** works with an individually generated and certified key pair. These are stored on the net card which is inserted into the phone. If another **PKI 2775** (which has its own individual key pair) is called, using the crypto function, the partners are authenticated by means of the two key pairs and the two chip cards. A "one-off" session key (one out of 1038 possible keys) is generated and this is used only for this single communication. This session key encrypts all signals transmitted between the two phones. Whoever intercepts this encrypted data stream will only hear a noise which cannot be decrypted even with the highest performance mainframe computers. **PKI 2775** operates efficiently in all standard 900/1800 MHz GSM networks in all countries. In addition to the integrated encryption system **PKI 2775** has all the features of a normal, Up-to-date business mobile phone. It still can be used for unencrypted calls to any other phone. For all encrypted and secure communications as well as for all unprotected calls your standard SIM card is used - therefore you do not have to change your phone number in order to use all **PKI 2775** features.

**Specifications:**

- Dual Band GSM 900/1800 MHz
- Full graphic display (106x56 Pixel)
- Rechargeable battery 940 mAh (Li-Ion E)
- Standby time up to 350 hours
- Talk time up to 7 hours
- Hybrid encryption method  
RSA 1024 / IDEA 128 Bit
- Weight 106 grams
- 100/200 phone book listings on the SIM card
- SMS service

- Secure communication in insecure networks
- Interception-proof
- 2-step encryption method
- Easy handling
- Lightweight and small-sized



## PKI 2800

### Room Monitoring System Via Mains

The **PKI 2800** is a low frequency transmitter/receiver set using AC power cables for transmission and power supply. Although intended for audio surveillance of rooms, the system can be used as a general purpose security device to prevent from unauthorised entry of rooms in question. The built-in audio compressor reliably captures of all sounds inside a room. The transmitter is supplied for installation by the customer into suitable electrical fittings (adherence to instructions given in manual accompanying the equipment is mandatory). Transmitting time is unlimited since power is derived from power cables to which the unit is attached. Additional extras like recording devices of any kind are available upon request.

#### Specifications:

##### A) Receiver

- Power Supply: 110 – 240 V AC
- Control functions: squelch, AFC and audio output
- Frequency range: 1,6 – 2,5 MHz
- Dimensions: 180 x 90 x 50 mm
- Weight: 1,2 kg

##### B) Transmitter

- Frequency range: 1,6 – 2,5 MHz
- Modulation: NB FM
- Deviation: +/- 6 kHz
- Operating voltage: 110 – 260 V AC
- Dimensions: 35 x 45 x 15 mm
- Weight: 140 g



- Room Monitoring via mains line
- Unlimited operation time
- highly sensitive microphone
- compact size

## PKI 2850

### Electronic Stethoscope

This low-priced economical unit is ideal for long-time observation without entering the room but to listen into it from the outside through solid structures. Where the human ear is inadequate **PKI 2850** makes audible what has previously seemed impossible. The pocket-sized unit can perfectly be body-worn and whenever needed it will be at hand for quick and easy installation. By means of the professional amplifier, and in combination with the highly sensitive contact microphone, conversations and/or noises can be heard through walls, windows or any other solid material. Simply fix the contact microphone by the supplied mastix-material to the best possible surface and listen by means of the electronic amplifier and the supplied headphone directly into the observed room. The amplifier of course is equipped with volume control and output socket for a recorder.

ket for a recorder.

#### Specifications:

- Amplifies each kind of sound vibration transferred via solid structures like windows, walls, central heating pipes and doors by means of a contact microphone making these audible from the outside
- Simple installation by fixing the contact microphone with the supplied mastix-paste
- Battery operated for up to 800 hours
- Dimensions: 95x60x25 mm amplifier, 50x35x15 mm contact microphone
- Headset and carrying-bag included



## PKI 2860

### Wired Monitoring System

Most observation tasks today are done by wireless microphones, the so-called "bugs". Beside these, more sophisticated systems like optical lasers, IRMonitoring Systems, GPS, GSM and computer monitoring systems are used. All of these you may find in this catalogue and are supplied by us. But still there is a demand for a conventional monitoring system using wired microphones. **PKI 2860** is the best choice for such purposes. With its thin cable and sub-miniature microphone it does not emit any high frequency radiation and perfectly matches the tasks of long-term observations in stationary use and it is hardly detectable. **PKI 2860** provides a perfect audio quality with which even whispered words can be heard and recorded. The standard version of the **PKI 2860** comes with a 50 m cable and can be cascaded by optionally available cables (each 50 m length) up to a total distance of 500 m without any loss of audio quality. The supplied high-capacity and low-noise audio-

amplifier is equipped with an audio input socket, a socket for ear-phone plus an output for any kind of recorder.

#### Specifications:

- Dimensions of amplifier 22 x 64 x 98 mm
- Weight of amplifier approx. 150 g
- Power supply: 9 V block battery or 110/220 VAC via mains adapter (not included)
- Frequency range: 250 to 3500 Hz
- Amplification adjustable up to 30.000 times
- Operating time up to 50 hours with battery unlimited with mains adapter





**PKI 2870****Global Listening Device**

The possibility to monitor specific areas from anywhere in the world is always requested by our governmental customers. This is given by this unit that works via the mobile telephone network. Small-sized, tiny and absolutely noiseless - that is what our high-tech listening device **PKI 2870** characterises. With its small dimensions of approx. 65 x 65 x 28 mm only it can be placed anywhere in a room, a car or any other place which has to be observed. Just put in a standard SIM-card (like used in mobile phones), place the unit in an unobtrusive location and leave the space. That is all what you have to do. From now on you can listen into this area by just dialling the known number of the **PKI 2870** and you can listen into this space. With your mobile phone, and from any place in the world, you will hear the

crystal-clear transmission of each sound and/ or conversation inside this area.

**Specifications:**

- Transmitting frequency:  
GSM 900 MHz / 1800 MHz
- Operating time: standby 14 days  
listening 12 hours
- Power supply: Li-Ion accumulator and  
external power supply via supplied mains  
adapter/charger
- Microphone: highly sensitive Electret  
microphone, with amplifier and automatic  
uniform control for dynamic range
- Dimensions: approx. 65 x 65 x 28 mm
- Weight: less than 200 g

**PKI 2900****Professional Stethoscope Kit**

The **PKI 2900** has been developed for covert surveillance purposes or general security installations. The excellent noise performance combined with high gain capability and automatic compressor makes the unit suitable for a wide range of applications and operating environments. The low power consumption facilitates unattended operation. Each Kit is supplied with a low-noise microphone amplifier, compatible with subminiature microphones, a 5 band graphic equaliser (all in one portable housing) and 2 different stethoscopes (each one for wall and window mounting). Output-sockets for headphones or speakers as well as recorders are provided at the receiving unit.

**Specifications:**

- Max. gain 100 dB
- Equaliser type: 5 band graphic
- Filter frequency:  
300, 600, 1200, 2400, 4800 Hz
- Adjustment range: +/- 10 dB
- Stethoscope type: Piezo crystal
- Stethoscope size:  
approx.  $\varnothing$  20 and  $\varnothing$  35 mm
- Output Phone: 4-16 ohm, 100 mW
- Output: Tape 200mV at 50 Kohm
- Power supply: 9 V block battery
- Battery: lifetime approx. 20 hrs
- Dimension: 130 x 50 x 180 mm



- Excellent noise performance
- High gain capability
- Automatic compressor circuit
- Integrated equaliser
- Fully portable
- Battery operated

**PKI 2910****Professional Voice Changer**

In many cases of disguised observations it is indispensable to have telephone conversation with the person in question. Under such circumstances the observer should not be identified by his voice. Especially in cases of taking hostages with following black-mails, the **PKI 2910** is the best possible tool for not identifying the caller's voice. In real-time, i.e. without any delay, the voice will be changed from male to female or even children and vice versa. It can be used from any mobile telephone, **PKI 2910** offers a wide spectrum of frequency changes, is highly portable and can be used with any type of telephone or even mobile phones. Transmission is effected by the supplied acoustic-coupler. Just connect this acoustic-coupler to the microphone of your telephone and use the microphone of the **PKI 2910**. The integrated pitch, Mi-balance and formant adjusters are creating the change of voice frequencies.

**Specifications:**

- Dimensions:  
approx. 180 x 120 x 30 mm
- Weight: approx. 280 g
- Power supply:  
9 VDC block battery
- Effective adjustment:  
3 sliding switches
- A) pitch control – for increase or  
decrease of audio frequency
- B) formant control – regulates the  
tone pitch
- C) Mi-Balance – regulates the  
mixture between original voice  
and required effect





**PKI 2915** **PKI 2920**

## Parabolic Directional Microphones

These transparent parabolic mirrors, in combination with the built-in low noise and high capacity amplifiers, offer the best audio-unidirectional characteristic being physically possible. The **PKI 2915** and **PKI 2920** just differ in the diameter of the parabolic mirror. With the **PKI 2915** - having a diameter of 60 cm - a distance of approx. 100 m can be achieved, while with the **PKI 2920** - having a diameter of 85 cm – approx. 150 m can be reached.

**Specifications:**

- These units reach the physical limits of possible sound-pick-up from distant sources
- Two versions available: **PKI 2915** with 60 cm and **PKI 2920** with 85 cm diameter

- Transparent, oval mirrors made of high impact resistant plastic material
- Enormous amplification due to pick-up sensor of latest generation
- 9V block battery operation and sockets for headphone and recorder
- **PKI 2915** the big ear for 100m distances
- Headphone included
- Weight approx. 380 gr.
- **PKI 2920** for more than 150 m distance
- Headphone included
- Weight approx. 400 g

**PKI 2925**

## Directional Microphone

Whenever it is necessary to listen to a conversation at outside areas and from a certain distance, the **PKI 2925** is the best possible choice. This unit is constructed as a directional microphone in the form of a tube. Such types more easily can substitute parabolic mirrors, as their shape is less obtrusive compared to parabolic mirrors. That eases the way of camouflaging during operation. Even from inside a car, with opened windows, or from hidden places in open terrain, the **PKI 2925** can be used. But in order to come as close as possible to the physical advantages of such parabolic mirrors, the **PKI 2925**, in buyer's option, can be supplied in two different lengths of tubes with the same efficiency. For a best possible handling, an ergonomical-shaped handle is supplied, which can be detached if required. The complete set,

incl. headset and accessories comes in a ruggedized, splash-proof hardcover case.

**Specifications:**

- Pick-up of sounds and conversations from far away
- Selectable filter for high/low frequencies
- Separate amplifier with adjustable amplification and volume control
- Power supply: 9 V
- Socket for external recorder/headphone
- Headphone included
- Weight 525 grams with 350 mm tube

**PKI 2930**

## Directional Microphone within a Cigarette Box or Mobile Phone

This exceptionally small-sized directional microphone captures acoustic signals from up to 100 m distance, which are amplified up to max. 10.000 times by its integrated low-noise high-power amplifier. Due to the built-in high- and low-pass filters you can listen to conversations at a distance of 50 m, as they allow especially voice frequencies to pass through and eliminate undesirable noises. It is incredible, that this is possible, particularly in this inconspicuous cigarette box. Even audio transmission is done in an excellent quality. The audio signal will be transmitted wireless via inductor (inside the device) to a miniature earplug. Better camouflage is impossible. Now you can listen undetected to conversations at the table next to you in a restaurant etc..

**Specifications:**

- Frequency: 20 Hz – 16 KHz (-3dB)
- High-/ low-pass filter: fg= 150 Hz / 5 KHz

- Power supply: standard 9 V battery
- Power consumption: max. 20 mA
- Dimensions: plastic housing in a standard cigarette box (exchangeable at any time)
- Weight: 140 g
- Amplifier: max. 10.000 times
- Play-back: via wireless earplug inductor (included)



**PKI 2940**

## Microphone Case with 8 Channels Digital Recorder

The **PKI 2940** Microphone Case is equipped with latest technology and designed for permanent room surveillance using wired microphones. Conversations can be monitored in up to eight different rooms and recorded simultaneously in real time with the built-in hard disk recorder which allows play-back, at a later date, of any conversation. All recorded information will be converted into digital data before storage and can be played back immediately. The recording can be split on up to 250 virtual tracks. The interface for CD-R allows the external storage without detour. Locator points and exactly to place markers make it easy to trace precisely certain positions.

Due to its extremely high storage capacity the **PKI 2940** Microphone Case is perfectly suited for a long term surveillance of conference rooms, hotel rooms and prisons.

**Specifications:**

- Frequency range: 20 Hz to 20 kHz +/- 1 dB
- Voltage distance: > 82 dB
- Distortion: less than 0,01% (at 1 kHz)
- Channel separation: > 80 dB (at 1 Hz)
- input A to C: 6,3 mm, symmetrical
- impedance: -50 dBu to +4 dBu / 4 kOhm
- input D: 6,3 mm, symmetrical
- impedance: -50 dBu to +4 dBu / 4 kOhm (mic/line), 1 MOhm (guitar)
- out-input (stereo): 2 x 6,3 mm, unsymmetrical

- impedance: -10 dBV / 15 Ohm
- total output: 2 x cinch, unsymmetric
- impedance: -10 dBV / 820 Ohm
- digital output / file: coaxial/SPDIF
- output monitor: 2 x cinch, unsymmetrical
- impedance: -10dBV/820 Ohm
- out-output (stereo): 2 x 6,3 mm, unsymmetrical
- impedance: -10dBV/820 Ohm
- remote control : 6,3 mm
- MIDI in/out: 2 x 5-pole DIN-socket
- SCSI-interface: SCSI-2 50-pole
- Earphone output: 6,3 mm , 2x 60 mW, 30 Ohm
- Power supply: 230 V AC, 50 Hz
- Power consumption: 26 W
- Dimensions: 414 x 95 x 288 mm

- Weight: 3.1 kg (main unit) 1,6 kg (power adapter)
- Microphone input: 4 ch. Stereo or 8 ch. Mono
- Microphone type: sub-min. back electret cadiod
- Cable length: 4x10 m and 4x 25 m
- Frequency response: 30 Hz- 20 kHz
- Recording resolution: 16 bit or 24 bit linear
- Sampling frequency: 44.1 kHz
- Number of tracks: 6 activ, 250 virtual
- Data storage: SCSI-hard disk 10 GB
- Recording time: up to 150 ch./h
- Interface for CD-R: SCSI-2
- Power supply: 115 /230 VAC 30 VA
- Dimensions: 490 x 430 x 165 mm


**PKI 2950**

## Microphone Cable Reel

The **PKI 2950** especially was developed for wired room monitoring applications. Due To its cable-based operation this unit is not detectable by any counter measure equipment. The subminiature electret microphone with its small dimensions and the small diameter of the shielded cable is ideally suitable to be hidden behind wallpapers, curtains or in window frames. The small dimensions of the microphone prevent from detection by measuring equipment based on analysing the non-linear junction effect generated in semiconductors. The complete system consists of the highly sensitive electret microphone with shielded connection cable, a cable reel with output socket, headphones and the separate audio amplifier. The supplied audio amplifier provides a low-noise amplification adjusted to the subminiature electret microphone of this system together with a 5 band graphic equaliser and every necessary output for direct listening or recording of conversations. Features like direct listening with headphones, a socket for recording devices and the possibility to extend the total cable length by driving different reels in cascade, fulfill all requirements for effective surveillance.

**Specifications:**
**A) Microphone on reel**

- Microphone Type: of electret
- Microphone sensitivity: - 60 dB / 1 KHz
- Bandwidth: 100 Hz – 7 KHz
- Cable length: 100 m; others on request
- Weight: 600 g
- Dimensions: ø 180 mm x 60 mm

**B) Amplifier**

- Max gain: 100 dB
- Type of equaliser: 5 band graphic
- Filter frequencies: 300, 600, 1200, 2400, 4800 Hz

- Adjustment range: +/- 10 dB
- Output phone: 4 – 16 Ohm, 100 mW
- Output recording: 200 mV at 50 KOhm
- Power supply: 9 V block battery
- Battery lifetime: approx. 20 hours
- Weight: 750 g
- Dimensions: 130 x 50 x 150 mm



**PKI 2960****Optical Microphone**

The **PKI 2960** ultra-sensitive optical microphone captures a wide range of sounds from normal conversation to soft whispering or even the shuffling of papers with excellent sound accuracy. Being designed for governmental use in SWAT, Special Task Forces and tactical operations it offers surveillance operations and applications requiring RFI/EMI immunity. A beam of light is sent through an optical fiber to a sound sensitive membrane. Sound signals cause the membrane to vibrate and modulate the intensity of the light reflected by the membrane, which is then translated into an electrical signal. **PKI 2960** delivers a high signal to noise ratio, so even very low-level sound inputs can be heard clearly and accurately from many meters away. With an omni-directional polar pattern, the **PKI 2960** can capture sounds from all directions, thus maximising voice representation. The excellent frequency response provides true-to-sound reproduction. The **PKI 2960** cannot be detected by electromagnetic methods since the microphone head neither contains metal parts nor generates electromagnetic fields and is separated from its electronic components by several meters of optical fiber. With its miniature dimensions and versatile configurations it can be installed in a variety of ways to elude discovery both by the naked eye and sophisticated detection equipment such as non-linear junction detectors. Because of its RFI and EMI immunity

the **PKI 2960** can continue to operate even in the harshest environments without any effect to its performance.

**Specifications:**

- Polar pattern: Omni-directional
- Frequency range: 250 - 4500 Hz
- S/N ratio: 65 dB @ 1 KHz 94 dB SPL
- Sensitivity: 0.3 - 1.8 V/Pa
- THD: < 1% at 84 dB SPL
- Max. static pressure on membrane: 130 dB SPL
- Output impedance: 680 Ohms (standard line input)
- Supply voltage: 9 - 12 V DC
- Current drain: 80 mA

- Operating temperature: -10 °C to +50°C
- Ambient humidity: 93% R.H. @ 40°C, non-condensing
- MTBF: > 100.000 hours
- Std. optical fiber length: 10/20 meters
- Dimensions and weight: of microphone length 21,5 mm, diameter 4,5 mm, weight 1gr
- Ultra-sensitive microphone
- Excellent sound accuracy
- EMI/RFI immunity
- Undetectable by conventional methods
- Miniature size, lightweight
- Easy to conceal

**PKI 2970****Audio Surveillance Kit**

In order to be successful in any cases of professional tasks of interception, it is indispensable to have the right equipment at hand. Such basic equipment which is supplied with this set of **PKI 2970** is the absolute minimum which every governmental organisation must have. It has been developed in close co-operation with our customers from worldwide government departments and for completing their request for solutions of every monitoring tasks to be undertaken. **PKI 2970** as a complete assembly results from our more than 40 years experience and our continuous research and development providing the latest state-of-the-art at any time. With this kit you are well prepared, even in cases of unexpected tasks. There is no doubt that the content of this kit can be adapted to our client's requests. Therefore - and this is our long lasting philosophy - we always try to stay in a very close contact to the customers and personally discuss their needs. By this, a final content, beside the standard execution can be determined.

The standard kit contains a comprehensive number of different transmitters for room monitoring powered by mains, telephone lines and battery operated listening devices (even through walls by means of electronic stethoscope with or without transmitter). A professional receiver, a digital recorder and a microphone connected by a cable of 100 m

length (other lengths are available upon request) plus a directional microphone complete the whole set, which is supplied in a solid carrying case for secure storage and outdoor handling.

**Specifications:**

- This kit contains a comprehensive number of different transmitters, receiver, digital recorder and microphones.

As standard it is supplied with:

- **PKI 2205** Room/Mains Transmitter
- **PKI 2210** Telephone Transmitter
- **PKI 2215** Stethoscope Transmitter
- **PKI 2285** Long Range Transmitter

- **PKI 2510** Handheld Receiver with Digital Recorder
- **PKI 2850** Electronic Stethoscope
- **PKI 2925** Directional Microphone
- **PKI 2950** Microphone Cable Reel
- Other combinations are available on request
- For full technical details of each item please see the relevant item number.





**PKI 2975**

## Investigation Kit for Outdoor Use

In most cases entrance to a room to be monitored is not possible and observations have to be done from the outside. Although this is the most difficult way of observation, we have the right solution. We only offer devices of latest technology developed on basis of many years of experience in this field. Our product range, as shown in this catalogue, indicates single units for specific purpose, because one universal unit covering all kind of tasks does not exist. As our customers ask for a complete set of equipment, we have assembled the **PKI 2975** Investigation Kit for Outdoor Use. Like our **PKI 2970**, this set also has been assembled in close co-operation with our customers for a best possible selection of necessary items out of our wide range of products. It consists of each and every item being necessary for room monitoring from the outside but, of course, can be adapted at any time in order to meet customer's requirement. Each set is packed in aluminium or sturdy hardcover cases for easy outdoor handling.

**Contents:**

**PKI 2215** Analogue Stethoscope Transmitter  
**PKI 2220** Analogue Pocket Receiver  
**PKI 2400** Audio Monitoring Cartridge  
**PKI 8025** Silent Drill  
**PKI 2455** Needle Microphone with Amplifier

**PKI 2850** Electronic Stethoscope  
**PKI 2900** Professional Stethoscope Kit  
**PKI 3100** Laser Monitoring System  
**PKI 3200** Infrared Observation System  
**PKI 2415** Digital Stethoscope Transmitter  
**PKI 2420** Digital Receiver

For each single item the complete technical description is listed separately in this catalogue. Depending on customer's requirement, this kit can be adapted to your specific needs. Just contact us to find the best possible solution for all what you need.


**PKI 2980 PKI 2985**

## Wireless Stethoscope mono, Wireless Stethoscope stereo



These stethoscopes find their application where the human ear reaches its limits. The acoustic receptor is very quickly fixed by provided mastic material. It can be attached to the wall (up to 50 cm thick), window, door frame etc. The miniature receiver captures the signal from a distance of up to 100 m. Longer distances are also possible if required, however, this will reduce receiving time from 30 to 15 hours. The stereo version **PKI 2985** is best suitable for operations with loud background noise such as street noise or similar. These sounds can be eliminated by our devices **PKI 2260** or **PKI 2500**. The Piezo acoustic receivers are high sensitive

and capture acoustic oscillation on hard materials, as e.g. on pipes, windows, etc. so that even spoken word are clearly audible. On request we are able to deliver a compatible recorder with 70 hours recording time (**PKI 2980R** refers).

**Specifications:**
**Receiver**

- Dimensions: 40 x 120 x 22 mm
- Weight: 85 g
- Power supply: 2 x batteries type AAA, 3V
- Housing: aluminium
- Frequency: SHF 960 – 1300 MHz

**Transmitter**

- Dimensions: Ø 32 x 20 mm
- Weight: 15 g
- Power supply: Lithium battery 3V
- Acoustic receiver: Piezo element
- Output power: 5 mW
- Modulation: WMF +/- 25kHz
- Antenna: SHF



## PKI 3000

### Outdoor Investigation Shooting Stethoscope-Kit

For more than 40 years **PKI** is engaged in AV observation out- and indoor. Consequently our product range offers numerous devices for this application. Please see our below listed devices:

#### PKI 2215 - PKI 5715.

Often the rooms which shall be monitored have only access from outside, so that due to security reasons this is the only possible surveillance method. **PKI 3000** therefore offers a very special version as now upper floors can be monitored. On activation the transmitter is shot by a launcher, that is equipped with a CO<sub>2</sub>-cartridge, up to a distance of 25 m at full speed. If the transmitter reaches a window or masonry it will stick there and wirelessly transmit the acoustic waves captured from behind the wall up to 50 m. Reception is possible by adequate wide band receivers.

**PKI 2215** Stethoscope Transmitter

**PKI 2415** Stethoscope Transmitter

**PKI 2455** Needle Microphone with Amplifier

**PKI 2470** Needle Microphone with Amplifier

**PKI 2625** GSM Stethoscope

**PKI 2850** Electronic Stethoscope

**PKI 2900** Electronic Stethoscope

**PKI 2975** Investigation Kit for Outdoor Use

**PKI 3100** Laser Monitoring System

**PKI 3200** IR-Observation System

**PKI 5715** Window Camera

#### Specifications:

##### Transmitter

- Dimensions: Ø 10 mm
- Weight: 12 g
- Acoustic receptor: Piezo-element
- HF-power: 1 mW
- Power supply: coin cell
- Monitoring time: max. 24 hours

##### Receiver

- Dimensions: 160x140x30 mm
- Weight: 180 g
- Frequency: 980 MHz-range
- Input sensitivity: 0,35µV at 12 dB
- Power supply: rechargeable battery
- Outputs: for headphone and recorder

##### Launcher

- Dimensions: 50x20x10 cm
- Weight: 2,5 kg
- Pressure: CO<sub>2</sub>-cartridge
- Range: max. 25 m



## PKI 3100

### Laser Monitoring System

This **PKI 3100** Laser Monitoring System has been designed for secret surveillance operation if access to the target room is totally impossible. The laser transmitter sends an invisible infra-red beam to the window of the room to be monitored. A certain part of the laser beam is reflected by the windowpane which vibrates slightly due to sound waves caused by the spoken words inside. Due to the law of optics, the beam is reflected in the same angle, i.e. the angle of incidence is equal to the angle of reflection. In order to capture the reflected beam in the middle of the lens the receiver must be positioned very accurately. The captured beam can now be converted into electrical signals, which - after filtering - are amplified and fed into headphones and/or recording devices.

The Laser Monitoring System **PKI 3100** consists of the following parts:

Laser Transmitter

Camera Housing

Wire-trigger

Tele-lens 135 mm

Power supply for transmitter

Cable power supply

2 pcs. tripods

Micrometer platform with adjustable x/y axis

Laser receiver

Camera housing

Wire-trigger

Tele-lens 500 mm

Recording unit & amplifier inside case

Wireless headphones

Cable between receiver and case

Searchtone-handreceiver

#### Specifications:

##### Transmitter

- Laser output power: 24 mW max.
- Laser wavelength: 880 nm
- Optical divergence: 0,5 mrad
- Optical system: 135 mm, 1:2,8

##### Receiver

- Optical system: 500 mm
- Laser: class 3 laser

#### Transmitter/receiver unit (mechanical specs)

- Weight: 1,6 kg
- Power supply: 8x UM-2
- Connectors: socket for wired connection to amplifier

#### Amplifier/Electronic unit

- System: filter amplifier
- Max. gain: 100 dB
- Equaliser type: 5 band graphic
- Filter frequencies: 300, 600, 1200, 2400, 4800 Hz



- Adjustment range: +/- 10 dB
- Output phone: 4-16 Ohm, 100 mW
- Output recording: 200 mV at 50 KOhm
- Power supply: 8x UM – 1 or mains 110-240 V AC
- Battery lifetime: up to 50 hours
- Weight: 8,2 kg
- Dimensions: 45 x 38 x 22 cm

## PKI 3200

### Infrared Observation System

Often rooms have to be monitored from the outside due to no direct access and the observation has to be effected by systems hardly to detect. For this purpose the **PKI 3200** Infrared Observation System offers the right choice. Due to its infrared light - which is completely invisible to human eyes and beyond the range of any RF scanner or radio receiver - this device perfectly meets all requirements.

The system consists of an optical receiver with pinpointed telescope, a tripod for mounting the receiver and two different transmitters for room observation. One transmitter is featuring a built-in microphone while the other one comes with a contact microphone which operates like a stethoscope to listen through walls, windows etc. The receiver is equipped with a tele-lens which allows looking into rooms from a distance of approx. 300 meters.

#### Specifications:

##### A) Transmitter Frequency 870nm IR

- Carrier frequency Standard 125 KHz
- Modulation NFM F 3
- Deviation 5 KHz
- Output power approx. 40 m
- Stethoscope-transmitter Dimensions

- 45 x 35 x 15 mm, battery 6 V
- Room-transmitter Dimensions
- 85 x 35 x 20 mm, block battery 9 V

##### B) Receiver Lens connector M 42

- Receiving principle superhet
- Dimension 500 x 120 mm incl. lens and telescope sight
- Power 9 V block battery

- Modulation
- Low rate of detection
- Monitoring of inaccessible rooms through walls and windows
- Portable system
- Easy installation



## PKI 4000

### Optical Detection Device

The **PKI 4000** is a compact and lightweight device, based on a unique patented technology and is adapted to professional and specific tasks of security activity at its maximum. Worldwide it really does not have any analogues featuring the same technical capabilities. The unit is tested and certified by professionals in the field of counterterrorism and security activities in many countries all over the world. Although being a state-of-the-art unit **PKI 4000** is easy to operate and does not require any special technical knowledge but fully meets all security requirements. **PKI 4000** provides "around the clock" the highest available security level, by minimising the risk of unwanted observation. **PKI 4000** facilitates the detection and exact location of optical and opto-electronic systems, including those covertly deployed - regardless of their type or operational principle (passive, active, laser, night-vision or other systems), level of surrounding light conditions etc. It effectively detects optical systems through double-glazed, tinted windows or windscreens whether these are hidden pinhole cameras, sniper sights, binoculars, lasers or covert video- or photo devices. It is also protected against bright light or flashes and even can identify a vehicle number plate at night.

#### Specifications:

- Working distance: according to version from 350 m up to 1200 m
- Minimum distance: approx. 0,5 m

- Field of view: 6°
- Operating temperature: - 10 to + 40°C
- Power supply: rechargeable battery 9-36 VDC or AC mains (100-240 VAC) via supplied mains adapter

- Continuous operation: up to 3 hours at fully charged battery
- Power consumption: 4 Watts
- Weight: 1,1 kg
- Dimensions: approx. 175 x 100 x 75 mm

