PMS

Portable Monitoring Systems
GSM/PSTN/IP/Radio FREQ

elaman
GERMAN SECURITY SOLUTIONS

TSU INDEX
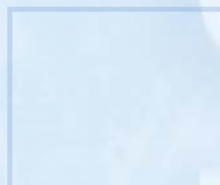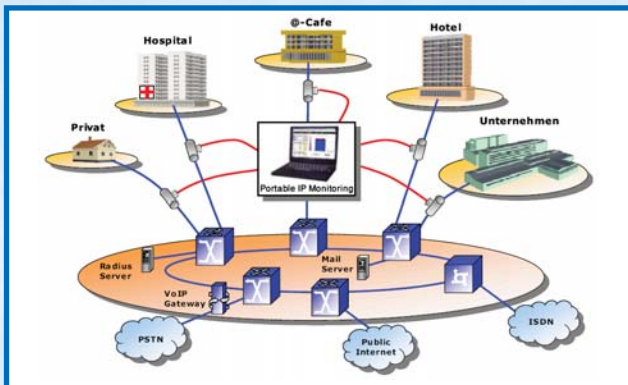
Portable Monitoring Systems GSM/PSTN/IP/RF

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Passive GSM Monitoring System   Model 4023ADV

GENERAL DEFINITION OF PURPOSE

The Model 4023 - Advanced System is designed for surveillance tasks and monitoring of telephone conversations within the GSM 900/1800 networks. The system provides the option of both stationary and mobile operation.

TECHNICAL DATA

The system ensures monitoring of audio and data traffic within standard GSM 900/1800 networks:

- Without application of encryption algorithms
- Application of encryption algorithm A5/2 [real-time] (decoding time: 0.01 sec.)
- Application of encryption algorithm A5/1 [real-time] when Ki is known (A5/1 decoding optional)
- Default configuration of the system - 8 reception channels
- The system ensures registration of radio-electronic circumstances within the radio cells to be monitored (frequency and characteristics of BCCH-channels)
- Channels to be monitored are, according to task, manually selected by the user
- The system contains a database (up to 100,000 calling partners), operating in real-time, which can be accessed corresponding to the selected search criteria and parameters
- Calling partners are identified according to the IMEISV, IMSI, TMSI, ISDN number (local and international number)
- Assessment of the presence of calling partners is monitored and identification of specific parameters (TMSI) occurs automatically by means of a mobile phone with special software. The special software is contained in the scope of delivery
- Registration and storage of telephone conversations occurs on system's hard disk
- The system ensures registration and storage as audio codec - types FR, EFR, HR
- Playback of recordings may be carried out by the system itself (CoolEdit-Software)
- Identification of SMS and DTMF data
  System's coverage:
  - Down-Link - up to 10-km
  - Up-Link - up to 500-m in city
- Assessment of coverage between calling partner and base station with accuracy of up to 550m
- Delivery format: in a special PC casing and Notebook
- Operation System software: Windows XP

Passive GSM Monitoring System Model 4023ADV

SCOPE OF DELIVERY

Model 4023 - ADVANCED, main components:

- PC Pentium 4-1.7 GHz or higher, 2 GB RAM, 80 GB HDD
- Circuit board with main generator and power supply module for receiver
- Circuit board with 8 duplex-channel receivers
- Circuit board with main processor ADP6201PCI for digital signal processing
- Data input module ADM214x10MX
- Antenna system with integrated amplifier
- Notebook with LAN interface and cable
- Special software for analysis and evaluation
- User-manual
- **Optional**: Mobile telephone with special function for assessment of calling partner's presence within the monitored GSM-cell (Ping-Handy)
- **Optional**: Mobile telephone with Net monitor

TECHNICAL DATA

	GSM 900	GSM 1800
Reception channels	8	
Target numbers	up to 1000	
Identification through	IMSI, TMSI, IMEI, Class mark, Telephone number, Distance	
Frequency range of Downlink (BTS_MS)	935 ... 960 MHz	1805 ... 1880 MHz
Frequency range of Uplink (MS_BTS)	890 ... 915 MHz	1710 ... 1785 MHz
Channel spacing	200 kHz	
Number of channel	124	375
Frequency deviation	45 MHz	95 MHz
Frequency stability	0.03 ppm	
Receiver type	wide range receiver	
Receiver sensitivity	-105 dbm	
Antenna impedance	50	
Time of frequency change in Hopping mode	< 500 µs	
Dynamics range	> 75 dB	
Volume range	25 dB	
Demodulator	GMSK, asynchrony	
Decoder	for Protocol A5-2	
Speech codex	RPE/LTP: FR, EFR	
Channel structure	TDMA/FDMA	
System software	Windows XP	
Audio format	standard Wave-format	
Power supply	220 VAC, 50 Hz; 110 VAC, 60 Hz or external battery 12 V DC	
Operating temperature range	+ 5 °C ... 40 °C	

Portable Modem Interception   Model 4001

The Model 4001 is a true portable modem intercept solution to be used in operations where direct access to the target lines is required.

This unit can be deployed in the field close to the target or installed on a permanent basis, for example, in a monitoring center. Due to the unique design of the physical line interface the system is completely undetectable by the target and is transparent to all parties on the line. making it ideal for all covert operations.

SYSTEM SUMMARY

The Model 4001 system is delivered as a complete turnkey solution, including all cables and accessories. It consists of a high quality and specially designed PSTN line interface and a lunchbox computer for recording and decoding. It is very easy to operate and it only needs a few hours of training to use it at its fullest potential.

The system intercepts all dialup modem traffic on a two wire analog PSTN line, and has no influence on normal voice or fax traffic on the intercepted target line.

V.90 and V.92 is supported but will be trained down to 33.600 from the interface box towards the target.

The target line is connected in sequence to the line interface box that in turn connects to the lunchbox computer; power it up and you are ready to go.

You can listen to any Voice over IP traffic. The audio player contains an automatic gain control filter to enhance the audio.

With these advanced tools you are able to follow whatever the target is doing on the internet and easily pinpoint any illegal activity.

Information can be copied to the built-in CD or DVD writer for presentation in court or other purposes.

The intercepted traffic is decoded into readable information for access to a broad range of tools for dealing with the intercepted data.

- Web pages
- E-mails
- Attachments
- Chat Sessions

- Web Mail
- Voice Over IP
- File Transfers
- Messenger Services

Portable Modem Interception   Model 4001

Applications	Features
- Field deployment and other temporary set-up scenarios - Permanent set-up in monitoring centers and offices - Operations where direct access to target lines are required - Internal investigations - Covert operations	- Easy set-up - Easy to operate - Automatic modem detection - Supports V.90 and V.92 - Web page decoder and viewer - E-mail decoder and viewer - Password acquisition for non-encrypted protocols

TECHNICAL SPECIFICATIONS

Internal Modems	
Protocols	V.21 Bell, V.22 Bell, V.22bis, V.23, V.32, V.32bis, V.34 (33.6 / 28.8), K56flex (56000), V.90 (56000)
Internet protocols	HTTP, POP3, SMTP, IMAP, NNTP, IRC, TELNET, FTP, VoIP H.323, ICQ, AOL IM, Yahoo IM, MSN Messenger, AOL 6, 7 & 8, Kazaa
PSTN Line Interface	
Connector	Modular plug (RJ11) in parallel with Banana Jack 4 mm with cross hole
Power Input	
Connector	IEC Plug, 115 / 230 V Selections
Power Supply	
AC input	250 W / 100-120 V / 50-420 Hz,
	200-250 V / 50-60 Hz auto select
	EN60950 EMI EN55022 Class B
Dimensions (HxWxB)	41x31x25 cm / 16.1x12.2x9.8 inches
Weight	9.75 kg / 21.5 lbs.

ENVIRONMENTAL SPECIFICATIONS

Temperature	
Operating temp.	0° C to +50° C / 32 F to 122 F
Storage temp. Range	-40° C to +70° C / -40 F to 158 F
Humidity	
Range	Max. 90%

OPTIONS

Hard Carrying Case, Dial-in Access

Model 4001 is also available with a stationary PC

Portable Voice & Fax Monitoring   Model 4002

The Model 4002 is a true portable voice and fax monitoring solution containing an extended set of features for carrying out monitoring operations on standard analog PSTN lines.

Use it as a plain Dialed Number Recorder or take advantage of the onboard facilities for doing Live Monitoring Operations with real-time access to your target's line and full control of recordings.

In Live Monitored mode the operator is in full control of the recording and has access to functions for doing legal recordings like:

- Minimize/Maximize
- Spot Monitoring
- Record On/Off
- Synopsis Editor
- Transcript Editor

The line mode can be changed dynamically throughout an operation. Recordings are triggered by:

- VOX
- On/off hook voltage
- Manually

Voice recordings are stored in GSM 6.10 format and fax recordings are stored as TIFF images in a SQL database.

APPLICATIONS

- Field deployment and other temporary set-up monitoring scenarios
- Temporary/permanent set-up in small scale listening posts
- Operations where direct access to target line is required
- Simultaneous probe and line monitoring
- Internal investigations
- Covert operations

FEATURES

- V.34 High speed fax decoding
- Voice and Fax monitoring
- 4 or 8 lines high impedant PSTN interface
- Real-time audio and signaling
- Fax Decoding – all known standards
- Remote access and administration

Portable Voice & Fax Monitoring   Model 4002

TECHNICAL SPECIFICATIONS

System Platform	Portable Lunchbox with built-in screen and keyboard
	Microsoft 2000/XP Operating System
	Microsoft SQL Server 2000 Database
Line Capacity	4 or 8 analog lines
Analog Line Interfaces	High Impedance interface according to ETS 300 001
	Voltage On/Off hook
	VOX
	DTMF according to ITU-T Q.24 ANNEX A
	Dial Pulses according to ETS 300 001
	Caller ID according to ETS 300 659-1 and BEL-202
Fax Decoding	
Protocols	All Group 3 and Group 3 Enhanced
Non Standard Transmissions	Non standard library included
Power Input	
Connector	IEC Plug, 210 / 230 V Selections
Power Supply	
AC input	250 W / 100-120 V / 50-420 Hz, 200-250 V / 50-60 Hz auto select
Dimensions (HxWxB)	41x31x25 cm / 16.1x12.2x9.8 inches
Weight	9.75 kg / 21.5 lbs.
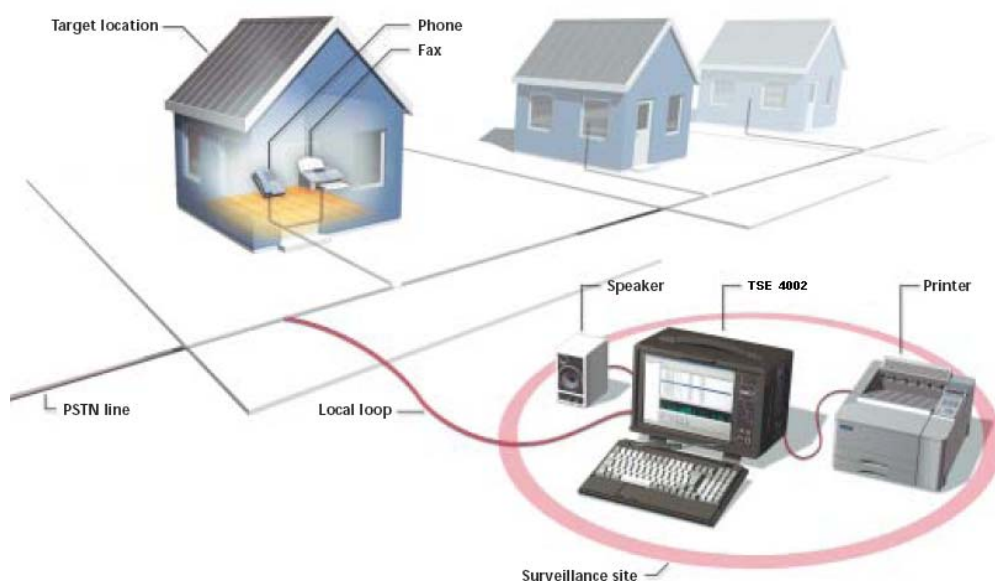
Options:

The Model 4002 comes with email monitoring option (Model 4003)

Keyghost Keystroke Capturing Device   Model 4008

The KeyGhost is powered by its own hi-tech internal chip and can store up to 2,000,000 keystrokes in non-volatile flash memory, which is a permanent memory that does not require power to retain storage.

This enables the KeyGhost to operate completely independent of the hardware and operating system that is running on the PC. These stored keystrokes are protected with state-of-the-art, 128-bit encryption.

When the KeyGhost fills up with keystrokes, the earlier keystrokes are dropped. Therefore, the user will always have a record of the latest keystrokes on the log.

Figure 1: External KeyGhost Device

The KeyGhost plugs into the keyboard cable, or alternatively, it can be hardwired inside the keyboard. It records all keystrokes from the moment the computer is turned on to the moment it is turned off. It starts operating immediately and silently, recording all keystrokes.

ADVANTAGES OF KEYGHOST:

- It picks up every keystroke – even those typed in the critical period between computer switch on and the operating system being loaded
- It cannot be removed easily if it is hardwired inside the keyboard or mounted on the motherboard
- It has a capacity of up to 2,000,000 keystrokes
- Impossible to disable from a remote location or using software alone
- It is impossible for a computer to detect it
- It is immune to magnetic fields, has no moving parts and is shock resistant
- Its access time is extremely fast
- The chance of failure is very low compared to conventional media like hard drives or CDROM discs, because it uses flash memory to store data and has no moving parts
- It is very user-friendly; users do not need to be computer experts to install it, just plug in the device to the keyboard cable
- The log cannot be modified in the KeyGhost. The log is an authentic record of what was typed, and therefore, it can be used


Figure 2. Internal KeyGhost Device

Portable IP Monitoring   Model 4010

The ever increasing mobility of communications in our society with laptops, mobile phones, WLAN and PDAs also has some drawbacks. The mobile criminal offender takes advantage of gaps in the criminal prosecution, like monitoring of WLAN-spots in internet-cafes, hotel rooms and at airports. With Model 4010 we want to help close these gaps.
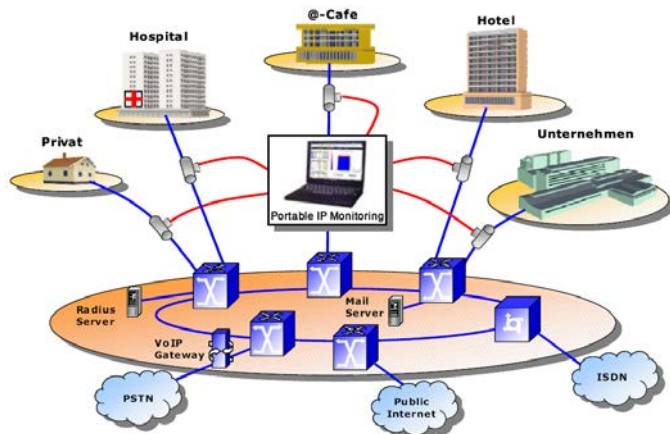
Model 4010 is a portable system for recording, reconstructing and evaluating IP-data and their applications, e.g. email, web-sessions, chat.

Model 4010 supports surveillance and S.W.A.T. teams to receive relevant information immediately on location and guarantees access.

Model 4010 read the data, filters it according to predefined filter criteria (depending on the specific usage and the legal regulations), adds a timestamp to the data and saves it in raw format in a database. Using the Analyzer User Interface the data can be reconstructed und evaluated – online or offline, residential or on location. For archiving purposes the saved raw data can be exported automatically or manually via FTP to already existing archiving media. Re-importing of archived raw data is also possible.

Model 4010 consist of three functional parts. The recording of the raw data, picked up from different kinds of communication lines, the database management for internal organizational purposes of this data and the reconstruction function to analyze and evaluate the recorded IP-based data.

Intelligence for a better world

The Internet has produced a veritable flood of communication options, which are also being used by criminal offenders.

We are an innovative provider of technology and services for monitoring, recording and reconstructing telecommunication data for carriers and law enforcement agencies. Our service concept enables carriers and Internet Service Providers (ISPs) to meet their statutory obligations in the most cost-effective way. With our Monitoring Center and its product line, state-of-the-art solutions are available for law enforcement agencies to reconstruct, analyze and archive all kinds of communication data (voice, facsimile, modem and IP-data). Elaman solutions are based strictly on the statutory specifications of the country concerned. In Germany, for instance, these are embodied in the Telecommunications Monitoring Ordinance.

Computer Keyboard Remote Monitoring System   Model 4012

INTRODUCTION

The Model 4012 system monitors activity on the keyboard of a target computer, stores the keystroke activity and transmits collected data to a remote location. The system consists of the Model 4012 T micro transmitter, which is installed in the target keyboard and detects the code of each keystroke. The Model 4012 T then stores the codes and periodically transmits the codes in short data bursts to the Model 4012 R receiver. Model 4012 R supports four basic operational strategies:
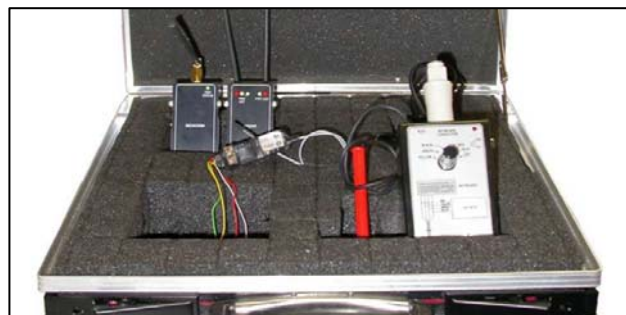
- Stores up to 2.5 million key codes in the Model 4012 R receiver memory. The Model 4012 R can then be removed or accessed to retrieve the key codes
- Displays the received key codes directly on a PC through a serial connection
- Re-launches the data using the Model 4012 GSM module for real time transmission or scheduled download
- Downloads the key codes with the Model 4012 UHF link and the Model 4012 DL. An operator within the UHF link radio range of the target can quickly download the key codes using the hand-held Model 4012 DL. The retrieved data is stored in the Model 4012 DL for subsequent display and analysis

The system operation and functional parameters can be controlled and viewed using the Model 4012 SW software, or through SMS messages. The Model 4012 SW software filters and elaborates visual analysis key code data without any modification of the original text.

FEATURES

Special features built into the Model 4012 DL simplify usage by:

- quickly downloading the key codes
- assisting in the identification of the correct connection points for the Model 4012 T

TECHNICAL FEATURES

MODEL 4012 T

Micro transmitter - Device to be installed into the target keyboard of a desktop PC

Range	300÷306 MHz at PLL
Power	0 ÷ +20 dBm (in 10 steps)
Max. Consumption	130 mA (+20 dBm) – 250 mA (+26 dBm)
Transmission	FSK a 10 Kbit/sec
	(Manchester with hamming code)
Burst	when buffer is full or periodically every minute
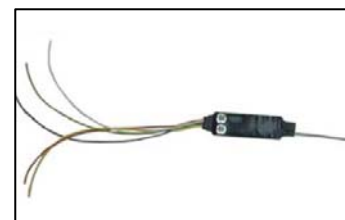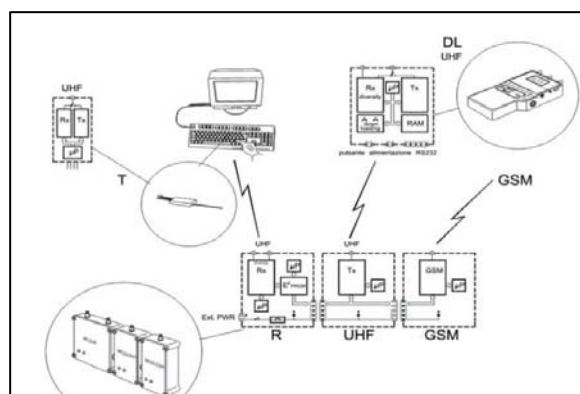
Computer Keyboard Remote Monitoring System   Model 4012

Live signal transmission every minute

Setting of 10 channels and of power

Carrier transmission for 1 minute at switching on, range check

High active digital alarm input (ex. keyboard opening sensors)

Dimensions (mm)   16 x 48 x 4

MODEL 4012 R

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

Range	300÷306 MHz at PLL
Power	supply external 12 V dc
Data receiving	FSK at 10 Kbit/sec
	(Manchester with Hamming code and Diversity)
Data memory	256 Mbit on FLASH (2.5 millions of digits)

Internal real time clock

Bar LED signaling the received signal intensity

Bar LED switching off   through SMS messages, if Model 4012 R is connected to Model 4012 GSM, or through PC

Key word alarm   alphanumeric sequence of 20 digits

Milled aluminum box

Dimensions (mm)   40 x 77 x 22

MODEL 4012 CK

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

Power supply   through 9 V PP9 alkaline batteries

Dimensions (mm)   101 x 62 x 30

MODEL 4012 GSM

GSM link - Module to re-launch data from Model 4012 R through the GSM network

Transmission on the GSM data channel

Remote control of Model 4012 R through cellular

Power supply   external 12 V dc taken by Model 4012 R

LED bar to indicate   GSM network Power supply level

Remotely controlled through SMS messages

Automatic sending of status and alarm SMS

Dimensions (mm)   40 x 77 x 22

MODEL 4012 UHF

UHF link - Module to re-launch data from Model 4012 R through UHF radio transmission with Model 4012 DL

Range   300÷400 MHz at PLL

Power supply   external 12 V dc taken by Model 4012 R

Out peak power   2 W out

Transmission   FSK at 40 Kbit/sec

Milled aluminum box

Computer Keyboard Remote Monitoring System   Model 4012

Dimensions (mm)   40 x 77 x 22

MODEL 4012 DL

Data downloader - Auxiliary module for direct down-link from Model 4012 UHF, testing and installation

LOGIC SECTION

Internal memory   32 MB
LCD graphic display   16 x 4
Menu with scroll reading
Functions   data downloading
                         Setting of new configuration
                         Download of internal configuration
Automatic data downloading procedure with GO command

RADIO SECTION

Down-link receiver
(8 preset channels)   300÷400 MHz
Systems with Diversity e retry
Down-link speed   40 Kbit/sec
Sensitivity   -107 dBm
Up-link transmitter (
8 preset channels)   300÷400 MHz
Output power   from +10 to +33 dBm in 9 steps
Power transmission adjustment into consideration of the receiving quality and internal battery status
Up-link speed   10 Kbit/sec

IN/OUT CONNECTORS

2 SMA antennas for Diversity Receiver
1 SMA antenna for the transmitter
1 USB output to program and to download data on the PC
1 jack (for audio-listening during down-link) with remote controlled GO button (automatic start of downloading procedure)
1 jack for the tester
1 miniDIN to connect PS2 PC keyboard connector (where to fix Model 4012T)
1 connector for external power supply   12 V
2 alkaline PP9 - 9 V inside batteries

Tactical GSM IMSI Grabber   Model 4013

OVERVIEW

The Model 4013 Unit is GSM Cell Simulation/Emulation equipment consisting of two dual band receivers and a dual band transmitter. The receivers are able to receive and decode clear data, transmitted by GSM cell sites and GSM mobiles. The transmitter can emulate the signals of a GSM cell site.

The equipment can be used to:

- Determine IMSI information of target mobiles
- Force position information from target mobiles
- Deny Network access for specific mobiles
- Used with Direction Finding equipment to locate specific mobiles

The unit is compact and self-contained.

The equipment offers the following functions:

- Dual band Receiver decoding Cell transmissions
- Dual band Receiver decoding Mobile transmissions
- Dual band Transmitter able to emulate local Network Cell
- In-built single board computer with hard drive
- WiFi connection to PDA terminal
- In-built battery, 12V DC operation
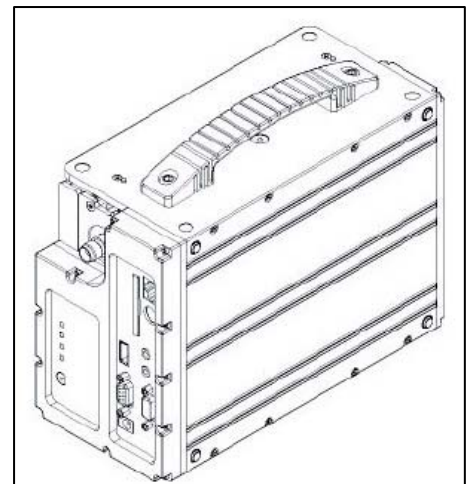
PRODUCT DESCRIPTION

The Unit has the ability to scan the local GSM network, and make a decision as to the best Cell to emulate. When transmitting the Model 4013 emulates the local cell, and elicits the IMSI and IMIE information from the target's mobile. The Unit also has the ability to send specific messages to target's mobile to gain a response, which could be used for location or direction finding purposes.

All of the Receiver functions of the GSM Network monitoring the Model 4013 are available for use in the Model 4013 application.

Tactical GSM IMSI Grabber   Model 4013

TECHNICAL SPECIFICATIONS

Interface:	WiFi, or direct connection. LAN 10/100 baseT
	CF Slot, USB, Audio sockets: Stereo out and Stereo in
	PS/2 Keyboard/Mouse 6 pin mini Din connector (combined)
	VGA connector
	RX antenna via TNC connector
	TX antenna via SMA connector
Protocol:	GSM
European model (900/1800MHz)	
Input frequency range:	
RX A 925-960MHz & 1805 -1880MHz, RX B 880 - 915 MHz & 1710 – 1785MHz	
Transmit frequency range:	
925-960MHz & 1805 -1880MHz	
American model (850/1900MHz)	
Input frequency range:	
RX A 869-894MHz & 1930 -1990MHz, RX B 824 - 849 MHz & 1850 – 1910MHz	
Transmit frequency range:	
869-894MHz & 1930 -1990MHz	
Power:	Internal +12v sealed lead acid battery
	External 12vDC at 6A max
Size:	167mm (6.6") h, 106mm (4.2") w, 235mm (9.25") d
Weight:	5 kgs. (11 lbs.) Approx

DIMENSIONS
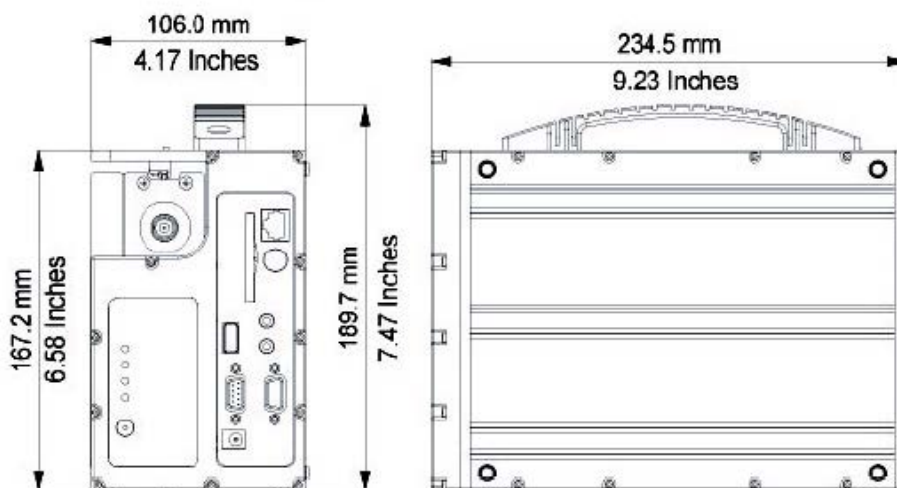
Mobile Investigator/Cloner   Model 4018

A fast, secure and easy to use forensic system for mobile phone examination

With the Model 4018 Mobile Investigator System you can download data from the SIM and the handset in a mobile phone quickly and securely. A copy of all data is downloaded in only a few minutes and can be analyzed or used as evidence.

The Mobile Investigator software guarantees that the data in the mobile phone cannot be changed or deleted.

Examples of data that Mobile investigator can download:

- Phone books – names, numbers, e-mail etc.
- Text messages – sent, received, unsent and archived
- Calls – dialed, missed and received calls
- Pictures – stored pictures and pictures taken
- Calendar information
- Tasks
- Audio files
- IMEI, IMSI

The software automatically recognizes which mobile phone is connected to the communication unit. No special setup is required to start reading the mobile phone.

Mobile Investigator has been developed in consultation with Swedish Customs, the Swedish Police and the Swedish National Laboratory of Forensic Science with feedback from the UK Police.

COMMUNICATION UNIT

The Mobile investigator communication unit can communicate with the mobile phone via IR, Bluetooth or cable. The unit connects to a PC via a USB. The communication unit is built to be flexible, robust and portable, to suit both fieldwork and office work.

USB

Connection to a USB cable makes it easy to connect all kinds of mobile phones. Mobile Investigator is delivered with a USB interface. You can use either the mobile phone manufacturer's cables or our cables.

BLUETOOTH

Bluetooth is a standard feature of many newer phone models.

Mobile Investigator is delivered with Bluetooth interface.

IR

Infrared is still very common as a feature in mobile phones.

Mobile Investigator is delivered with IR interface.

Mobile Investigator/Cloner   Model 4018

HARDWARE KEY

Mobile Investigator Software can be installed in an optional number of computers. To carry out an examination of a mobile phone just connect the communication unit using the USB key that comes with the system.

The key also counts the examinations.

CHARGING

A smart universal charger is included in the Mobile Investigator System. You can easily charge the mobile phone before doing an examination.

COMPLETE REPORT

Mobile Investigator creates a report of all downloaded data. The report is also ready for administrative data as case reference, operator, exhibit ID and other information, useful to the investigation. Your own logotype, address and other contact details can easily be entered into the report. The time and date of the examination are generated automatically.

CALLS AND TEXT MESSAGES

A clear presentation of all incoming, outgoing and missed calls that the phone has the capacity to store is listed. Any name stored with a telephone number is also included. Text messages read, sent, unsent and archived are also listed. All the data is specified with its storage location in the phone – the SIM or in the Device.

CONTACT DATA

All data about the contacts in the phone are listed as name, phone number, and mobile number, e-mail etc. All the data is specified with its storage location in the phone – the SIM or in the Device.

PICTURES

All the pictures that are stored in the phone are listed in the report. The built-in preview function enlarges the picture for a first look.

AUDIO

All audio files that are stored in the phone are listed in the report. The audio files can be played directly from Mobile Investigator.

CONTINUOUSLY DEVELOPING

Mobile Investigator is continually being developed apace with new features in phones and new phone models on the market.

Road Warrior – Field Version   Model 4028

ROAD WARRIOR

FIELD VERSION IS IDEALLY SUITED FOR MOBILE UNITS IN DEMANDING CONDITIONS

In response to demand from our customers worldwide, we have developed a shock resistant, weatherproof all-in-one field version of our Model 4018 mobile phone forensics system – widely acknowledged as the industry standard. The new field version is available immediately.

The 15 kilogram (33 lbs) field version is designed for mobile units of military intelligence, law enforcement and international organizations, such as United Nations peacekeeping forces. These organizations often require portable, self-sufficient forensics kits that are flexible, quick to use and easy to link to headquarters or remote computers.

The all-in-one system features a built-in computer – with the latest version of Model 4018 installed and configured – cables, SIM card reader, infrared and Bluetooth communications, as well as a chargeable 6–220 voltage battery that lasts 3–4 hours.

SHOCK RESISTANT SUITCASE MEETS HIGHEST STANDARDS

Built into an Army-green, high performance resin suitcase that meets the highest shock resistant standards (mil-801), the field version contains everything – hardware and software – required to perform a complete and rapid analysis for a majority of all mobile phones.

"Military adapted" for the most demanding situations in the field, the field version is also equipped with a shockproof hard disk, which can be replaced with a 16 Mb flash disk – a less mechanically complicated device that is even more resistant to shocks.

All Model 4028 software and hardware, including all the cables for the different phone manufacturers, have been manufactured by us, ensuring all parts are fully integrated and validated. Customers enjoy the security of working with a solution in which all the elements work together effectively, significantly minimizing problems and support issues.

Completes our portfolio of forensics products

The field version completes our portfolio of products for mobile phone forensics: the in-office "basic kit" that includes the communications unit, cables, software and SIM card reader (laptop not included); the "mobile version" for office and field that includes an aluminum suitcase, the communications unit, cables, software and SIM card (laptop is an option); and the field version.

The highly robust suitcase, manufactured by Storm Case, feature press and pull latches, attached Vortex ® valve that automatically adjusts air pressure without letting in air, unbreakable molded-in hasps, unique hinges and double-layered, soft-grip, solid-core carrying handles.

The field version can be ordered with a keyboard in the local language required.

Our product is today recognized as the industry standard in phone forensics and is used by law enforcement and other organizations around the world.

Road Warrior – Field Version   Model 4028

FEATURES

The Model 4028 field version is a portable, self-sufficient mobile forensics kit that is flexible, quick to use and easy to link to headquarters or remote computer.

- Outer measurements 62.5 (length) x 50 (width) x 22 (height) mm
- IP66 when closed
- 12" TFT display: 1024 x768 pixels
- 512 MB RAM, max 1 GB
- Processor: Celeron M 800 MHz
- Data card with Intel 852GM chip, 1 x GBE Ethernet
- 1 x 40 GB Automotive hardware disc SATA
- Battery life: 3–5 h
- 3 USB 2.0 placed on front panel
- USB, IR and Bluetooth for communication with all phones; ability to switch on/off Bluetooth manually
- Speaker
- Line out
- Line in
- Key-board (US/UK/SV/TY/FR)
- Optional languages for key board upon request
- DC in 9–36 V with military 999 connectors
- DC/DC cable military 999 connectors in each end. Length approx. 1.8 m
- Capacity for approx. 45 phone cables, DC/DC cable and other accessories in the lid. The phone cables are provided by us
- Windows XP professional Service Pack 2, in English

The Model 4028 field version is built into a military green, high-performance resin suitcase that is waterproof and shock resistant

Computer Sniffer Activity Tools

Model 4035

The Model 4035 computer sniffer is a highly effective software tool that can monitor activity on the computer in which it is installed and send that information to a collection point. The Model 4035 was created as a software micro-spy with key logging, mouse logging, screenshots, photo logging and voice logging functions. To maintain secrecy, the Model 4035 remains passive in the system; in other words it never takes the initiative, but simply reacts to other events or situations to hide itself behind something that the user already expects. Even during communication it never attempts to make a connection, but continuously monitors the state of the connection to intercept the moment when the connection is available.
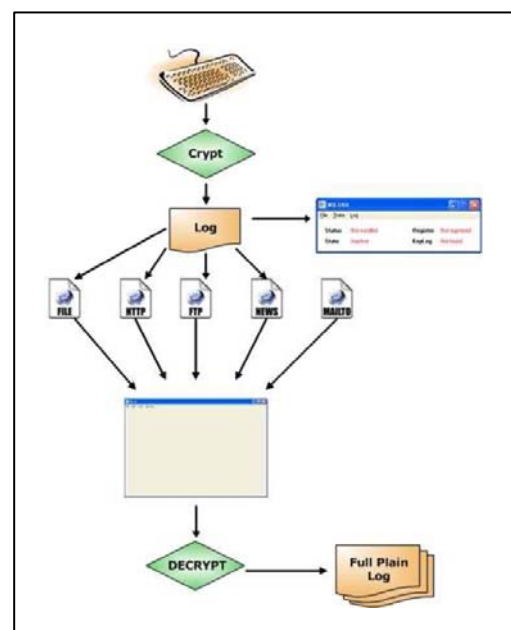
COLLECTED INFORMATION

The Model 4035 deals with different types of information, mainly on the monitored PC. In particular:

- It records any session data, i.e. user name, timestamp, computer name, etc
- It captures any activity on the keyboard and also provides an automatic transposition for special keys or other phenomena connected with keyboard layout
- When first installed, it refreshes itself remotely and silently, without any further external action on-site
- It can produce a video-screenshot and send it over the net to be reproduced as a simple jpeg. Screenshots are taken silently, either at specific time intervals or during particular events
- If it detects an installed webcam, it can use it to take user's photo
- Audio capturing from the PC microphone is useful to intercept VoIp (i.e. Skype)
- All the info (keyboard activity log, screenshot, photos, etc.) is sent in an encrypted manner to a specific target address using any standard protocol

HOW IT WORKS

The software is composed of a silent transmitter and an admin tool. The system works by installing the transmitter on the target PC and using the admin tool at the listening site. The transmitter sends the captured information through a pre-designated mail server, either via email or other protocols, based on various opportunities for installation and configuration. The information from the transmitter is sent in encrypted format.

TARGET OPERATING SYSTEMS

- Windows 98, ME, NT4, 2000, XP, 2003
- Unix, Linux, BSD (keylogger only)Related Software tools

Active GSM Portable Interceptor   GA 900

INTRODUCTION

The GA900 was developed for services without access to the GSM-switches. Interception refers to GSM900 and GSM1800. The GSM Test System GA900 is a monitoring system featuring the following functions:

- Scan Mode: Identification of active mobiles within the detection range of GA900
- Search Mode: Search for dedicated mobiles
- Jam Mode: Blocking of mobiles
- Report Mode: Evaluation of the database by data filters
- Optional directional finding of the target.

The following identifications are intercepted by GA900 even when the mobile is in the idle mode:

- Determination of the International Mobile Subscriber Identity (IMSI)
- Determination of the International Mobile Equipment Identity (IMEI)
- Determination of the telephone number of the called party
- Call to/from mobile for verification

MODULES OF GA900

The GSM Test System GA900 consists of the following modules (fig. 1):

- Commercial GSM Tx/Rx antenna
- Rx/Tx- (receive/transmit-) module
- Signaling unit
- Cell monitor
- Notebook PC (controller)
- Power supply
- Cable set
- Optional installation kit for cars
- Optional mobile portable case

OPERATION

The control computer, i.e. notebook, with the operator display (MMI) is based on standard-PC components. A modern state-of-the-art IBM-compatible PC with the operating system Windows 2000 is used. All recorded data is stored in files on the hard disk. An object oriented data base management system is integrated to make the data management more comfortable.

In the display of the Scan-Mode all the currently monitored subscribers are listed with their IMSI and IMEI. Additional data about the owner of the SIM-card, if edited by the operator of GA900, can be displayed by real-time operation of the database.

Furthermore, time and location of the first interception can be displayed.

With the help of the database, additional detailed information about the subscriber and his identity can be displayed. It is possible, for example, to request time and location of former interceptions from the database.

Active GSM Portable Interceptor GA 900
FUNCTIONALITY

The determination of the IMSI and IMEI via the air interface is possible only by a method, which simulates a base station inside a GSM network.

This base station (GA900) transmits a beacon frequency with modified parameters. All mobiles in the vicinity of the simulated base station will now sequentially log-in on GA900 and it is possible to request IMSI and IMEI. This procedure is like a normal location update from one cell to another and therefore not noticeable to the subscriber.

IMSI and IMEI are stored as a list in a data file. If the Access Class was specified, it is possible to store the AC with IMSI and IMEI to speed up the following search processes.

For the duration the MS is logged to GA900, the MS is separated from the normal network. Calls originated by the mobile are now received by GA900 and the respective telephone number of the party called is displayed. However, the call will not be transferred to the normal network. These calls are responded by the Test System either by the operator of GA900 or by tones indicating that the subscriber is engaged or out of operation. Especially with the test extension the call can be established and the duplex voice channel can be intercepted. Mobile terminated calls cannot be intercepted.

After registration of IMSI/IMEI non-relevant MS will be released to the GSM network. These MS will be separated for a short time from the net.

Installed Vehicle Version

Portable Version

GSM Test System GA2G Lite   GA2G

Leveraging the success of GA900 to next generation speed and miniature hardware R&S is extending the mobile radio monitoring portfolio of its renowned GSM Test Systems GA900 and GA900M with a new family member -- the GA2G. This new GSM monitoring tool is a very small and lightweight test system for the detection of subscriber presence and determining their identities.

Providing two active virtual BTS-components, this highly portable multi band test system, which is the size of standard cabin luggage, allows special operations in more than one network Multi-channel at a time.

The usage of up to eight time slots per transceiver, which increases the acquisition speed to the maximum, together with Modern user interface -- the ideal form factor of the fully remote controlled GA2G -- a new field of close interception missions, is possible.

Modern software architecture GA2G excellently complements the successful R&S mobile Cabin luggage sized radio monitoring products portfolio by adding speed and parallel-processing to the existing feature set of GA900 and GA900M.

FEATURES

- Multi-band
  Up to 2 BTS in parallel, either in the same or in different networks at the same time
  GSM 900 including E-GSM
  GSM 1800
- Multi-channel
  Handling of up to 8 time slots per BTS
- Modern user interface
- Modern software architecture
- Attaché case size

PRELIMINARY SPECIFICATIONS

Transceivers (BTS)	1 or 2*
Timeslots used per transceiver	up to 8
Frequency Band(s)	GSM900 incl. E-GSM and / or GSM 1800
Max. output power (EIRP)	0.5 W in GSM900, 1.0 W in GSM 1800
Weight (Kg) starting from	7.9
Dimensions (mm)	380 x 447 x 127
Antenna	directed patch panel
Controller Concept	remote controlled (Laptop)
Operating modes	Presence, Target

Radio Monitoring DF Portable   TMS 100/200

The Transportable Monitoring and Direction Finding Systems R&S TMS100 and R&S TMS200 are optimized for mobile use at rapidly changing sites with unknown radio scenarios. They are designed for the following monitoring and DF tasks from 20 MHz to 1300 MHz, with an extendable range from 10 kHz (500 kHz for DF) to 3000 MHz. All measurement tasks can be performed either automatically (scheduled) or interactively.

The key advantage of transportable systems over fixed monitoring stations is that once the allotted tasks at one site have been completed, a transportable system can be moved to another site, and quickly set up. Owing to the system's compact design, it can even be installed on roofs or in difficult terrain. The antennas can be mounted on tripods.

For mobile remote-controlled and portable use:

- Reliable solution for monitoring and direction finding between 20 MHz and 1300 MHz, with extendable range from 10 kHz (500 kHz for DF) to 3000 MHz
- Compact and cost-effective
- Different power supplies available: 100 V to 240 V AC or 11 V to 32 V DC
- Can easily be carried by two persons
- Quickly ready for use because of the very short setup time
- Can be operated up to 24 hours per day
- Controlled via Monitoring Software R&S ARGUS

Transportable monitoring systems, either car-installed or portable, can perform all the measurement tasks usually associated with fixed or remote-controlled monitoring stations and have the extra advantages of being much more cost-effective and capable of changing location rapidly. This means that the coverage area of a network comprising fixed and remote-controlled monitoring stations can be expanded according to user requirement. No more than two persons are needed to the carry the system, which is on a portable rack.

1

Radio Monitoring DF Portable   TMS 100/200

The transportable system can be installed in all vehicle types and can be used as a mobile monitoring system. The portable rack containing the equipment can easily be fixed to the vehicle with four screws.

Special fixtures are used to mount the DF and monitoring antennas on the roof of the vehicle.

GPS receiver and compass can be added to the system so that location and bearing of the vehicle can automatically be determined. The transportable system installed in vehicles can also be remote-controlled. This is usually done via GSM/GPRS 900/1800 links. The system can be used even if the vehicle is moving. Antennas which are capable of withstanding the resulting forces must be mounted on the vehicle.

Operation as an unattended fixed station and operation as an attended fixed station are essentially the same. Routers and modems, as additional components, are integrated into the transportable systems to enable remote control.

Analog or digital dialing or leased lines or GSM/GPRS 900/1800 links are used with a data rate of at least 9.6 kbps. A control station can be created from a PC with the appropriate software, a router and a modem, or even from a transportable system when provided with the necessary communications equipment.

Direction finding can be performed with at least two transportable systems.
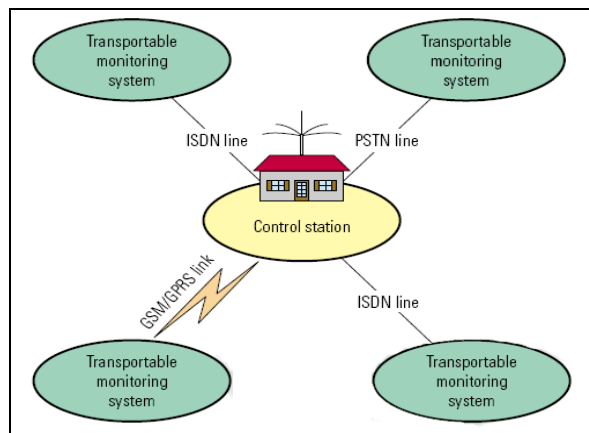
4 mobile systems operated as remote-controlled, unattended fixed monitoring stations
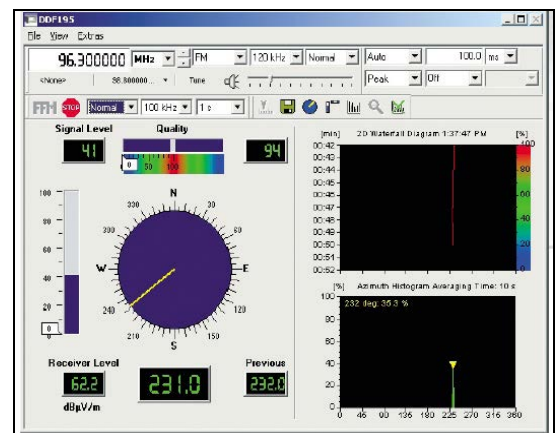
Software Radio/DF Monitoring Specifications

2

Radio Monitoring DF Portable   TMS 100/200

R&S TMS200

General data	
Operating temperature range	−10 °C to +55 °C with option R&S TMS-B1:
	−10 °C to +45 °C with option R&S TMS-B1 and option R&S TMS-B4:
	−10 °C to +50 °C
Storage temperature range	−40 °C to +70 °C
Humidity	95 % cyclic, +25 °C/+55°C with option R&S TMS-B1:
	80 % cyclic, +25 °C/+40°C
Sinusoidal vibration	5 Hz to 150 Hz
Random vibration	10 Hz to 500 Hz
Shock	40 g shock spectrum
EMC	meets EMC directive of EU (89/336/EEC) and German EMC law
Quality standard	developed and manufactured in compliance with ISO 900
Power supply	100 V to 240 V AC/47 Hz to 63 Hz/226 VA
Dimensions (W x H x D) (box)	555 mm x 358 mm x 720 mm
Weight of fully equipped portable rack	40.1 kg
	with option R&S TMS-B1: plus 6.6 kg
	with option R&S ZS129A1: plus 5.5 kg