- *Integrated Security System*
- *Access Control*
- *Intelligent House Technology*
- *MAR – Monitoring of Technological Quantities*
- *KEYBOX - Key Management system*
- *EFS, CCTV System Integration*
- *PARKING System*
- *Licence Plate Recognition*
- *Face Recognition PANASONIC, SAGEM Biometrical Identification*
- *Identification Technologies MIFARE, TAG-IT, iCLASS, MOTOROLA, COTAG*

www.alimex.cz

ALIMEX, Ltd., is a system integrator in the area of security technologies. Greatest emphasis is on delivering complex solutions that meet current customer needs and in the same time are open for future expansion and development.

We offer our customers both large complex solutions for corporate customers as well as security solutions for smaller buildings, shops, and households. Supply of identification technology components themselves remains significant part of our activities.

Our operations start with in-house development of top technologies (HW and SW) for securing a building, continue with design, assembly, and remote supervision of the secured building. Our customer care and support is provided 24 hours a day from service centers in Prague, Brno, České Budějovice, Pardubice, and Ostrava – Vítkovice. HELPDESK application accessible over internet is available to customers to request service and follow-up the progress our response.

Business and service activities are provided from 5 different centers throughout the Czech Republic. All of these are capable of satisfying any and all customer needs regarding design, sales, actual installations and implementation. Our sales representative office for Slovakia is located in Nove Mesto Nad Vahom. For more information visit www.alimexsecurity.com.

The products we offer are the top on Czech and Slovak markets. The basis is ALTEX® Integrated Security System, which complexly covers the entire technical security of the building and its management within the scope of the building management – BMS and EIB.

ALTEX® System was first applied in 1993 in the environment of Cesky Telecom, a. s. and since then underwent significant development that is constantly going on till today in line with increasing customer demands and newly emerging security technologies. The combination of our own in-house development base together with partnerships with foreign companies such as Texas Instruments, HID Corporation, Panasonic, SAGEM, Byo-metric systems GmBH and others allows for application of top technologies in a system, that meets majority of customer needs.

The following functional requirements were considered during the development of the system:

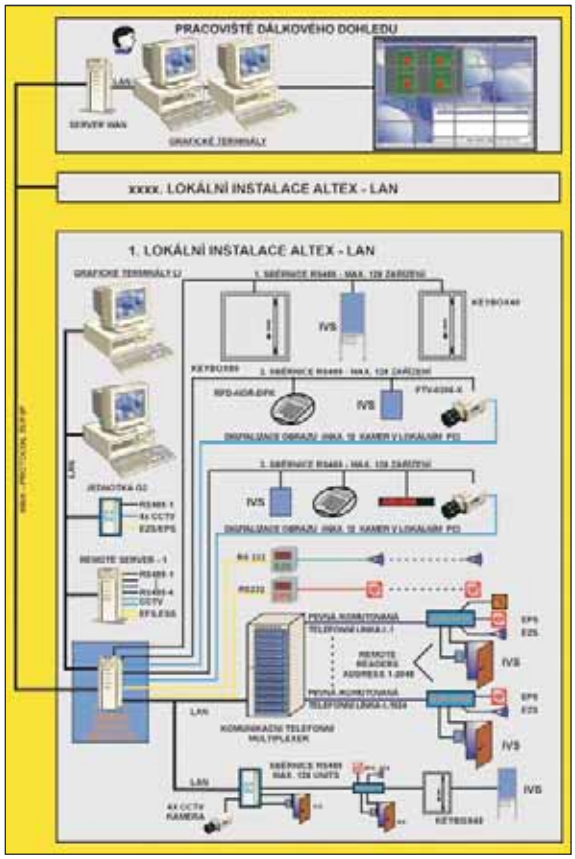
- Provide maximum security of building
- Ability to connect individual installations to the Supervision Center
- Minimum demands on system operators
- Capability to integrate all security and operations technologies
- Ability to remotely monitor and control buildings and integrated systems
- Reduce operating costs

Besides complex solutions within the ALTEX® system, we also offer partial supplies of certain security technologies such as:

- Access Control System - ACS
- Electronic Security Signalling System - ESS
- Electronic Fire Signalling System – EFS
- Closed Circuit Television – CCTV
- Evacuation radio
- Perimeter protection
- Etc.

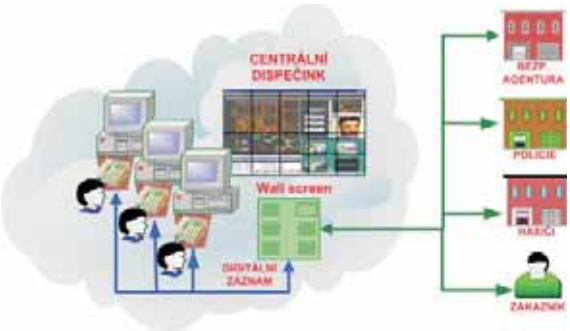
For all such supplies we implement everything from project proposal, design to installation and servicing. We offer our customers drafting of proposals and security studies. To certain extent are these services provided FREE OF CHARGE.

Content



Structure of ALTEX Integrated Security System.
Screen of remote monitoring with integrated security applications.

Diagram of the dispatch center.



ALTEX® Integrated Security System ■

It is a complex solution for securing buildings, which can provide also individual security solutions by the following modules:

1) Access Control System
2) Visitor System
3) Employee Card Issue
4) ALT EX LPR – Licence Plate Recognition
5) ALTEX FR – Face Detection
6) Parking System
7) Attendance and Catering
8) KEYBOX – Key (Object) Management System
9) ALTEX SID – Document management System
10) Electronic Security Signalling System – ESS
11) Electronic Fire Signalling System – EFS
12) Closed Circuit TV
13) Technological Quantities Monitoring and Technology Controls
14) Measurement and Regulation
15) ALTEX KEEPER – Internal System Event Log Audit Module

The system philosophy is that the relations between individual modules, which affect the overall system behaviour modules, can be configured. Supervision centres with remote building monitoring and possibility to remotely control the installed technologies are implemented for solutions, where more than one building is secured.

ALTEX® system consists of several software modules, that configure the system hardware, and all information is transferred into the supervision module. The whole solution is built in such a way that the user need not to use several control consoles simultaneously but that everything acts as one unit regardless the diversity of integrated technologies.

The system structure is shown in the upper left figure.

The system is managed using user-friendly configurable interface, where the user has a graphic overview of individual parts of the monitored building together with display of elements of integrated security systems.

Parameters of the basic module:

- Central unit OS WINDOWS, 2000, XP, Vista in WS or SERVER version
- unlimited number of remote installation connections
- data communication between individual installations and system technologies over RS232, RS485, ETHERNET (TCP/IP), GPRS, ADSL and telephone line (switched or dedicated circuit, ISDN2)
- distributed user database
- defined system event response times in real time
-

ALTEX KEEPER – module for internal system event log audit is a significant part of the complex solution. It is a very powerful tool for retrieval of data useful to evaluate behaviour of the system and users. For more information see chapter ALTEX KEEPER.

Monitoring and Recording of Calls in Dispatch Supervision Centre ■

New to ALTEX® is PHONE-MON module, which fully integrates call recordings from analog and ISDN2 lines, IP telephony or most commonly used PABX such as Siemens, Ericsson, Alcatel, AT&T (analog, digital). For each incoming or outgoing call, start time, end time, duration, as well as calling line and called line identification number is logged in ALTEX. Each event log is accompanied with a WAW sound file (content of the call) and a text protocol of control signals during the call.

Any recorded call can be searched by call start/end time, calling/called line number. The list of calls can be filtered by operator and call duration. System also records the number of rings for incoming calls.

Maximum 1024 monitored lines per one installation. Project budgeting is according to number and type of monitored lines.

Identification System - Access Control ■

Access Control System is in most cases the base of a customer solution. The aforementioned technologies and modules can be added.

The user is identified using up-to-date identification technologies. Identification media can be contact less identification card, RFID remote control, or biometric identification (fingerprint, iris, face…). For more information see chapter „Identification technology + biometric“.

The identification technology is connected to control electronics that provide functionalities ranging from simple electronic lock, gate, access turnstile release to safeguarding premise, temperature monitoring, or video signal transmission including video-alarm recording (JPEG, MJPEG). The control electronics can be configured according to project specifications using internal programmable relations. All devices are monitored by the control SW in Windows environment and can be remotely controlled, firmware upgraded or reconfigured by hyper-terminal using the internal monitor.

The technology elements allow to implement complex solutions and they can be later updated according to investor's requirements.

The basic parameters of Access Control module:

- number of users in local installation maximum 32 000 with distributed database in WAN networks 64 000
- 16 access code levels, can be mutually combined
- 32 time zones with two time intervals with resolution of 1 minute
- 10240 groups to divide users into
- unlimited number of units (system devices)
- data outputs allow to export databases for archiving or processing by external systems
- event log reports, access permissions reports,
- assign one user more than one identification element (card code, iris, fingerprint, pager, various contact less identificators compatible with identification card technology)
- readers in modifications according to user requirements
- reading terminals with display and keypad that can be connected to ID technologies of choice
- visitor system (see below)

View of local installation screen in ALTEX with integrated ACS, ESS, EFS and CCTV modules.

View of screen for taking user picture.

Employee Card Issue ■

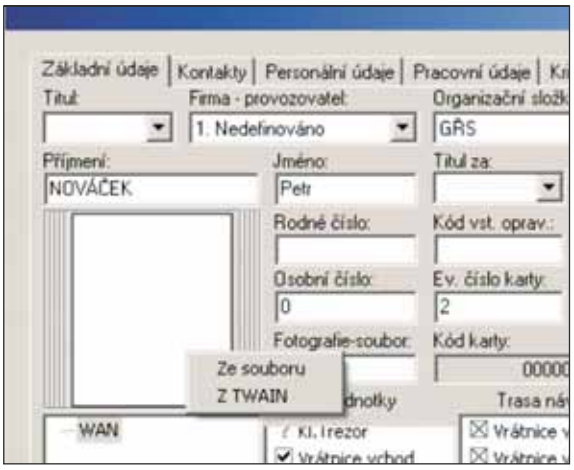
A dialog box accessible form the „User view“ screen in ALTEX® serves to define and issue employee identification card.

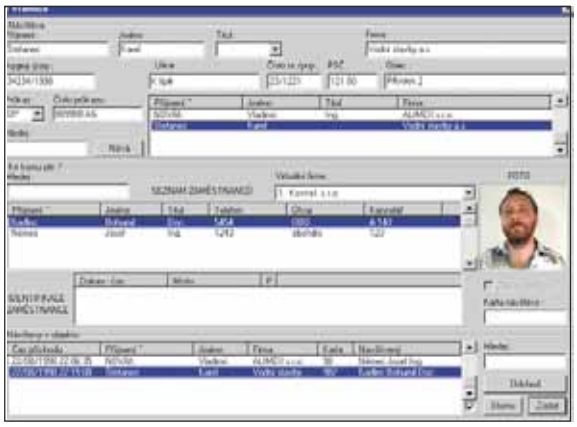
Employee photo can be taken using this tool and printed on sublimation printer, which also prints the identification cards and badges themselves. The badge design and what data is printed on it depends on customer's requirements.

The user photo is digitized using standard devices which communicate using TWAIN interface or from a file:

- digital camera or digital video-camera
- scanner
- digitization card with connected CCTV camera
-

Photo can be inserted directly from a file. ALTEX® assigns a unique name to the file and the name is pair with the user/employee. Another way of using photos can be for security agency/guard to visually compare and check that a person entering a building is identical with the one in the database.





Visitor module screen.

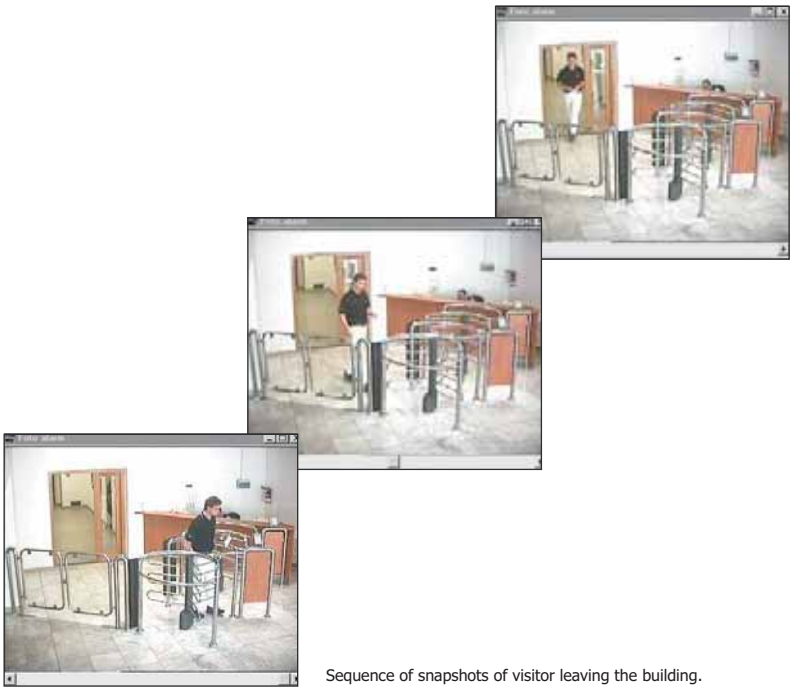
Visitor System ■

Visitor module for keeping track of persons visiting a building is important for access control. It is a highly effective solution, which completely replaces so called „visitor books", provides detailed information on the movement of visitors inside the building and in the same time increases efficiency of work for security guards or receptionists. It also provides important information such as:

- presence of the visited person in the building
- last movement of the visited person
- telephone contact and photo of the visited person
- current location of the visitor
- visitor books holds data on a visitor, no need to enter his/her details again upon next visit
- alarm for „undesired visitors" or additional information e. g. „Access only with escort", etc.

The advantage is that the guard/receptionist does not need to define the access permissions, but only assigns to the visitor card an access route that is defined in the system for the employee (visited person). These permissions are defined by the system administrator and for the visitor are applied as his route to the visited person.

Access control solution with RDR-VIS-BOX card collector - detail.



Sequence of snapshots of visitor leaving the building.

OCR document reader can be used to enter the details of the visitor with ID documents compliant to EU format thus speeding up the procedure.

The procedure of recording the visit details is very simple, personal details and the name of the visited person is entered into the system, a card that the visitor will keep throughout the visit is read by the PC reader and access route permissions matching the access route of the visited person are assigned.

When the visitor leaves, the card is automatically deactivated either using the PC reader, or exit reader, or RDR-VIS-BOX card collector, which ensures that the card is returned. The card collector also helps to avoid situations when the visitors unintentionally keep the cards when they leave the building thus incurring financial loss to the system operator as he must purchase new cards.

If the card collector is not used, acoustic warning can be set to notify the operator by running WAV file (e. g. The visitor is leaving).

Image digitization can be used as add-on. When visitor card is identified on e. g. a turnstile, sequence of snapshots or continuous video can be stored in JPEG and MJPEG format.

Card collector combined with turnstile.

ALTEX-LPR - Car identification Using Licence Plate Recognition ■

Is a system for automatic car identification from video based on licence plate recognition. This technology can be used as part of ALTEX® security system or as stand-alone.

ALTEX-LPR technology is available in two versions – first is to use for identification of cars with max. speed 15 km/h (ALTEX-LPR-STA), and second for up to 200km/h (ALTEX-LPR-SPD).

LICENCE PLATE RECOGNITION PRINCIPLE ■

The system works with digitized images of cars, which are converted into JPG or BMP format. It recognizes the licence plate number using OCR function and converts its value into characters that are processed in the management application.

The SW contains a library of all fonts used on licence plates in the whole of European Union and majority of countries worldwide.

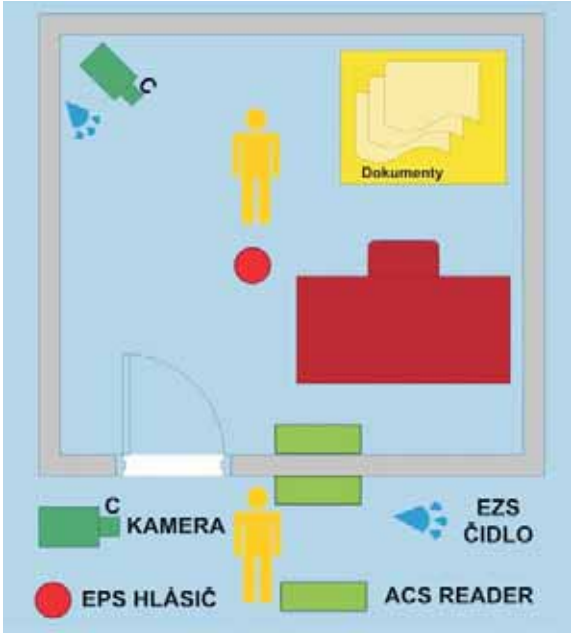
It is important that it only recognizes licence plates and does not react to, for example, company signs on cars. Of course it can process two-line licence plate numbers on e. g. trucks or semi-trailers.

The complete process of licence plate recognition is shown step-by-step in figure on the right.

Possibilities of LPR use:

- monitoring cars entering and leaving company parking lots
- automatic opening of gates
- monitoring of customers at gas stations, possible interconnection with customer system
- monitoring/detecting cars of delinquent customers at gas station, link to „delinquent“ database
- parking on hotel parking lots
- border control
- monitoring electronic toll collection on paid roads
- measuring speed of cars (block-to-block method)
- detecting stolen cars – also in ALTEX-LPR-SPD version

ALTEX-SID Document Management ■



Each document is labelled with RFID label, that serves as unique identification of the document in archive. If it is withdrawn from the archive, it is assigned to the user who has entered the archive and left with the document. The system records who and when has taken and returned a document, eventually whether the person is authorized to withdraw the document from the archive. The system can generate reports on:

- out-of-archive documents past return date/time.
- documents missing from archive.
- withdrawal history of individual documents.

System has also capability to document manipulation with documents inside archive, including video recording by a camera inside the archive. The maximum number of registered documents in one archive is 64 000.

KEYBOX system for 104 compartments

KEYBOX® - Key Management

The key management is usually the responsibility of production or administrative building administrators. It is not always profitable to equip all premises with access control system, which allows entry into building or certain rooms without a key.

KEYBOX® system serves unattended storage, withdrawal and return of keys. Based on long-term experience, the requirements on such system are:

- electronic records of keys and their presence
- access to individual keys conditioned by identification by a card of system already in use
- capability to define selective key withdrawal
- reports on events in the system
- ON LINE monitoring of the device, also between buildings with remote administration
- Totally attendance-free operation, which is monitored by, e. g., digital video recording within one system
- ability to integrate in security system
- ability to store single keys, key sets, or other objects
- ability to seal the compartment or whole storage box
- ability to use as part of Visitor System as safe object deposit
- decentralized access with regards to the defined access routes within the building

KEYBOX® has main door that is secured by (also remotely controlled) electromagnetic lock. The lock can be replaced upon wish with motoric security lock. The door makes access to 104, 52 or 28 (depending on version) compartments, which are blocked by magnetic locks.

The compartment contains identification element to which a key holder is permanently attached and the key itself can be removed from the key holder. The identification element is used to identify whether the key is present and to record any movements of key or compartment. The compartment is equipped with a sealing cup for cases when sealing is required. That concerns especially government institutions, who may store keys from premises that are subject to various security regulations.

To the right of the door is a keypad and 4x16-character alphanumeric display.

Above the display is a contact less card reader. The access to compartments can be conditioned by entering PIN on the keypad.

KEYBOX® construction allows to build a set of up to four cabinets with 104 compartments. Nearly unlimited number of such devices can be operated within one ALTEX® system.

The operational status of the device is signalled by a text message on the display and in the same time acoustically by voice message reproduced from integrated loudspeaker.

The system has LV power outage back-up. Using the accumulator switch with emergency back-light the KEYBOX® is put into operation for a pre-defined period of time so that the energy of accumulators is used as efficiently as possible.

The system is administered by a user-friendly program that allows the administrator to assign access permissions for users in ON LINE mode and in the same time monitor the operating state of individual devices, including remote administration.

Various reports are available for evaluation of system operation. Reports such as „Who collected this key (compartment)?", „Who is the owner of this key (compartment)?", „Who has permission to collect this key (compartment)?", etc. System event reports and their export are a standard, their scope ranging from report on the entire system, report per device up to individual key/compartment.

KEYBOX®- Additional Application Options ■

KEYBOX® Key Management system is an integral part of ALTEX®Integrated Security System. Of course it may also be used as stand-alone with the aforementioned software module. That can be an advantage in cases when the customer already has some other Access Control System and only wants the Key Management solution.

Already in the basic version it is possible to connect to its control electronics reader of other identification technology that operates the lock and allows entry into the building or area, where the box is installed.

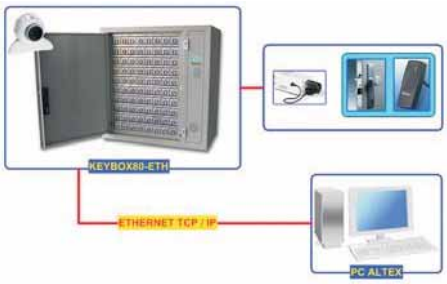
The ability to connect external cameras on some of the models is significant advantage of KEYBOX® system. Cameras record video upon defendable events such as:

- unauthorized card identification
- main KEYBOX® door open
- compartment/key is moved (collected, returned)
- motion detected in the camera view
- card identification
- KEYBOX® door open exceeds allowed time

KEYBOX® can be used for short-term storage of objects such as mobile phones, vehicle documents, or guns. In such cases the compartments can be produced in special sizes based on standard models with 8x13, 4x13, or 4x7 grids (adjust depth and height).

Model	Number of compartments	Grid measurements	Communication interface	External Cameras	Dimensions mm (wxhxd)	Standard internal compartment dimensions
KEYBOX28-485	28	4x7	RS485, RS232	no	627x581x347	80x51x205 mm
KEYBOX28-ETH	28	4x7	ETHERNET, router Rs485	yes	627x581x347	80x51x205 mm
KEYBOX52-485	52	4x13	RS485, RS232	no	627x916x347	80x51x205 mm
KEYBOX52-ETH	52	4x13	ETHERNET, router RS485	yes	627x916x347	80x51x205 mm
KEYBOX104-485	104	8x13	RS485, RS232	no	959x916x347	80x51x205 mm
KEYBOX104-ETH	104	8x13	ETHERNET, router RS485	yes	959x916x347	80x51x205 mm

Models marked ETH can be used also as central unit of remote installation, using RS485 bus can up 126 other devices within ALTEX® system be connected to them. Ideal to use for remotely operated installations.



Block diagram of KEYBOX® system with a reader controlling the entry lock and external cameras.

Snapshot sequence recorded by a camera based on a defined event and graphical representation in the management software.

KEYBOX 1 ■

Is a simple device (safe) extending the family of KEYBOX® unattended key management products. As the name suggests, one key is stored in the box and authorized person can access it using ID card or based on other event (such as EFS).

Other use can be in reverse version in case of fire alarm (locked if power supply is continuous). By connecting the device to the output of fire signalization, the key will be issued to, for example, fire brigade.

Dimensions:
Cylinder diameter 42 mm,
Depth 225 mm.
Power: 12 V DC

Device body – installed in building wall

KEYBOX1 - set

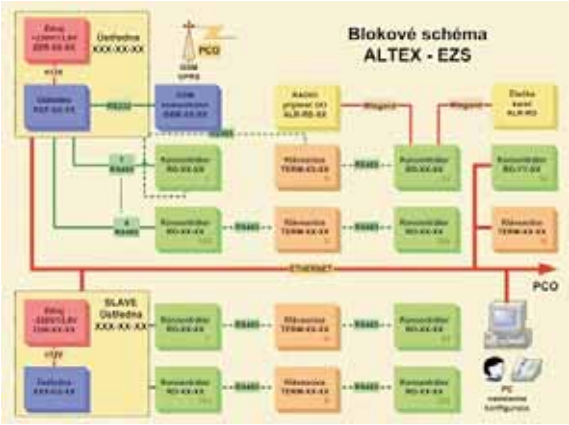
Key case

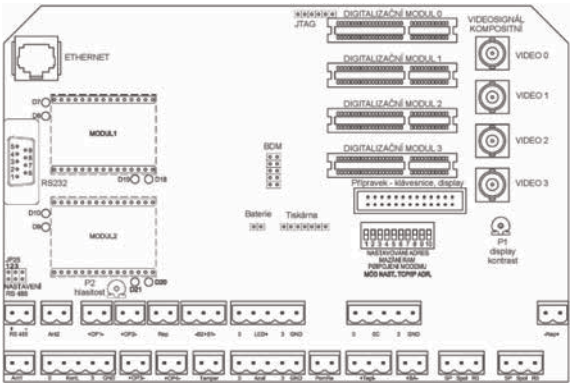
Function Description ■

The electromagnetic lock of the safe can be controlled using the access system reader or other technology such as ESS, EFS. Opening or closing of KEYBOX1 can be remotely controlled.

The logic of safe opening completely disables its spontaneous opening and the construction complies with strict security criteria.

The real-life operation can be as follows: A person who needs a key to a certain building identifies him-/herself using a card. If he/she has relevant permission, he/she can have the key. The safe opens, the door open is accompanied by acoustig signal, compartment is removed, key collected, compartment returned and automatically locked, safe door closed and locked. All steps can be remotely monitored by ALTEX® Security System.





ALTEX ESS - Electronic Security Signalling System ■

ALTEX – ESS system is certified also as electric security signalling system. That means that the technological elements such as control electronics of the access control system can be used as concentrators of the ESS system. ALTEX ESS system contains, of course, specialized ESS elements such as concentrators, GSM communicators, ethernet, telephone communicator, etc.
System topology is shown in the figure on the left.

ALTEX – ESS system – basic parameters:

- 10 240 groups of users of independent subsystems
- 14 500 user codes and identification cards
- 10 000 events in history
- Real time clock
- Ethernet data communicator and GSM communicator for connection to Security Monitoring Centre
- RS232 interface for printer
- 8x analog input impedance-balanced - 16 addressing zones
- 4x isolated input
- 2x tamper input (switch cabinet, tearing from the wall)
- 1 x voltage output for siren
- 2x relay switch output
- 6x OC output
- Control panel - keypad
- RFID reader for system control and door opening
- RS485 communication port for additional modules and keypad
- Temperature measuring – bus for up to 4 DALLAS thermometers
- Measurement and Regulation module
- 2 ports for digital camera module with memory
- 1x 13,8V/2A power back-up

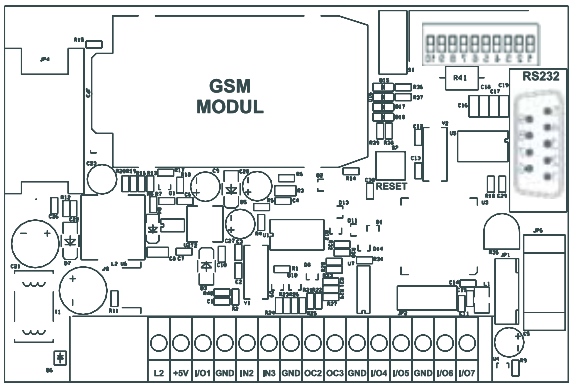
G2-ESS unit serves as system switch and communicates with the Security Monitoring Centre via GSM-GPRS-DTMF GSM communicator over GPRS protocol. The communicator also sends alarm and trouble messages over SMS to the system owner to up to four telephone numbers. The system owner can also control the system over SMS messages and is able to activate some of outputs and thus control e. g. heating, watering system, etc.

Another alternative of communication with the Security Monitoring Centre is ethernet interface, which can be used in case of communication over XDSL, CDMA or over internal LAN/WAN data network.

Ethernet interface is also used to connect subordinate SLAVE switches, keypads and concentrators. Their presence in the system is continuously monitored over control communication.
The switch has up to 4 RS485 interfaces which are used by other elements such as concentrators or keypads for communications. Maximum number of devices on one RS485 bus is 64.

GSM-GPRS-DTMF – GSM Communicator ■

The communicator receives a message from the security technology from telephone line output or RS232 output and such message is further transmitted via GSM modem over GPRS/TCPIP protocol to the Security Monitoring Centre. The telephone line simulator accepts all protocols with DTMF simulation and 2300/1400Hz handshake. The message reception by the GSM-GPRS-DTMF communicator from the security system over RS232/RS422/RS485 interface depends on programmed controllers in the communicators. The controllers are not standardized and vary from technology to technology. This communicator is compatible with ALTEX Security Monitoring Centre (Ademco Contact ID Protocol) and with all other Centres supporting Sur-Guard protocol.

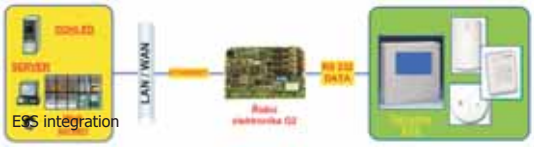


Basic Characteristics – Technical Parameters:

- Transmission of security technology operational statuses to up to 2 Security Monitoring Centres via GSM/GPRS.
- SMS message sent to up to 8 telephone numbers.
- Remote control and programming via SMS.
- Remote appliance control (heating, air-conditioning, watering system,...) via SMS.
- Measurement and regulation – measuring quantities such as temperature, humidity, flow, ...
- Heating, air-conditioning control.
- L-a, L-b telelephone line simulator input for DTMF communication reception with 2300, 1400 Hz handshake.
- Protocols: any DTMF according to program settings.
- RS232/RS422/RS485 input with program controllers for various security technologies
- 2x input impedance-balanced
- 2x OC (open collector) output
- 4x binary input/output defined by device configuration
- Cache for 100 messages
- Power supply = 12V/80mA idle 300mA during GSM communication

Integration of External Security Technologies ■

Electronic Security Signalling – ESS ■



ESS integration

ESS integration

In integrated security systems it is very important that there is continuity between individual security technologies. Electronic Security System solution in ALTEX® system works on two levels:

- All ESS elements (detectors, contacts, alarms) are connected directly to ALTEX® HW component inputs and are monitored and controlled
- Stand-alone ESS switch, e. g. GALAXY, TEXECOM, DSC, DIGIPLEX is installed in the building, and is connected with ALTEX® system using system data communication port or just using inputs/outputs.

Access Control System is integrated so that the ESS can be controlled (activated/deactivated) using identification card.

Electronic Fire Signalling - EFS ■

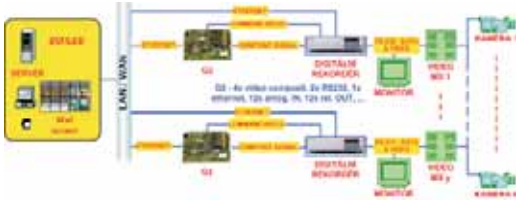
EFS integration

Similar approach is used in integration of Electronic Fire Signalization System. Again, two-level deployment, yet with regards to valid fire protection regulations!:

- EFS such as ZETTLER, ESSER, LITES...., is installed in the building in accordance with fire regulations and the switch output is connected to ALTEX® system, which transmit the information to the supervision centre
- the second option, as with ESS, is that smoke detectors (with ESS certification!) are connected to control electronics inputs and their status is evaluated based on internal programmed connections inside the unit

In both cases the events from ESS and EFS systems are logged and in case of extraordinary event is the system operator informed by a text or acoustic message with detailed description and graphical indication of the place of event. The reaction of the operator to the event is logged and can be accompanied with a comment and short description of the problem resolution.

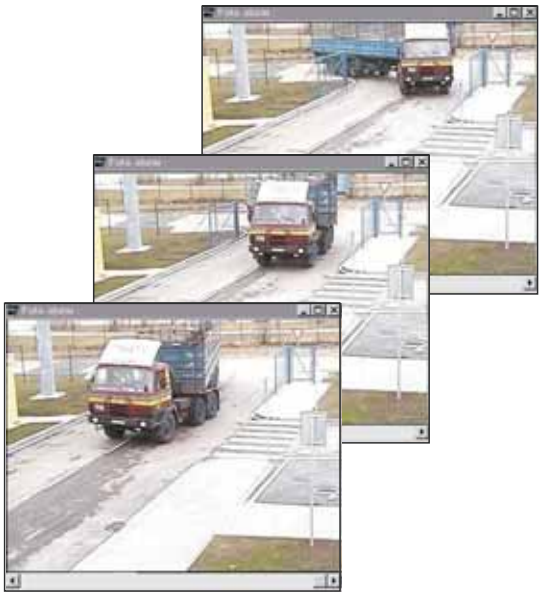
Closed Circuit Television - CCTV ■



CCTV integration

Two ALTEX® system devices can be used to integrate CCTV systems - G2 unit or DIG-625-PC digitization card. Both devices digitize images from analog camera and store it in the central system unit in JPEG or MJPEG, in case of G2 unit can video be archived on the hard disc. Besides video digitization, the system enables remote control of the video recording (video recorder, digital multiplexers) using RS232 interface and configured commands.

DIG-PTV-SW Video Digitization Module ■



This module enables remote CCTV monitoring and video event digitization with storage on PC hard disc. Pre-defined events can condition the digitization – e. g.:

- Motion detected in the view of the camera
- Door opens
- ID card read (authorized/unauthorized)
- Door handle is pushed
- Event in ESS system
- Event in EFS system
- Time-zone validity
- Emergency button is pushed
- Any event from external system

All the events above may trigger digitization of a sequence from the camera which monitors given place. The snapshot sequence with a defined length of the recording is stored in JPEG or MJPEG format as item related to the event in the system.
The procedure for recording the event is that images from each camera are continuously recorded in frames of e. g. 10 seconds and the moment of the event is defined in the middle of the time frame. The recording in the system will contain video information 5 seconds preceding the event and 5 seconds following the event (alarm). The files can be retrieved/replayed in ALTEX® and are readily accessible.

Monitoring of Technological Quantities ■

ALTEX® system HW characteristics allow for monitoring of technological quantities and in case a defined alarm occurs will activate the connected technological device. Using G2 or RDR-HOR electronics the system can:

- Monitor temperature and control heating or air-conditioning
- Monitor 230V and 400V voltage in the distribution network of a building
- Monitor flooding and humidity
- Detect gas

When alarm is detected, the electronics outputs can for example turn on heating if temperature in monitored area drops or, on the contrary, turn on the air-conditioning if defined temperature is exceeded. The temperature thresholds can be defined/changed remotely.
As in case of ESS and EFS, the alarm is transmitted to the Supervision Centre. A console with functional buttons for ACS, ESS, EFS and CCTV technologies can be made for each remotely monitored building. Yet another example of ALTEX® system complexity.

Control panel of remote unit

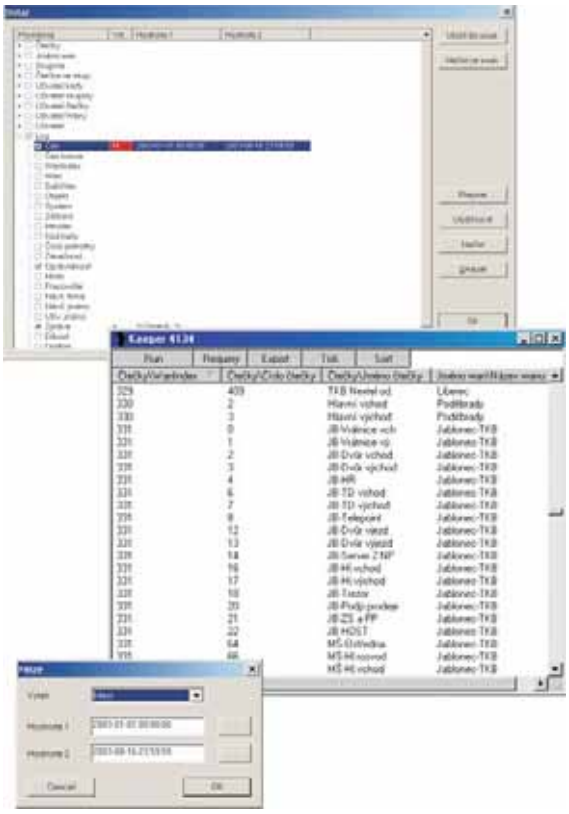
ALTEX KEEPER
- Internal System Event Log Audit Module ■

ALTEX® system alone can provide system administrators numerous useful information in a form of defined reports. Yet, in some cases might the user need to analyse in greater detail, set more conditions. For such cases there is a suitable tool, ALTEX KEEPER module.

Functionality Principle
ALTEX KEEPER analyses data from operation of security technologies. ON LINE data link between ALTEX KEEPER server and central servers of the monitored security technologies is built over LAN or WAN data network using TCP/IP protocol. ALTEX KEEPER program environment requires OS Windows SERVER W2k or 2003 installation. SQL system is the database engine.

Basic Characteristics of the ALTEX KEEPER System
ALTEX KEEPER cooperates with the ALTEX® central server over ETHERNET interface using TCP/IP protocol. Data reports are generated based on user query from user interface on the SQL database which contains data from all monitored systems.

Besides SQL queries, it is possible to define operational criteria which, if met, will trigger for example ALERT or active response of the system, e. g. close a specific area if the security criteria are breached, etc..



Data Processing:

Access Control System (ACS)

- Cooperation with ALTEX® Access Control System
- Ability to define the query

Electronic Security Signalling (ESS)

- cooperation with electronic security signalling systems such as GALAXY and/or any signalling systems with printer output with CENTRONICS, RS232, RS422 or RS485 interface
- Cooperation also possible in the mode of simulation of the Security Monitoring Centre using protocols e. g. 4+2, contact ID, ...
- Monitoring and evaluation of the alarm/failure event frequencies by device, building or region

Electronic Fire Signalling (EFS)

- Cooperation with electronic fire signalling systems such as ZETTLER, LITES, EFF EFF, ESSER and others with printer output with CENTRONICS, RS232, RS422 or RS485 interface
- Monitoring and evaluation of the alarm/failure event frequencies by device, building or region

Closed Circuit Television (CCTV)

- Processing of data from integrated CCTV systems allows to evaluate the frequency of alarms by device, building or region.

Program Environment Characteristics

As the concept of the ALTEX KEEPER program environment is to act as report generator for evaluation of events in external security systems and/or apply comparative or analysis criteria, it works over the following databses:

- database of ACS, ESS, EFS and CCTV system users
- database of ACS, ESS, EFS and CCTV system events
- database of video events in CCTV system
- database of changes to user forms used in „Audit - Editing" report
- database of history of variables for monitoring and creation of overviews of their development
- database of identification terminals
- database of local installations (WAN installations)
- database of devices such as identification terminals, security sensors, …

ALTEX® Control Electronics and System Devices ■

ALTEX® system philosophy is based on the principle: „ALL DEFINED FUNCTIONS MUST BE AVAILABLE EVEN UPON COMMUNICATION FAILURE BETWEEN INDIVIDUAL UNITS AND THE CENTRAL UNIT OR BETWEEN INDIVIDUAL UNITS".

For this reason the control electronics and devices are equipped with powerful 32-bit processor and a large memory. That means that all access rights and relations between individual inputs and outputs are defined in the memory. This guarantees that the device is capable of operation in the off line mode. When the communication is re-established, all events are transmitted to the control PC and all input-output relations as well access rights are updated.

Control electronic G2

G2 and RDR-HOR Control Electronics ■

Are the basic elements of ALTEX® system, which serve for:

- Access control – up to 4 reading points with expansion module
- Work as ESS concentrator
- Monitoring of technological quantities
- Measurement and regulation
- Remote communication with the building
- ESS and EFS integration

Audio output for replay of up to 4 messages max. 20s long

Control electronic RDR-HOR

Communication Interface	Serial RS232 and RS485, galvanically isolated
ID Technology Reader Connection	Max. 2, combinable - e. g. ID card + eye biometry
Inputs	8x analog input 4x optically isolated input 1 x input for temp. sensors (up 32 sensors/50m) 1x tamper 1 x power supply indication
Outputs	2x relay - 48V/6A switching conttact 1x relay - 48V/1A AC or 30V/2A DC switched 4x open collector 4x LED output 2x output for piezo acoustic transducer 1 x* 2W/8ohm acoustic output

Measurement of temperature by electronics G2 a-RDR-HOR

G2 electronic can also act as:

- Remote switch of ACS and ESS with RS485 interface for up to 128 devices
- Video switch for up to 4 cameras with recording in JPEG or MJPEG formats
- Communication over ETHERNET (TCP/IP), RS232 and RS485 interface
- Enable connection of external ESS and EFS switch outputs over RS232 interface – remote transmission of events to the supervision centre

Parking System- ALT-PARKING ■

Another one of numerous integrated ALTEX® system applications used for operating both public and private parking lots. The system is ready for operation of private parking lot using residential cards while part of the lot capacity is allocated for paid public parking. A contact less card is used as client identification element. Other identification possibilities include paper strip with bar code, RFID remote control, or, for more demanding installations, Licence Plate Recognition system.
The combination of the identification system with the camera system and image digitization module ensures high security standard of the parking lot operation with regards to possible car theft.

Standard ALT-PARKING system consists of:

- Identification card with technology of choice (TAG-IT, MIFARE, HID, TIRIS)
- Card dispenser – device for distribution of identification cards
- Automatic card collector – device for collection of identification cards
- Payment terminal – to pay the parking fees (unattended operation)
- Cash-register terminal – to pay parking fees (operation with attended cash register)
- ALTEX SWG-GAR-X program module – parking system
- image digitization module and Licence Plate Recognition (LPR) module integrated into the system central unit

Card dispenser – has integrated reader which reads cards being dispensed and residential cards as well. It is also equipped with signalling for low stock of cards and empty card container. The card container is detachable and easily exchangeable.

Automatic card collector is equipped with reader and contains a container of collected cards with „full container" signalling.

Automatic coin or banknote cash register is equipped with reader, display for displaying the amount to pay, and coin or banknote machine.

Entrance ■

A card dispenser is installed in front of the entrance gate. The customer presses a button and retrieves the card. While the card is being retrieved it is read by the card reader. When the parking lot is operated in the OFF LINE mode, the time of arrival is recorded on the card or, alternatively, a ticket with bar code is printed. The gate is then opened. If a residential card is identified by the aerial located on the surface of the device, the gate is opened.

Exit ■

At the end of the parking, the customer will pay the fee either at the cash-register terminal (in case of attended parking lot) or at payment terminal, which will mark the card as paid. The system administrator can set a tolerance of the system in minutes so that the next hour is not counted in case the parking time is exceeded. The amount to pay is shown on the display. The operator will print a receipt. After the transaction is complete, the system will automatically open the exit gate.

Fully automated systems are complemented by automatic card collector and automatic coin cash-register. Automatic card collector authorizes the card and opens the gate.

In case of paid customer the card will be collected into the container and the gate will open. The automatic coin cash-register will display the required amount to pay and the payment can be made. After the payment, the card is marked in the system as paid and a pre-defined time period to leave the parking lot begins to run. This period can be freely adjusted according to distance of the machine from parking bays.

Camera System ■

Camera system is a recommended part of the parking system. Camera is located at the entrance and records front of the vehicle including the licence plate number. The camera signal is transmitted onto the digitizing card. The image of the car is paired with the card activated and it will be displayed to the cash-register terminal operator as the leaving customer will pay. The same camera can be placed at the exit gate to record the cars leaving the parking lot. Thus the operator can gain control over individual cars.

View of an entrance to a garage equipped with the parking.

System Parking card dispenser.

Automatic coin cash-register.

Automatic card collector at the exit.

ALR-TERM-DK and ALR-H0 readers.

Variations of TAG-IT technology identification elements.

Identification Technologies ■

ALIMEX Ltd. represents all major producers of identification technologies, and especially in the area of contact less identification cards covers all currently available technologies. Other means of identification we offer is iris biometric identification., where we closely cooperate with a worldwide integrator Byometric systems GmBH (Panasonic, LG and OKI technologies), and fingerprint identification by SAGEM and Suprema.

Identification Media ■

The following types of technologies are on offer:

- Technologies based ISO15693 and 14443 using transmission frequency 13.56 MHz - technologies TAG-IT, iCLASS, MIFARE
- Technologies working on transmission frequency 125 kHz - technologies TIRIS, HID, EM MARIN, MOTOROLA, etc...
- Technologies based on magnetic ID card is the oldest, but still used by some customers.

ALR-TERM-DK ■

- Identification and security terminal with graphic display
- ETHERNET and RS485 interface
- TIRIS, EM MARINE, card technology 13.56 MHz protocol supported according to ISO/IEC 15693/14443 (MIFARE)
- Write to card supported
- Five function keys - definable
- 3 LED diodes signalling the operational states
- Graphical display 256 x 128 pixels, back-lit
- Possible firmware upgrade with new ID card types
- Produced by ALIMEX Ltd.

ALR-H0 ■

- Frequency 13.56 MHz
- Protocol support compliant to ISO/IEC 15693/14443 (MIFARE)
- Wiegand 26-64 BIT and RS485 communication interface
- Possible firmware upgrade with new ID card types
- Produced by ALIMEX Ltd.
- Write to card supported

TAG-IT Technology ■

Is technology from Texas Instruments, a company that belongs among the pioneers in the area of contact less identification which sets the trends for further developments. All readers work according to ISO15693 and 14443, that means that any card, e. g. MIFARE, produced according to these standards, can be identified.

TAG-IT Technology - Reader ■

S6410 Wall Plate Reader + S6420 Mullion Reader

- Frequency 13.56 MHz
- Supported protocol according to ISO/IEC 15693 /14443 (MIFARE)
- Wiegand 26-64 BIT or RS485 communication interface
- Dimensions 12.7 x 12.7 x 2.5cm / dimensions 12.7 x 4.3 x 2.5cm
- Casing for exterior use
- Write to card supported

Besides the standard readers, a module of S6000 series with a reading range of up to 2 metres is available. It is intended for technological applications or for ticket checking, etc.
Automated baggage clearance at London Heathrow and Munich airports belongs among one of best known TAG-IT applications in logistics. The technology is used with great success as costs on passenger clearance and the number of lost or misplaced baggage greatly reduced.

Technologie TAG-IT – Identification Elements

Identification cards are available in 1 kB to 64 kB versions. Application of contact chip for IT security use is a standard.
The advantage of internal rewritable memory can be used in various ways such as:

- Biometric information storage (fingerprint)
- Electronic wallet
- Prepaid public transportation ticket
- OFF LINE access systems

Write installation code without possibility to delete etc.

Mutually compatible identification elements in form of cards, key holders or stickers can be used for identification in systems for controlling access or items in technological applications.

iCLASS Technology ■

As is the case of TAG-IT technology, also iCLASS technology is based on 13.56 MHz transmission. HID Corporation is the manufacturer. A wide range of readers and ID card types, mutually combinable, is available.

R10 Reader

- Frequency 13.56 MHz
- Wiegand 26-64 BIT communication interface
- Dimensions 4.83 x 10.26 x 2.03 cm
- Casing for exterior use
- Read only
- Supports iCLASS, MIFARE cards, read-only SERIAL NUMBE

R30 Reader/RW300 Reader/Writer + R40 Reader/RW400 Reader/Writer

- Frequency 13.56 MHz
- Wiegand 26-64 BIT communication interface
- Dimensions 8.83 x 8.38 x 1.91 cm R30 series / 8.83 x 12.19 x 2.16cm R40 series
- Casing for exterior use
- Read only / RW300 write (iCLASS technology)
- supports iCLASS, MIFARE cards, read-only SERIAL NUMBER

iCLASS technology readers and identification elements.

OEM modules designated OEM 100 (reader) and OEM300 (reader/writer) can be used to integrate the technology into Attendance terminal, PC readers, or KEYBOX®system.
As in case of TAG-IT technology, a wide range of identification cards and elements is available. A combination card with LF and HF assignment can facilitate the transition from HID. Contact chip or magnetic stripe can be fitted and operated.

Biometrical Identification ■

ALIMEX Ltd. offers these biometric technologies: iris recognition, finger prints, and, last but not least, face recognition.

Iris Scanning ■

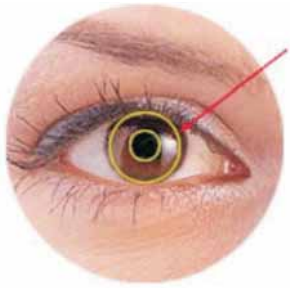
Biometrical identification using iris recognition is another step in improving existing security systems.

We offer all available technologies from iris biometry manufacturers under the patronage of partnership with the patent holder, Iridian™ Technologies, that is Panasonic™, OKI™ and LG Electronics™.

IRIS-RECOGNITION is highly reliable, accurate, non-invasive method for systems with highest security demands. The system is based on the uniqueness of the human eye iris, which is the coloured part of the eye around the pupil. There is no other more unique identifier in the human body, which can be used with such a high accuracy and reliability, as the iris. The iris has more that 240 vectors (Degrees of Freedom – DoF), which are used for identification. Based on the evaluation, a so called IrisCode® is created, which, in terminology of access systems acts as the „card code".

Where can the users of the system be?

- Administrative centres
- Airport areas
- Prisons and police stations
- Areas with access to IT
- Government institutions
- Public buildings
- Hospitals
- Financial institutions and banks
- Industrial zones
- And other applications…



Panasonic BM330.

Products ■

Panasonic BM ET 330 (OKI IRISSPASS-WG)

Device for recognition of both irises simultaneously using two integrated cameras. Integrated camera can be connected to existing CCTV to have complete control over the identification site inside the building. Thanks to ethernet interface is Panasonic BM-330 a solution for local as well as global systems in LAN and WAN networks. The management software is used to define access permissions, monitor individual doorways, and react to current situation.

Our latest innovation is direct integration of Panasonic BM ET330 (ET200-E) model with the ALTEX® Access Control System. A combination of e. g. card identification and human iris biometry can be used for highly secured premises. The result is a solution that can not be, in common practice, abused and overcome.

ALTEX-FR - Face Recognition ■

Face recognition system evaluates unique identification points (DoF) of a face. ALTEX® system is capable to make comparison of the detected face with the database (authorized, wanted, access-denied persons) and trigger relevant response of the system. The response can be voice or graphic alarm that can be distributed by email or SMS message. The system can be applied in access systems, camera systems in cities, stadium, etc.

- Face recognition 1:1, also 1:many faces in one camera frame.
- Minimum detectable facial size 30 x 30 pixels.
- Maximum number of faces detectable in a single camera frame: 12.
- Face Detection speed less 1 s.
- Face Recognition/comparison speed < 1 s.

Application – detection of persons from camera systems, access systems.

CERTIFICATION ■

The ALTEX® Integrated Security System and the ALIMEX company have passed the certification procedure by the NBU (National Security Office of the Czech Republic). ALIMEX company built and developed Quality Management System.

NOTES

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