

STENTOFON

SECURITY COMMUNICATION & INTEGRATION



WHY STENTOFON?

EFFICIENCY IN SECURITY OPERATIONS

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When choosing a communication system for demanding environments such as a control room performing critical operations, an important criterion is the seamless integration of security devices. With speed and reliability being vital operational elements of a control room, nothing is faster or more reliable than a single intercom station handling multiple security applications such as CCTV, audio, access control, two-way radio and mass notification.

The STENTOFON AlphaCom E is the most advanced VoIP communication system on the market today. Our wide-band audio, call set-up time (milliseconds) and flexibility is unmatched. STENTOFON utilizes a codec that allows for better frequency response than standard telephony. And when it comes to system logging and reporting, the AlphaCom E is unsurpassed with its SNMP, SYSLOG and e-mail functions.



BUILDING & SITE SECURITY



AIRPORTS



PARKING



PRISONS & CORRECTIONAL FACILITIES



HEALTHCARE



ROAD & RAIL



INDUSTRIAL SITES



EDUCATION FACILITIES



CONTROL ROOM MASTER STATION

The IP Control Room Master Station is a special purpose intercom station for control rooms. The station is equipped with both handset and gooseneck microphone making it perfect as a multi-functional communication device for intercom as well as public address, radio and telephony. The station can be extended with an IP DAK-48 unit. This unit provides fast access to users and functions as well as visual indicators to show status such as system status, call request, conference participants, active talker and more.



DESKTOP MASTER STATIONS

The Dual Display and IP Desktop stations are designed to provide fast, handsfree and direct communication. These stations are also ideal for security control rooms. All available functions in the exchange can be dialed directly from the keyboard or through single buttons (Direct Access Keys).



IP DECT CORDLESS

STENTOFON IP DECT cordless intercom is the ideal solution for the roaming security guard, enabling reception of calls with text and station number as well as to control speech direction, open doors/gates and carry out "all call" paging in an emergency.



SUBSTATIONS

Intercom substations can be used as emergency help points or placed near doors or inside elevators. The call button(s) can be programmed to call a single number, normally to a group of security personnel where anyone can answer the call.



VANDAL RESISTANT STATIONS

These stations are made of stainless steel and special measures have been incorporated to protect the buttons, speaker and microphone from being damaged. A tamper alarm can be raised if somebody tries to remove the station from its location.



HEAVY DUTY STATIONS

These stations have special protection against the ingress of water and dust, and are therefore suitable for outdoor mounting and use in industrial environments.



ELEVATOR STATIONS

As elevator communication is considered to be a critical function, it is covered by many international standards and regulations such as the Americans with Disability Act (ADA) and EN81. STENTOFON stations and station kits for elevator communication systems comply fully with all these standards and regulations.



PRISON STATIONS

These are special stations for prison cells. Besides being tamper and vandal proof, these stations have an integrated light call system which provides a redundant call annunciation capability.

ONE STATION MULTIPLE APPLICATIONS



IP CONTROL ROOM MASTER (CRM)

STENTOFON's Control Room Master (CRM) Station connects the security control room with voice and audio, providing access to intercom stations, telephones, public address, radio systems as well as intercoms at doors, gates and emergency points. The station features advanced call queuing with priority, providing simple usage for quick operator response to alarms and emergencies. This advanced Control Room Master is IP based with remote upgrade and maintenance capabilities.

- One button – one function – quick and easy access functions
- Crystal clear audio quality
- Clear indication of incoming calls
- Call queuing
- Call routing to several guard positions in parallel
- Emergency and general broadcast messages
- Night time transfer
- Tamper alarm
- Fault reports
- Priority for emergency calls
- Open duplex and push-to-talk



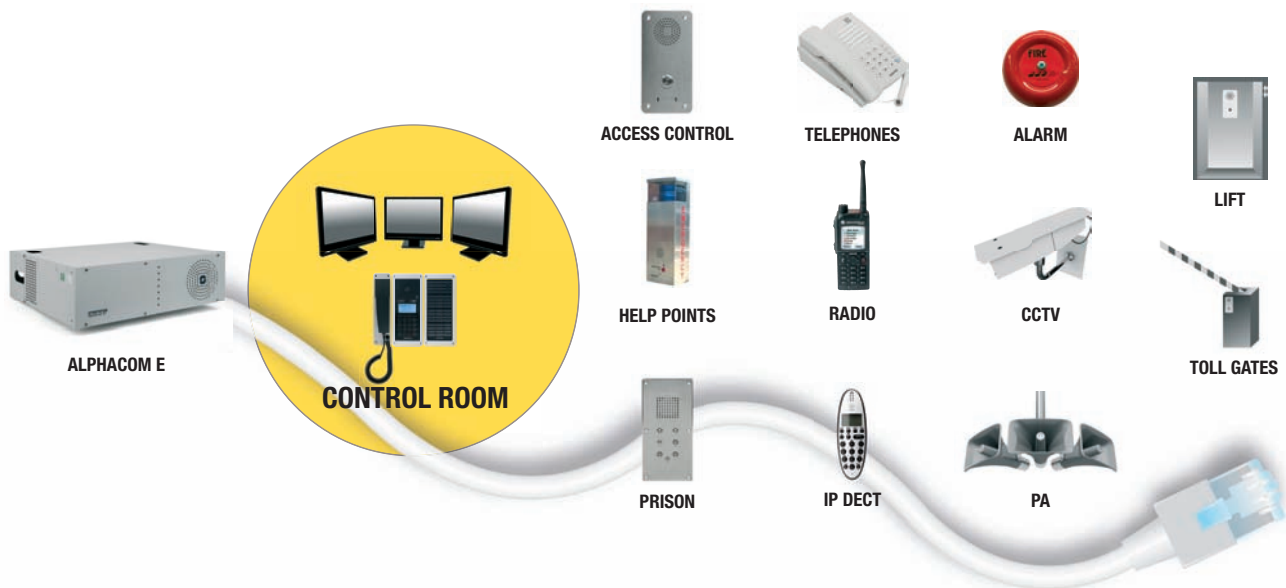
ACCESSORIES



IP DAK-48 UNIT

STENTOFON's new IP DAK (Direct Access Keys) unit helps to augment the functions of the IP CRM station. The unit has 48 (can be expanded to 96) direct access keys that can be easily programmed to simplify control room functions such as single key access for calling intercom stations and other features. When connected, the DAK unit acts as an integral part of the IP Flush Master station, giving access to a large number of direct access keys with related LED indicators.

- Visual indications with two LEDs (green/red) per DAK key
- All keys have backlight (adjustable)
- Easy labeling of keys
- Advanced call request handling with visual indications
- CCTV and intercom integration
- Dynamic group call and PA zone selection
- Simplex (radio) conference with visual indications



DYNAMIC GROUP CALLS

AlphaCom E provides advanced public address capabilities. The dynamic group call function allows the operator, to on the fly, select which intercom stations and public address zones that shall be included in the PA broadcast. LED indicators on the IP DAK-48 unit will show the zones and intercom that are selected.

EMERGENCY CALL WITH ACKNOWLEDGE

In addition to group call and dynamic group call, it's possible for the control room to require an acknowledgement code dialed from the station receiving an emergency call. This ensures that the message has reached the recipient. The recipient's corresponding LED button on the DAK unit will indicate a slow blinking red that changes to green when the call is acknowledged.

CALL HANDLING

To manage applications with high call volume and multiple operators, AlphaCom E supports parallel handling of call queues. In addition, calls can be transferred from a local control room to a central control point if the operator is busy or absent. The control room station can be equipped with a DAK unit. This DAK unit provides single touch access to stations, groups, public address zones, radio groups, and remote control of doors and gates. Furthermore, there is LED indication for call request, active conversation, and door open/close status.

CCTV AND INTERCOM INTEGRATION

Images from a security camera appear automatically on the monitor at central control when a call request is initiated. As AlphaCom E creates the camera call up, guards can maintain their focus and seating positions by using a STENTOFON master station to answer calls.



RADIO CONFERENCING (SIMPLEX CONFERENCE WITH LED INDICATION)

Great effort has gone into ensuring that radio networks are easily integrated with AlphaCom E. STENTOFON's Wireless Division affords us the advantage of understanding the demands that radio places on integration. Radio channels can be distributed to as many

operators as required for the application. With each radio channel handled as a subscriber of the intercom exchange, the radio circuit can be physically connected via IP, allowing for remote radio coverage from any area regardless of the location of the exchanges or subscribers. With the DAK unit, the operator can easily see on the LED buttons which stations are monitoring the radio channel and which stations are talking.

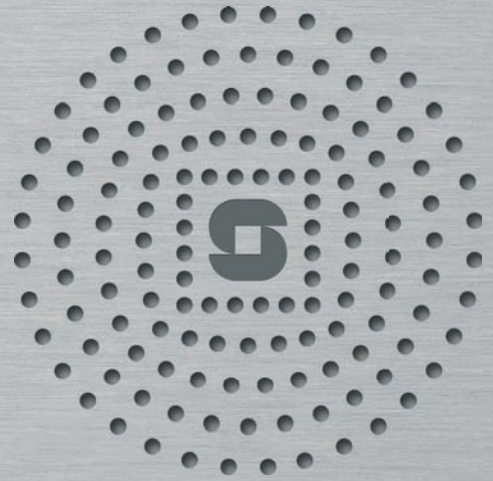
CALL ESCALATION

Call requests can be made in parallel to groups of guards. In emergency situations, when guards may be occupied, call requests that go unanswered can be escalated to a different control room ensuring response time remains within system requirements.

PRIORITY CALLS AND BROADCASTS

Certain calls and broadcasts (group calls) are inherently more important than others based on the source of the call. For example, an incoming call designated as "Fireman's Intercom" should be a priority to its intended recipients. AlphaCom E recognizes several levels of priority for calls and group calls which can be assigned to each station. Various STENTOFON intercom stations combined with the InterGuard amplifier have functions such as "full volume override" and "handset override" to ensure high audibility.

INTEGRATION ENHANCES SECURITY



Tracking, controlling and responding to events is more effective when the data generated by each security device is managed through one interface and single control point. AlphaCom E offers centralized control over the entire security system via control room master stations, PC-based control handler software and interfacing with third party management systems. The management features of the AlphaCom E system reduces vulnerability to incidents and improves response time.

AlphaCom E seamlessly integrates with a range of systems such as CCTV, IP and PBX telephony, radios, DECT telephones, public address and access control. Through this integration, AlphaCom E functions not only as a communication system but also as an integral part of the control center.

RADIO INTEGRATION

Radio channels can be distributed to as many operators as required for the application. Each radio channel is handled as if it is a subscriber of the intercom exchange. As a subscriber, the radio circuit can physically be connected via the IP network. The area needing radio coverage can therefore be remote from the location of the exchange and the control room.



Each radio channel can be shared by many operators, even if these operators are connected to different exchanges. As described above, a network of exchanges operates as if it is a single exchange, no matter where the exchanges or its subscribers are.

PUBLIC ADDRESS INTEGRATION

The AlphaCom E exchange has advanced PA capabilities such as Group Call and All Calls (a special group where all stations are a member). Subscribers can be a member of up to 250 groups, and each group can have an unlimited number of members. In an AlphaNet (STENTOFON's internal networking technology for critical communications), groups can span as many exchanges as required even if they are in totally different locations.



The exchange supports simultaneous group calls, even to groups with overlapping group membership. Stations in overlapping groups will hear the call with the highest priority. If too many (programmable) stations overlap, the overlapping group call will be temporarily blocked.

PA amplifiers can be connected to the exchange as if they were intercom stations, meaning that the exchange becomes an integrated communication and PA system all in one; it becomes a realistic option to connect small PA amplifiers via the IP network and in this way, address small remote areas, so-called Microzone PA.

Alternatively, a third party PA system can be connected to the exchange where audio broadcast via the PA system is also sent out via intercom stations. This greatly improves intelligibility in, for instance, offices which would otherwise rely on a message being audible through a speaker in a corridor. In the other direction, intercom stations become available as user panels for the overall PA system.

The AlphaCom E exchange also stores pre-programmed broadcast messages which can be sent out at will from an intercom or PA panel at pre-determined times or triggered on an

event from an external system. Coupling of the exchange to a fire alarm system can, in this way, provide a very effective evacuation scheme in case of fire, especially as each intercom station will also broadcast the alarm message.

MASS NOTIFICATION

Mass notification is, as the term implies, about notifying as many people as possible about a critical, potentially life threatening, event. This can not only be done by live PA announcements or broadcasts of pre-programmed messages, but also by switching on flash strobe beacons, closing or opening doors, sending e-mails and other vital actions. AlphaCom E can be an integral part of the whole system, not just through its audio capabilities but also through its digital inputs and outputs, its data connections and the possibility to combine many actions together via the built-in scripting language capability.



Alarms can be started by pressing a button on an intercom, an interface from a fire alarm system or any other event detectable by the exchange. The STENTOFON AlphaCom E system will then perform the required pre-programmed actions in an emergency situation as described above.

CCTV AND INTRUDER ALARM

The intruder alarm gives a signal to the AlphaCom exchange. It in turn sends out a pre-recorded message to the intruder and instructs the CCTV system to connect a camera to a monitor; it also gives an indication via an audio alert and information on the display to a guard to attract his or her attention.



COM

This is just one of the many scenarios which can be programmed for automatic handling by AlphaCom E. Of course it is also possible to open up an audio link between a nearby intercom and the guard station. The guard can now not only see what is happening, he can also hear what is going on. All this is possible through the multitude of data and logical interface points and the programmability of the exchange.

IP TELEPHONE INTEGRATION

A major advantage of the AlphaCom E exchange is that both STENTOFON intercom stations as well as standard off-the-shelf telephones, including SIP Telephones, can be connected to this exchange.



With the implementation of the SIP protocol in the AlphaCom E exchange, SIP telephones are handled by the exchange as if they were STENTOFON intercom stations. They can therefore benefit from the features that have been implemented in the exchange software, depending on the physical properties of the actual connected telephone.

A SIP telephone does not have to be a physical unit as it can also be a soft client running on a PC, a PDA or a SmartPhone. A WiFi phone can be used by a guard doing his rounds. Calls to the control room can be forwarded and answered from the WiFi phone which, just like a

standard intercom, even provides the possibility of executing functions like opening a door.

IP DECT WIRELESS INTERCOM INTEGRATION

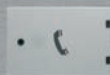
A STENTOFON IP DECT telephone is the portable version of a SIP telephone. DECT telephony is based on a cellular radio system with auto-handover between cells. It is therefore possible to cover large sites with what in reality is a portable intercom station.



STENTOFON has also developed a transmission technology which makes it possible to use IP DECT telephones even in areas where radio coverage could be a challenge. As an example, this technology enables the Marine Division to provide portable intercom communication even below deck with handover between cells that are in different watertight compartments.

Parking garages and tunnels are some of the other areas which can benefit from this technology; a guard can always be reached or be able to call for help, no matter where he or she is within the covered area.

EXTERNAL COMMUNICATION AND TELEPHONY



Many end-users already possess a telephone exchange but require functionality for

certain locations which can only be provided by an AlphaCom E exchange. In that case, it is very important to be able to link AlphaCom E to the telephone exchange such that direct communication between subscribers of the two systems is possible. The implementation of the SIP protocol in the AlphaCom E software allows trunk lines to be defined between the two systems. A telephone system which supports the SIP protocol itself can be connected directly via the IP network, while legacy PABX systems can be connected via either an analog or an ISDN gateway. In the same way, it is also possible to connect the AlphaCom E exchange directly to the public telephone network, thus enabling emergency services calls directly from the intercom station.

The ability to link to the public network also makes it possible to provide EN81 compliant lift communications systems even for buildings where there is no 24-hour manned control room, as calls from a lift stuck between floors can always be transferred to a remote emergency call service.

It even becomes possible to use lifts in a building under construction that is not yet connected to the telephone network as the SIP trunk feature also enables the linking of the AlphaCom E exchange (via its connected lift intercom system) with the mobile telephone network through a GSM gateway.

CONNECT. PUSH.



- CRM STATION**
- PUBLIC TELEPHONE AND PABX**
- IP TELEPHONES AND DECT**
- REMOTE I/O**
- INTERCOM**
- RADIO**
- PA**
- SECURITY MANAGEMENT INTEGRATION**

SDK – Software Development Kit

An SDK is a collection of programming tools, utilities, documentation, and libraries of functions or classes. SDK is a term popularized by Microsoft as in Windows SDK or Windows Media SDK.

API – Application Programming Interface

An application programming interface is a set of routines, data structures, object classes and/or protocols provided by libraries and/or operating system services in order to support the building of applications.

STENTOFON INTEGRATION TECHNOLOGIES



**STENTOFON AND THE
MICROSOFT .NET FRAMEWORK**

The STENTOFON AlphaCom E system boasts a large number of standard functions which makes it a platform suitable for any communication need. The system can be further extended via a set of integration points to external systems such as building automation, video surveillance, public address and fire alarm systems as well as providing connection facilities for alarm sensors, telephone network, and printers to name a few.

Integration partners develop security management applications to make a complete and coherent solution from all these systems, such that guards can easily operate the equipment without having to know all the different user procedures for each separate piece of equipment.

The STENTOFON AlphaCom E exchange supports several methods for integrating to a security management system. Integration can be done via the proprietary AlphaNet Data Protocol or industry standard technologies such as OPC and .NET.

OPC

OPC is an open standards specification which defines a consistent method of exchanging real-time automation data between PC-based clients as well as controlling system connected hardware. Hardware, such as the AlphaCom E exchange, presents information about the capabilities and status of its connected intercom stations in a consistent manner to any OPC based system management software package.

This consistency means that there is no need to write specific interface protocol software for each combination of hardware and management software. Particularly in projects where the management software needs to control more than just the intercom exchange, this is an enormous saving in cost and labor. The AlphaCom E exchange communicates with the management system to report on the different statuses of its intercom stations. Furthermore, it lets the management software know that it can accept commands such as calling, cancelling of calls, and many more.

A typical application is a large building with an AlphaCom E intercom exchange, CCTV, intruder alarm, fire alarm and access control, all connected to an OPC based management system. The guards receive information from all these different systems in a recognizable and consistent way, thus easing and simplifying the operation of the total system.

.NET

The STENTOFON Software Development Kit (SDK) makes it easy for 3rd party developers to make value added applications for integration with the AlphaCom E system.

The SDK is based on Microsoft .NET technology. This gives the 3rd party developer access to a wide set of software components as well as an extensive Microsoft .NET development environment and tool set.

An application programming interface (API) is included in the SDK with a set of routines, data structures, object classes and protocols. The API provides a high level interface for Windows applications and Web services to access STENTOFON AlphaCom E communication services.

To support the 3rd party developers, STENTOFON has developed help files, manuals and an extensive set of Wiki pages, thus providing the developers with a guide introduction and extensive support in using the STENTOFON SDK.

The STENTOFON API for the AlphaCom E exchange allows for a very close integration between the AlphaCom E exchange and security management systems. Internal exchange status information is reported by raising events, and commands can be sent into the exchange by calling the appropriate method.

WIDE AREA NETWORKING



STENTOFON ALPHANET



Up to 254 AlphaCom E exchanges can be installed in AlphaNet, STENTOFON's exchange network. Functionally, exchanges in an AlphaNet share the same capabilities as are available in a single exchange. An AlphaNet appears to each user as if it is one large exchange with up to 140 208 subscribers. These exchanges can be geographically dispersed such that a user can call somebody in the next office or on the other side of the world without having to dial additional prefix codes.

An AlphaNet configuration is an ideal solution for a global company with local security during the day time but a single global main control room where either overflow, escalated or out-of-hours calls are handled. While local exchanges are used to handle local traffic, they are also connected to an AlphaNet such that calls can be routed between the different sites.

AlphaNet can also be used on a single site purely to increase reliability. Exchanges in different buildings or even floors enable local communications, independent of a possible incident in another building. Dynamic AlphaNet linking means that calls between exchanges never have to pass through a transit exchange, while alternative routing can further increase the probability that inter-exchange calls will get through in critical situations.

Exchanges in an AlphaNet network can be connected using different transmission technologies such as IP, E1/T1 or even direct wiring. To enhance call completion between exchanges, alternative routes between exchanges can be defined with the option of mixing different transmission technologies on these routes. Networks which span the globe can be built as there is no geographical limit to the deployment of exchanges.

MAINTENANCE AND MANAGEMENT



INDUSTRY STANDARD MANAGEMENT INTERFACE

With support for industry standard protocols (SNMP, syslog, HTTP, NTP) for supervision and maintenance, the management and operation of the STENTOFON AlphaCom E system can be aligned with other systems handled by the IT department.



EFFICIENT SYSTEM RENEWAL AND UPGRADE

System behavior and software upgrades can be managed from a central location for all sites.



AUTOMATIC MONITORING AND SUPERVISION

AlphaCom E's advanced network monitoring and supervision function allows for fast detection, identification and repair of faults throughout the system.

User actions and faults can be logged and information can be distributed via e-mail, SMS or other means to the control room, mobile maintenance staff or others in the organization according to need.

VoIP technology allows the AlphaCom E system to perform seamlessly over a building's network, across town or around the globe.

STENTOFON CRITICAL COMMUNICATION

THE VOICE OF SECURITY SYSTEMS

In order to provide the perfect solution to your critical communication requirements in the control room, AlphaCom E allows for a wide set of call modes and communication services to integrate intercom, radio, public address, and telephones.

Through Connect Mode allows calls to be instantly connected in loud speaking mode. This is the default mode for intercom.

Ringin Mode allows calls to be presented as a ringing call to be answered by lifting the handset or pressing a key for clear sound and speech. This is the normal operation for telephone calls.

Ringin Group Mode allows calls to be made to ringing group consisting of multiple stations. All stations will ring, allowing the call to be accepted at any station. This is the normal mode for guard stations.

Call Request Mode is used by AlphaCom E to put incoming calls in a queue in one or several guard stations. A call can be transferred or escalated according to importance. When the call is answered by one guard, the request will be removed from all queues. This is the default mode for incoming calls to the control room.

Group Call Mode is the default method for accessing the Public Address system. Group calls begin with an announcement 'Ding Dong', and the operator must use Push-to-Talk to broadcast the message.

Push-To-Talk Conference Mode is the default method for accessing radio systems. Operators manage their access to the conference using the Push-to-talk key.

Open Duplex Conference is a conference providing audio mixing between multiple participants. In an open duplex conference, the users do not need to use Push-to-Talk keying. An open duplex conference can be used to listen to multiple radio channels with visual indications on the radio channel that is talking.

SPECIAL CRITICAL COMMUNICATION FUNCTIONS

Volume override - An emergency broadcast will be audible at maximum level independent of the volume setting of the station.

Handset override - An emergency broadcast will be audible through the loudspeaker of the station, even if the handset is off-hook. With this feature, an emergency broadcast will be audible even if the handset was not replaced correctly at the end of a conversation.


Busy override - Outgoing calls from certain intercom stations can be deemed of such importance that the caller should be able to break-in if the destination of the call is busy; breaking in is a simple operational procedure.

Push-To-Talk priority - Users having Push-to-talk priority will be able to break into a simplex conference.

Priority override - Outgoing calls from certain intercom stations can be deemed of such importance that the caller should always get through immediately.

Day/night mode - Automatic redirection of calls and call requests based on the time of day.

Group call priority - Intercom stations can be assigned different levels of group call priority.

 STENTOFON AlphaCom E not only gives security a voice but provides an open platform for seamless integration with Critical Communication Systems

Communication Services	Control Room Stations Intercom IP Telephones IP DECT Wireless handsets Public Address Radio External telephone systems
Security Management Integration	STENTOFON SDK Microsoft OPC AlphaCom Data Protocol
Telephone Integration	SIP Trunk SIP Telephones Telephone Gateways (analog, GSM, ISDN)

IT Integration	SNMP, Syslog, NTP, HTTP(S), ASCII log
Paging Integration	ESPA 4.4.4
Control Room Communication	Call Request Remote Control Call Queue with priority Parallel call queue and call requests Transfer of call queue and call requests PA announcement Dynamic Group Calls
Wide Area Networking	STENTOFON AlphaNet PA Announcement Dynamic Group Calls

1952



1964



1975



2009



ABOUT STENTOFON

STENTOFON's origins date back to 1946 as Stentor Radiofabrikk, specializing in radio communication systems for ships and fishing boats. Stentor later extended its range with intercom systems sold under the brand name of STENTOFON.

Today STENTOFON is the most recognized brand name in the company's portfolio, bringing you a new generation of communication solutions. Its strength lies in an evolution to IP technology while maintaining full backwards compatibility with existing installations and technologies.

The AlphaCom E platform opens up more possibilities for new and existing markets and confirms STENTOFON's prime global position in security communications.

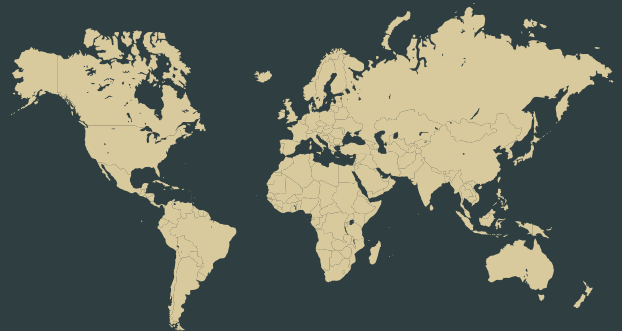


STENTOFON

**60 years of experience in
security intercom**

GLOBAL SALES AND DISTRIBUTION

STENTOFON products are distributed and sold through a world wide network of partners and distributors. For a complete distribution overview, please visit www.stentofon.com



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