VirtuoSIS®

by Commend

The world's first Software Intercom Server.

Security and Communication
for People, Buildings, Assets and Hannah.

SECURITY & EMERGENCY | MOBILITY & SERVICE | INDUSTRY & INFRASTRUCTURE | HEALTH CARE & EDUCATION

Commend Intercom Landscape

Commend provides communication with a system: solutions designed and manufactured with people and the environment in mind. The Commend product portfolio covers every Intercom need, from simple point-to-point intercom systems to complex integrated solutions. Commend's building-block design concept ensures that all of the various security systems like CCTV, Access Control, Mobile Radio etc. combine to form a single, easy-to-use-and-manage platform.

Intercom Terminals

Commend manufactures Intercom terminals for every application and environment – including, for example, stations with anti-bacterial surfaces for hospitals, vandal resistant help points for subway stations, and vigorously robust units with explosion-proof certification for the petrochemical industry.

Wallmount Stations

Membrane Protected Stations

Vandal Resistant Emergency Call Stations

Vandal Resistant Stations

Intercom Stations with touch screen

Stations for people with visual and hearing impairments

Intercom Modules for Customer Specific Stations

Desktop Stations

Detention Cell Terminals

Door Stations and Access Control Modules

Stations for Ex Zones

Stations for Industry and Infrastructure

Intercom Control Systems

Control Desk systems by Commend provide a continuous system-wide overview to support instant reaction in case of an emergency. Even the most complex Intercom networks or video and control functions can be handled with ease, thanks to the clearly structured Commend solution user interfaces for CONDUCTOR and DUETTO.

Control Desk solutions

Intercom Server

The Commend Hardware and Software Intercom Servers (SIS) form the core element of our Intercom solutions. As dedicated "audio specialists" and interface managers the Servers integrate seamlessly into security systems to give them a strong, reliable voice.

IoIP
SIP
Digital
Analogue

IoIP

VirtuoSIS

ICX/IP
RS232

Software Intercom Terminals

Commend's Software Intercom Terminal transforms regular Smartphones, Tablets or regular Windows-based PCs into Intercom Stations and gets Intercom communication mobile.

Local Networking

Hardware-based Intercom Servers can easily be networked locally via a variety of different technologies. Upgrading the number of plug-in slots allows for easy installation of additional subscriber, interface and input/output cards. Software Intercom Servers can be upgraded with licenses and it takes only a few clicks to add extra instances (subscribers and functions). What is more, software-based and hardware-based Servers can be linked together via IP network connections.

SIS Master
SIS Instance 1
SIS Instance 2
SIS Instance 3
SIS Instance 4
SIS Instance n
Linux
Virtual Machine

IoIP

GE 800

GE 800

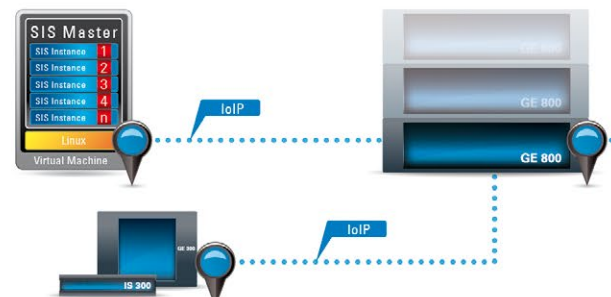IS 300

IoIP

Configuration and Remote Maintenance

The Intercom systems can be configured and maintained either from within their own data network or remotely via connections over the Internet.

System diagnostics, adding additional features and extending system capacity is easily provided and is achieved remotely on a software license basis.

CCT 800

Software Intercom Control Systems

What has happened? Where and when has it happened? How can one help the caller? ComWIN provides the necessary information within a single, uniform software application. All Control Desk functions of the Intercom Server support interactive on-screen visualisation.

Control Desk visualisation

ICX Protocol

InterCom eXchange protocol (ICX) provides a standard, open protocol for communication between Intercom Servers, Commend software applications and other third party systems.

ICX/IP
ICX/RS232

ICX/IP
ICX/RS232

IoIP
Digital
Analogue

GE 800

Worldwide Networking

IP connections (LAN/WAN) enable worldwide multi-site networking for communication in Commend's trademark high quality. Up to 30,000 subscribers can communicate within these networks.
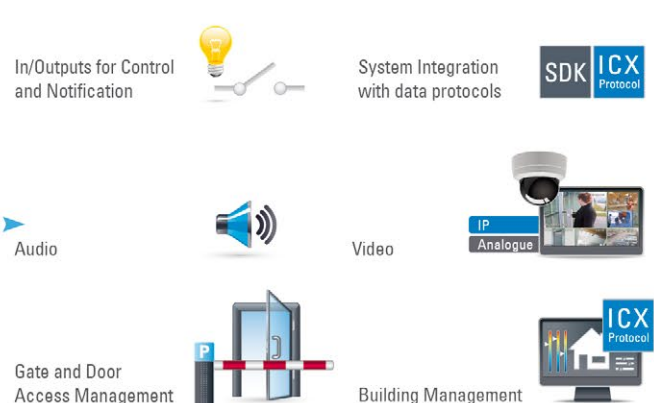
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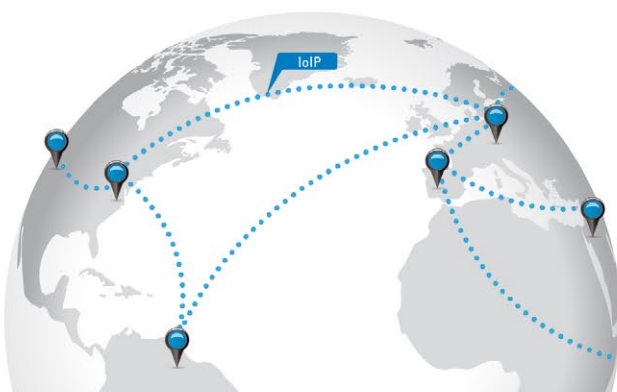
Standard Interfaces

Commend Intercom systems support widely available standards such as OPC, SIP, TETRA, as well as a large number of existing and well-proven interfaces to third-party systems.

Video

IP
Analogue

Building Management

OPC

VoIP/SIP-Server

SIP

VoIP/SIP Telephones
Analogue Telephones
Mobile Telephones

Analogue and TETRA
mobile radio

Telephone network

PSTN

Custom Interfaces

Implementing custom tailored audio, data and video interfaces is no problem either. Supported options range from the use of simple signal contacts for control and messaging purposes to the full integration of third-party systems.

In/Outputs for Control
and Notification

System Integration
with data protocols

SDK | ICX Protocol

Audio

Video

IP
Analogue

Gate and Door
Access Management

Building Management

ICX Protocol

Public Address and Induction Loop Amplifiers

Advanced networking technologies and unique functions such as IVC (Intelligent Volume Control) are the hallmark of the Commend Amplifier and IP Loudspeaker series. They are designed for universal use in applications up to complex Public Address and Intercom solutions.

Audio Amplifier

AF 50

IP-Loudspeaker

IP   IP   IP   IP

Audio Induction
Loop Amplifier

BECAUSE EVERY WORD COUNTS.

Because every word counts, everything speaks for solutions from Commend. Because every second may be decisive, people need a technology which not only functions, but is 100 percent reliable – in all situations, 24 hours a day.

At Commend, we are fully aware of our responsibilities as every day, millions of people worldwide rely on us. Whether in the London Underground system, in a multi-storey car park in France, in a steel mill in china or in a hospital in the USA: effective communications and security are our driving forces.

For this reason, we continue each day to develop and work on solutions which are better, solutions which are simpler but which at the same time open up new possibilities. Solutions which not only serve their purpose, but which also provide a feel-good factor. The feeling of security and trust.

With this product catalogue, we provide you with information on the latest state-of-the-art technology from Commend. Because every word counts, we will be pleased to hear from you and listen to your opinions – whether relating to our products, our organisation or simply to the Commend brand. Write to us at: marketing@commend.com

Intercom Landscape

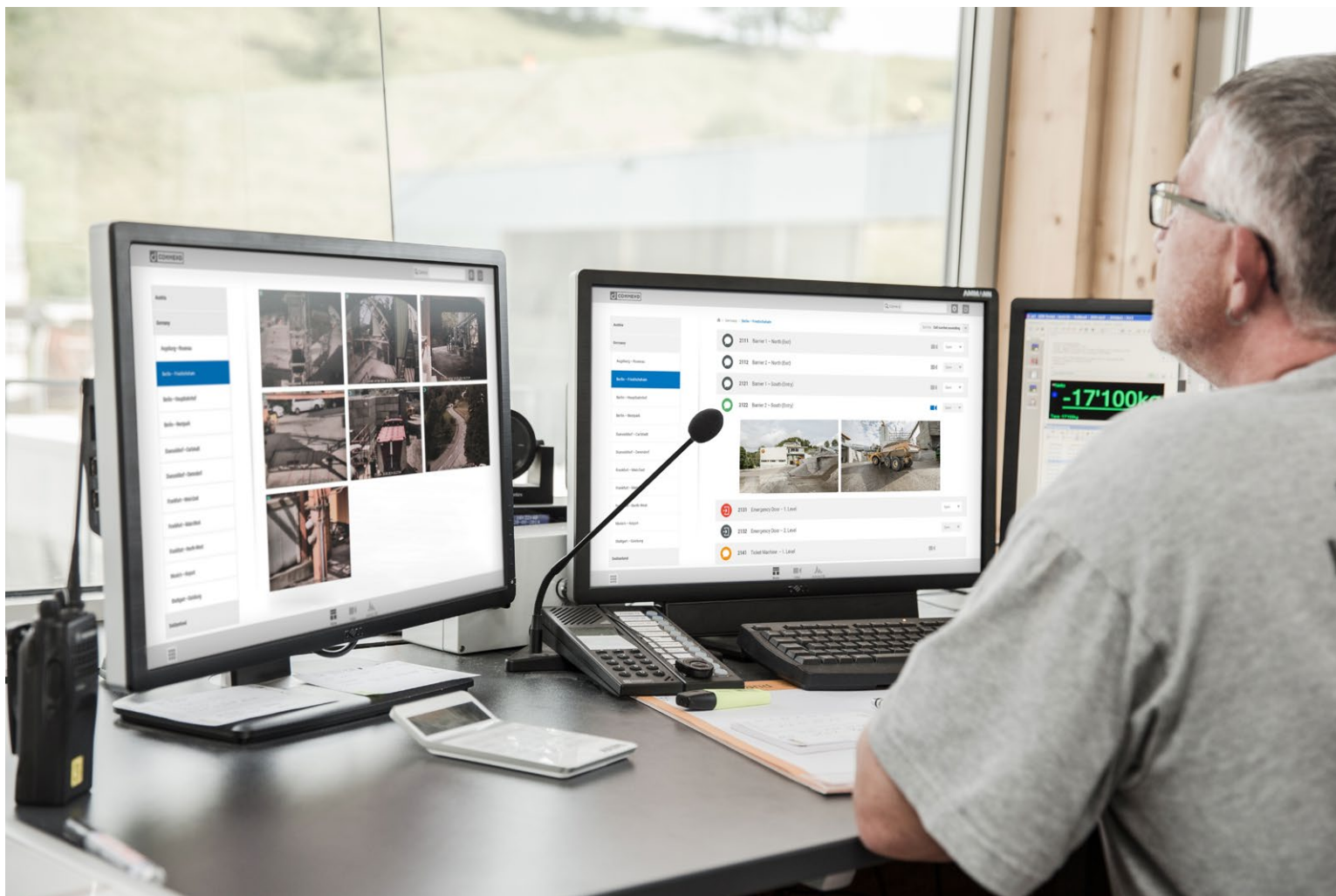Open the cover and discover the solution competence of Commend.

VirtuoSIS

GE 800

Content

Speech. Images. Data.
Information that enhances security.

For security with enhanced communication.

This includes the networking of visual and audible information. Commend has developed a digital system platform that meets the highest security and communication requirements – with a uniform operating interface, interactive, modular and adaptive.

On one platform. In one network.

› Multi-functional terminals. Terminal devices and user interfaces that employ state of the art DSP technology.

› Intercom Servers for any environment. From hardware-based Servers for systems of any size,
  to Software Intercom Servers for virtualised IT infrastructures.

› Local networks. The central Intercom control unit serves as the interface manager for a speech-image-data network.

› Global networks. Local networks are interconnected via standardised protocols to form global communication networks.

› Modern structures. Digital system networking via IP, 2-wire HDSL, ISDN or E1.

› Easy programming. The configuration of the Intercom server is carried out with a user-friendly PC program.

› Flexible VoIP interface for SIP/IAX connections – easy integration of SIP telephones and VoIP servers into Intercom systems.

The ORIGINAL
OpenDuplex®

Natural Communication
since 2003

Actual distance: 3,935 km // Felt distance: 1 m

A natural communication experience as
loud and crystal clear as a face-to-face conversation...
...made possible by a Commend Intercom system.

22:47
UTC +10 h
Incoming call from a car park in Perth.
A customer is having difficulties paying
with her credit card at the exit gate.

22:48
UTC +10 h
The call centre agent responds to
the request by talking the customer
through the payment process, then
wishes her a nice evening.

Perth

Sydney

Discover the outstanding
Audio Technology from Commend
audio.commend.com
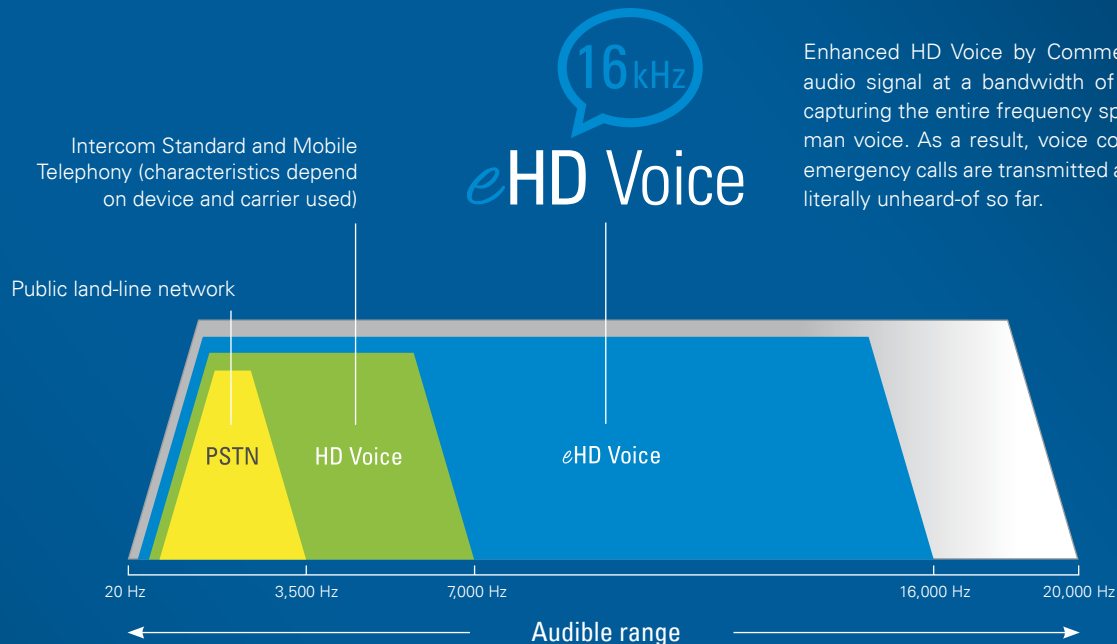
COMMEND
SECURITY AND COMMUNICATION

Ultimate speech intelligibility in any situation

Since its foundation over 40 years ago, Commend has been re-searching and perfecting the speech quality of its systems to provide customers and users with the highest possible speech intelligibility even under the harshest conditions.
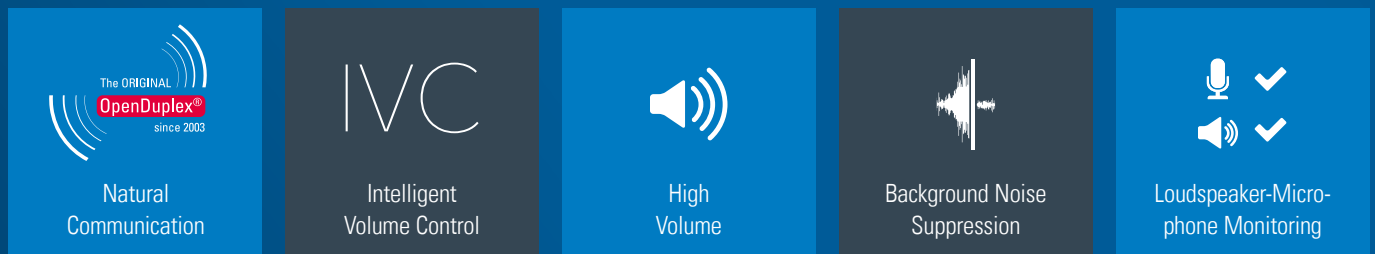
In the multi-faceted world of Intercom acoustics, everything down to the smallest influencing factor is taken into consideration when it comes to perfecting acoustic qualities – from basic physical sound properties to signal processing and the selection of individual electronic components.

In doing so, Commend keeps extending the technical frontier. **Passion for Audio by Commend**

Enhanced HD Voice by Commend transfers the audio signal at a bandwidth of **16,000 Hz**, thus capturing the entire frequency spectrum of the human voice. As a result, voice communication and emergency calls are transmitted at a level of **clarity** literally unheard-of so far.

16 kHz

eHD Voice

Intercom Standard and Mobile Telephony (characteristics depend on device and carrier used)

Public land-line network

PSTN | HD Voice | eHD Voice

20 Hz | 3,500 Hz | 7,000 Hz | 16,000 Hz | 20,000 Hz

Audible range

| Natural Communication | Intelligent Volume Control | High Volume | Background Noise Suppression | Loudspeaker-Microphone Monitoring |

The ORIGINAL OpenDuplex® since 2003

IVC

Audio Facts

❯ **OpenDuplex®** – Commend Standard for **natural conversation** experience since 2003 – simultaneous loud speaking and listening.

❯ **STI (Speech Transmission Index) 0.96** – measured under acoustic laboratory conditions; STI is a standard measure for speech intelligibility. It has a possible maximum value of 1.00, which corresponds to perfect intelligibility.

❯ Clear voice transmission at **high volumes** with **intelligent volume control (IVC)** to ambient noise conditions.

❯ Dynamic **background noise suppression** virtually eliminates all ambient noise.

❯ **Loudspeaker/microphone monitoring** – ensures the availability of the Intercom station while reducing the need for manual verification of its functionality.

❯ **Audio Monitoring** – user security with support for fully automated system actions (e. g., emergency call) at defined noise levels

❯ **Public Address functions**

❯ **Audio recording** and **lip synchronous Audio/Video recording** of conversations for documentation and evidence keeping purposes.

❯ **Peer2Peer Audio** reduces network and server load to ensure efficient use of resources.

❯ **Conference Call function** for simultaneous talking with multiple conversation partners.

❯ **Speech activity detection** senses when calls are finished (no microphone signal) and terminates the connection automatically.

❯ **Simplex mode** for applications requiring controlled communication – e.g., security solutions based on the 'push-to-talk/release-to-listen' method.

❯ **Equalizer** for fine-tuning Intercom stations to ambient acoustic conditions.

# Integration. Convenience. Security.
Requirements met with Perfection.

Complete systems from one source.

The current trend in security and communication requires comprehensive and compact system solutions that integrate all elements of communication.

Commend offers a large number of features that facilitate the creation of purpose made communication and security solutions for each application area.
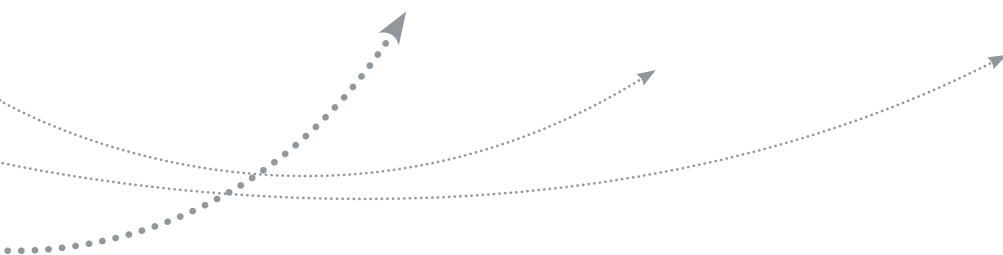
Security and Emergency | Mobility and Service
Industry and Infrastructure | Health Care and Education

Intercom Facts

❯ Central control. Control desk systems and graphical user interfaces for speech, video, control and display functions.

❯ Easy integration. Integration into 3rd Party systems (fire alarm, CCTV, BMS, Intruder etc.).

❯ Absolute reliability. Emergency call system with speech, data and video transmission, emergency calls from elevators in compliance with EN 81.

❯ The second communication level. Intercoms in offices that employ digital technology.

❯ Perfect integration of PA systems in excellent 16 kHz eHD Voice speech quality.

❯ Robust reliability. Industrial Intercoms for light, commercial and heavy industry.

❯ Secure connections. Integration of telephone and mobile telephony.

❯ Digital Voice Server. Digital speech processing for announcements and speech recording.

❯ Project specific solutions. Special Intercom Modules for the meeting customer specific design requirements.

❯ Desktop counter Intercom systems for communication in highest speech quality.

Security and Emergency

Protecting people and valuables

Commend provides the essential means of reliable communication for all types of general security and emergency situations. Commend Intercom systems support the seamless integration of various systems for CCTV Surveillance, Mobile Radio, Alarms and Control. All systems and components are brought together on a common platform. The uniform user interface gives security staff convenient control of all functions and tasks required to ensure life safety and secure property. Easy operation, both for the public and security personnel, combined with very high speech quality ensure effective and efficient results.
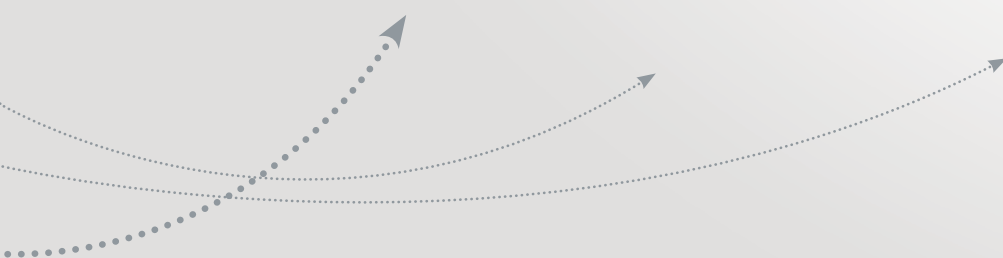
Buildings

People work in buildings. This means that buildings must provide protection and safety, both everyday and in an emergency. The core element of the system is the central, multi-functional Control Room, which keeps every part of the building and associated premises in view, guaranteeing the required high level of security discreetly and unobtrusively with a well-chosen set of additional functions.

> Intercom stations with access control capabilities for doors, gates and barriers

> Integrated audio, video, monitoring and control functions

> Public Address and emergency voice announcements

> Special Intercom stations for mobility, sight or hearing impaired people

> Intercom stations for lifts

> Clean, well organised user interfaces for Security Control Rooms

> Interfaces for building management and third party systems; integration of telephones

> Networking of Intercom systems across multiple sites and buildings

Emergency Services

Emergency calls... sirens... flashlights... when ambulances, fire brigades and police are involved, it's all about saving people's lives or protecting property. With the help of the customised communication platform for rescue forces, even large-scale rescue operations can be managed in a clearly structured, coordinated manner. Commend supports the emergency teams to coordinate their rescue missions with optimum efficiency at every stage, from the first alarm to "Fire out!".

> Excellent speech quality to ensure clearly audible, efficient communication via the Control Room

> Fast deployment of rescue and security forces, thanks to pre-programmed scenarios available at the push of a button

> Integration of TETRA, selective call radio and telephones

> Flexible call transfers that make sure no emergency call is ever lost

> Public Address and alarms

> Communication solutions for custody suites and holding cells

> Evidential recording and documenting

> Main Control Rooms

Town Centres

More and more people are crowding our towns and cities, and their need to feel safe is growing daily. Commend communication and security solutions for town and city centres bridge the gap between the public and security personnel. Highly efficient voice, video and control links maintain a reliable connection between on-street Information and Emergency Call Stations and the Control Desk.

> Information and Emergency Call Stations for public areas

> Special Intercom stations for mobility, sight or hearing impaired people

> Special Help Point Columns with integrated rescue equipment (e.g. fire extinguisher or defibrillator)

> Clean, well organised operator interfaces to support Control Room operations

> Intercom station design can be customised to meet planning requirements

> Integration of CCTV (video surveillance) and Public Address

> Control of access management equipment such as on-street barriers and bollards

> Options for both cable-based and wireless integration of Intercom stations

> Bus and tram stop communications

> Scalable systems for flexible adjustment to individual budget requirements

Prisons and Detention Centres

Detention facilities demand highly reliable, continuously monitored communication paths that must be available around the clock. The Commend security and communication solution is adapted to everyday prison life and provides added value in terms of security in all areas under surveillance. Voice and video communication between cells, corridors, doors, gates, airlocks and barriers on the one side, and Main Control Rooms and Section Monitoring stations on the other needs to be of the highest quality and constantly monitored. This ensures ultimate protection and security for both officers and people in custody.

> Vandal resistant detention cell stations with single-button and multi-button layouts

> Multi-functional detention cell terminals with support of in-cell music feeds and telephony

> In-cell music channels with deprivation facility

> Intercom stations with integrated video camera for airlocks, doors and gates

> Remote cell door locking and officer-in-cell duress alarms

> Mobile Radio Detection

> Public Address and emergency voice announcements

> Communication solution for visiting rooms

> Evidential recording and documenting

> Clearly structured graphic user interface for Control Rooms, including integration of inmates' database

Mobility and Service

Help at the push of a button

No matter where people go, they expect to be able to summon assistance quickly and easily. On motorways, bridges, in tunnels and trains, at airports, railway stations, bus stops... just about everywhere, Help Points for assistance or emergency are taken for granted and have to be made available. Commend provides high-quality audio/video Information and Emergency Call Stations for public and Control Room equipment for the appropriate Authorities' control centres. Commend Control Desk systems enable security staff to quickly assess the situation, communicate with all the relevant emergency services and get the right help to those in need – fast!
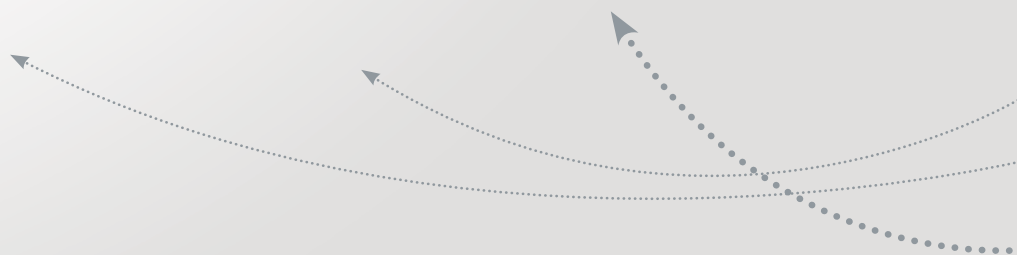
Airports

At airports, efficiency and security are essential to keep people safe and business going. Good communication is a crucial factor that none of these centres of activity could do without. The costs resulting from departure delays, security breaches, lost baggage and other possible problems are enormous. The huge numbers of transitory passengers must be kept informed and must feel comfortable and safe. At the same time, the security personnel must be able to keep an eye on all processes and manage daily routine as well as extreme situations.

> Information and Emergency Call Stations
> Special Intercom stations for mobility, sight or hearing impaired people
> Public Address and alarms
> Intercom stations for doors and gates, or with added access control for security areas
> Silent alarm for check-in points, passport and security control gates
> Intercom stations for check-in machines, departure gates and airbridges
> Operations communication for logistics (baggage handling, catering, etc.)
> Mobilisation support for fire and emergency services
> CCTV control

Car Parking

Car parking facilities are (almost) everywhere, from on-street parking bays and open-air lots to multi-storey parking garages and fully automated car parks. They can be public or private, in building basements or at shopping malls. What they all need in order to function efficiently and generate revenue is good communications between a Kiosk or Control Room and the parking customers. Commend has been specialising in Car Parking Communication systems for over 20 years.

> Audio/Video Intercom stations for vehicle entry and exit gates, pay-on-foot machines and attended pay points
> Emergency Call Stations for lifts, stairways and parking levels
> Monitoring and control of external systems, e.g. carbon monoxyde alarm, ventilation and lighting
> Public Address, background music, promotional and information announcements
> Barrier control from Control Room or attended pay point
> Display of equipment status information – e.g. coin box almost empty, running out of ticket stock, etc.
> Control Desk solutions for easy, ergonomic administration of all parking facilities
> Statistical analyses – Details on control centre performance (SLA), time distribution of calls (for optimum staff planning), etc.
> Recording of audio/video calls received at the Control Desk
> Multi-site networking with individual call forwarding

Railways, Buses and Cable Cars

The millions of people who travel by train, bus, tram or cable car every day expect to be safe throughout their journey. In case something out of the ordinary does occur, they expect to be able to speak to someone in control and get instant help – even if they happen to be in a moving vehicle at the time. The Commend solution makes this easy to achieve.

❯ Vandal and weather resistant Information and Emergency Call Stations for bus and tram stops, train and underground platforms, and bus depots

❯ On-train Intercom stations for buses, trains and trams

❯ Public Address and passenger information announcements

❯ Operations communication for staff on duty

❯ Multi-site networking of stations, depots and stops

❯ Integration with TETRA and selective-call radio networks

❯ CCTV Integration with manual and automatic camera switching

❯ High operational security with monitoring of cables, loudspeakers and microphones of PA and Intercom stations

❯ Comprehensive administration and control via local and remotely located Main Control Rooms

Self Service Areas

Self-service points are an increasingly popular way of providing 24/7 service to end consumers. This requires a reliable communication solution that helps to ensure customer assistance and safety around the clock. Whether they need assistance in using a vending machine or help in exceptional situations – they must be provided a fast, reliable means of requesting that help. At the same time, the Intercom solution provides extended eyes and ears to help desk staff. This helps them to assess situations quickly to provide instant assistance. With their wide range of functions, our Intercom solutions for self-service areas are ideally suited for application environments from ticket vending and automated teller machines to petrol pumps, information points and check-in terminals.

❯ Vandal-resistant information terminals and emergency call stations in wind-/weatherproof design

❯ Intercom station modules for in-device installation (e. g., check-in terminals, ticket vending machines, ATMs, etc.)

❯ Intercom Station software for installation on existing PC systems

❯ Support of Public Address, music feeds, advertising and information announcements

❯ Control Desk solutions for easy, centralised remote site management

❯ Statistical analysis reports (call centre efficiency / SLA, call time distribution) for optimised staff planning, etc.

❯ Full logging support, including video and/or audio recording

❯ Monitoring and control interfaces to third-party systems

❯ Remote site networking and routing of individual calls to landline and mobile networks

Highways and Toll Stations

Toll booths are becoming increasingly automated and unmanned. If the barrier fails to rise, drivers need to be able to summon assistance without delay. Roadside Emergency Help Points are a common and expected sight along our highways. Distances are great and network solutions therefore essential. Commend provides voice and video connections between the Control Room and the public, giving the operator a comprehensive overview of the situation and full control over the system's functionalities. Commend's proven vandal resistant Intercom Stations are specifically designed to handle both the extremely high roadside noise levels and extreme weather conditions.

› Behind-panel Intercom modules with excellent 16 kHz eHD Voice speech quality that integrate easily into toll collection machines

› Vandal resistant Information and Emergency Call Stations for roadside installation

› CCTV Integration with manual and automatic camera switching

› High operational security through line monitoring and loudspeaker/microphone surveillance of Intercom stations

› Networking of all toll road entry and exit points

› Full management and control from local toll booths and remote Main Control Rooms
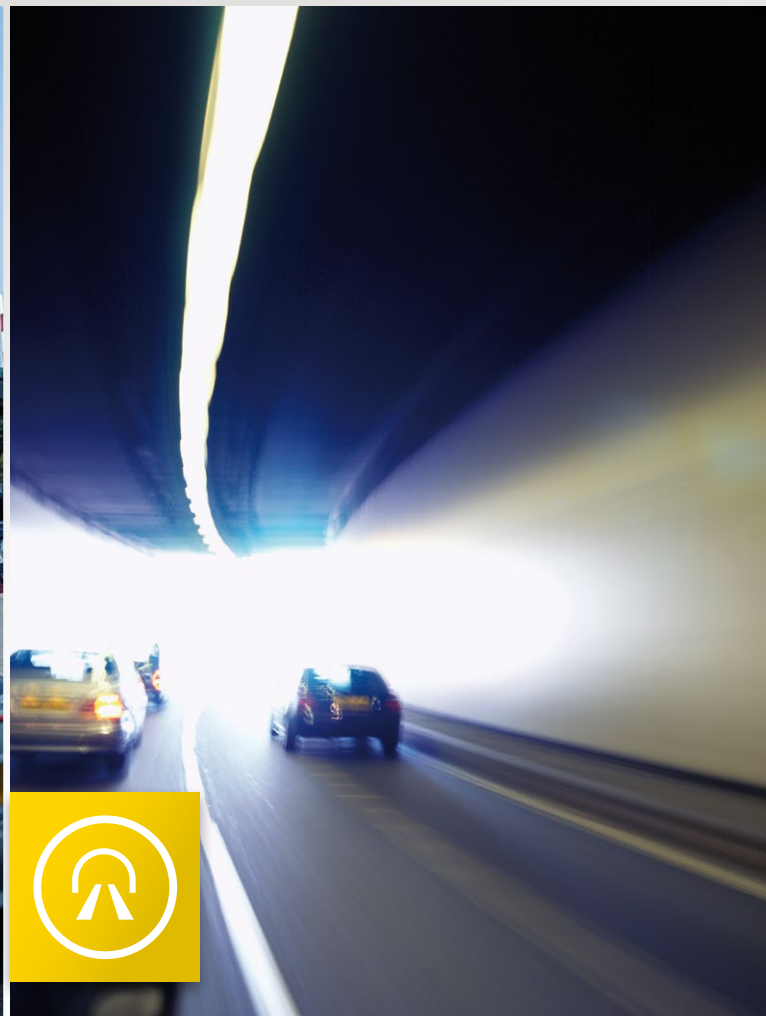
Tunnels

Roadside breakdowns and accidents in tunnels are a source of great danger. Also, the environment is heavily exposed to high levels of noise, dust and moisture. Help Points cannot always be installed behind soundproof doors. Water seepage and frequently used tunnel washing equipment means everything has to be water resistant. Integration of voice, video, alarm monitoring and control functions are essential to enable the Control Room operator to manage the situation in and around the tunnel efficiently. Communication to and from drivers, control of lighting, ventilation and traffic lights, signals and barriers are all apart of Commend's Tunnel system applications.

› Emergency Call Stations with excellent 16 kHz eHD Voice speech quality and perfect audibility, even in case of high ambient noise levels

› Vandal and weather resistant Intercom stations, waterproof against tunnel washing equipment

› Announcements from Control Room to Drivers' car radios via local FM radio channel

› Efficient information and hazard management, Public Address option and coordination of rescue forces through integration of tunnel and private mobile radio networks

› Carbon monoxide and other poisonous gas alarms

› Local and Main Control Desks

Industry and Infrastructure

Security and Communication for Industrial Environment

Professionals in industrial production and engineering rely on high-quality communication, absolutely reliable PA/GA, video and control systems suitable for use in extremely harsh or highly specialised environments. However, every installation needs to be specifically tailored to suit the precise operational and security requirements of its individual business environment.

For over 40 years, Commend has been providing a wide range of certified solutions to cover every possible application and environment. Focused on maximum reliability, easy operation and high scalability the robust hardware is controlled by flexible, site-configurable software whose functions and features provide exactly what the user and local regulations require.
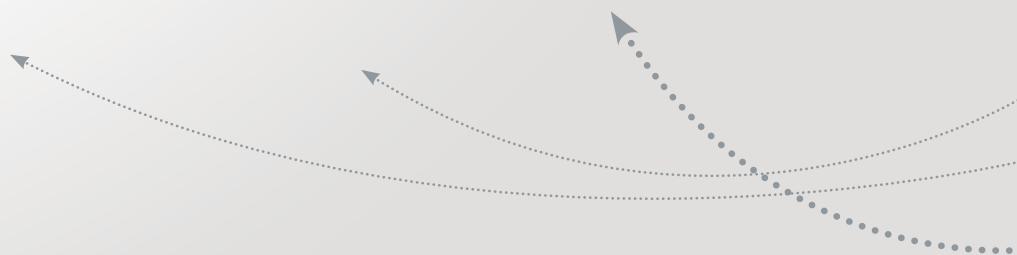
Oil and Gas

Made-to-Measure Solutions for the Oil and Gas Industry. The requirements imposed on security and communication solutions for the Oil and Gas industry are as extreme as the environmental conditions under which they are expected to function. The entire system is constantly monitored and tested for possible failure from end-to-end. Redundancy adds another layer of essential protection. However configuring a solution that fits you best is a breeze. From compact drilling rigs to vast pipeline networks, our products and integration possibilities fulfill these requirements and adapt perfectly to your operational needs.

- Certified stations for areas with explosive atmospheres
- Public Address and General Alarm solutions
- Special conference call ('Party Line') functions
- Excellent voice connections and perfect audibility under difficult ambient conditions (noise, dirt, gloved hands)
- Control of visual alert signals and displays
- Integration of mobile phones and pager solutions
- Intercom stations with access control capabilities for doors, gates and barriers
- CCTV integration

Metals and Mining

When intense levels of noise, dirt and high temperatures meet in furnaces or open-pit mining, communication turns into a tedious task. This is where our rugged stations can provide crystal clear speech even at high volumes and therefore guarantees streamlined operation across the site or even larger networked areas. Peripheral equipment like mobile radio and PA systems integrates smoothly and ensures absolutely reliable communication without delay.

- Robust stations with one or more call buttons or standard keypad
- Certified stations for areas with explosive atmospheres
- Excellent voice connections and perfect audibility under difficult ambient conditions (noise, dirt, gloved hands)
- Public Address and emergency voice announcements
- Control of visual alert signals and displays
- Integration of mobile radio and pager solutions
- Networking of extensive premises, plants and sites via Main and Sub Control Room
- CCTV integration

Chemicals

When feedstock chemicals flow across large sites, extreme environments and noise all around, security and communication plays an integral role to enhance safety and smooth workflows. Instant two-way voice communication with unique speech intelligibility as well as site-wide announcements via integrated PA-systems minimize risks in these often explosive environments. Ex-proof terminals are especially developed for these types of zones where chemicals are at risk of igniting.

- Certified stations for areas with explosive atmospheres
- Public Address and emergency voice announcements
- Control of visual alert signals and displays
- Local and Main Control Rooms
- Networking of extensive premises, plants and sites via Main and Sub Control Room

Pharmaceuticals

Where clean rooms and laboratories define the workplace, communication can become tedious due to restricted zones and special requirements to the equipment. Special Commend stations with a sealed membrane surface are resistant to chemicals and allow hands-free speech when handling critical components. Announcements and alarms via integrated PA-systems heighten security and streamline work processes. Integrated access control at sluices and critical areas make for an end-to-end solution, even allowing instant voice connections when assistance is required at entry.

> Disinfectant resistant Intercom Stations for clean rooms and laboratories

> Access control at security areas such as sensitive development departments

> Internal operational and department communication

> Public Address and emergency voice announcements

> Local and Main Control Rooms

Manufacturing Industry

Factories, production lines, warehouses, distribution centres, and laboratories: they all need integrated communication systems for operational and security purposes. Commend provides tailored solutions for smooth workflows. Keeping downtimes and set-up times at a minimum allows for steady production and keeps profits up.

> Hands-free Intercom stations with excellent 16 kHz eHD Voice speech quality

> Disinfectant resistant membrane-protected Intercom stations with sealed surfaces, suitable for clean areas

> Public Address

> Integration of DECT and pager solutions

> Integrated CCTV

> Communication connections between workshop and office areas

> Access control

Energy and Public Utilities

Energy and public utility facilities range from power plants to water reservoirs, from gas storage depots to sewerage and water treatment plants. All of these have their own particular communication and security needs. Many need industrial applications with harsh environments, while others need multi-site networking over tens of thousands of square kilometres, or support of process and access control, telephony, IP connectivity or other carrier technologies.

- Multi-site networking
- Monitoring and control functions
- Operational communications
- Intercom stations with access control capabilities for doors, gates and barriers
- Public Announcement and General Alarms
- Emergency Call Stations for water reservoirs, artificial lakes and aqueducts
- Remote controlled release of alarm secured life safety rings
- Local and Main Control Rooms

Ports and Waterways

At major ports, countless tonnes of containers are moved everyday. When giant freight ships tie up at docks, the various harbour teams are under great pressure to coordinate activities. The security and communication solution by Commend forms an essential part of the comprehensive security policies and requirements that apply large harbour facilities. The integrated control features of Commend systems have already proven themselves as a perfect match for waterways and sluices where automation features meet communication solutions.

- Intercom at entry/exit points and in the port and harbour districts
- Intercom stations for cranes
- Robust Intercom for different environmental conditions (sea water, dirt, extreme and changeable temperatures)
- Integration of mobile radio, entry controls and alarm systems
- Watergate control
- Optimum audibility of voice connections, even in case of high ambient noise levels
- Individual networking concepts for extensive harbour areas
- Main Control Rooms for a perfect overview and full control

Health Care and Education

Communication that can save lives

Commend provides communication and security applications specifically tailored to the requirements and regulations of hospitals and clinics, schools and universities, kindergartens, leisure centres, nursing homes and sheltered housing programmes. People who use the systems range from trained personnel through to pupils, students and people with various forms of impairment. Supported system facilities include security, operational and emergency applications and general alarms and facilities management.
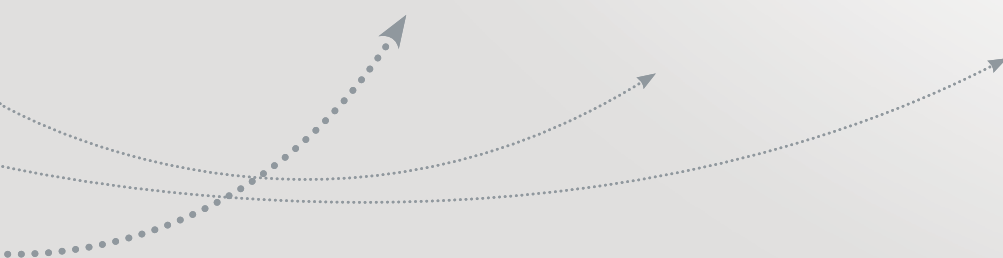
Hospitals and Clinics

In the medical sector, seconds can be decisive in terms of life and death, especially in emergency rooms and operating theatres. Commend's security and communication solution for medical environments meets the strictest directives and regulations within this sector. It provides direct multi-site communication across facility complexes, e.g. to laboratories, blood banks, hospital pharmacies, wards and quarantine areas. What is more, they also support

all necessary functions for efficient door access control, e.g. for maternity wards, nurseries etc. Personal safety and public assistance requirements are satisfied by Intercom stations for lifts and Public Address, as well as solutions for car parks and Intercom equipped parking spaces, which provide instant access to assistance in case of problems at pay-on-foot machines and vehicle barriers.

- Disinfectant resistant Intercom Stations for treatment rooms and operating theatres, compliant with International Standard IEC-60601-1 (2nd Edition)
- Access control at security areas such as intensive care units, maternity wards and nurseries
- Internal operational and ward communication in combination with nurse call systems
- Integration of mobile radio systems for hands-free communication between rescue services and emergency rooms

- Audio Monitoring – Acoustic monitoring with adjustable automatic call triggering (e.g. voice activated calls or automated alarms triggered by medical equipment)
- Public Address and emergency voice announcements
- Alarms for medical emergencies and other events
- Local and Main Control Rooms

University Campuses

Universities are like small cities: everyday, professors, students and visitors walk past porter and security lodges into campus buildings. The university communication network is run centrally throughout the campus. The security and communication solution by Commend has been designed with the specific needs and conditions of universities in mind. In addition to information call stations, the solution also offers monitoring and communication support for entrance and exit points, offices, laboratories and libraries. What is more, it supports all necessary precautions to be able to provide instant, well-coordinated assistance in an emergency.

> Vandal resistant, weatherproof Information and Emergency Call Stations
> Intercom stations for lifts, vehicle gates and building entrances
> Automatic switching of CCTV, connection of signal lamps, sirens etc.
> Scalable Control Desks for central Control Rooms, and integration of remote security lodges
> Emergency Voice Communication for a coordinated evacuation
> Alarms for medical emergencies and other events
> Special Intercom stations for mobility, sight or hearing impaired people
> Access Control for students and staff
> Networking concepts for remote sites

Schools and Kindergartens

Sadly, there is also an increasing need for security communication at schools. Providing the means to protect students and staff from possible attacks by violent students and outside perpetrators is now considered standard procedure, as is the protection of personal property both during and after school hours. Schools must be safe, under everyday conditions as well as in an emergency.

> Public Address and Announcements
> Intercom stations for classrooms, hallways, offices and other areas on the school premises
> Silent Alarms
> Audio Monitoring and automated Intruder Detection
> Control of evacuation procedures
> Mobile Phone Detection
> Intercom stations with access control capabilities for doors, gates and barriers
> Inter-school networking to a central Control Room

Leisure and Entertainment Centres

It takes a lot of "behind-the-scenes" communications to ensure an enjoyable, recreational experience for guests and a feeling of freedom without restrictive or obstructive security measures.

> Vandal resistant, weatherproof Information and Emergency Call Stations

> Public Address and Announcements

> Emergency voice announcements and evacuation support

> Special Intercom stations for mobility, sight or hearing impaired people

> Door and access control for plant and equipment areas

> Intercom Stations for 'behind-the-scenes' communication

> Counter Intercom stations for customer communication in entrance/reception areas

> Multi-site networking solutions for buildings, halls and leisure facilities

> Local and Main Control Rooms

Nursing Homes and Assisted Living

Communication systems that are intended to serve elderly people or those requiring special care must be easy to use. The solution by Commend ensures immediate, hands-free contact to a care giver, whether they happen to be in their office, on call at home, or out and reachable only by mobile phone. This way, any treatment or assistance that is required is only an Intercom call away. The practical benefits of the solution are well proven.

> Intercom modules that are optimised for ease of use and integrate easily into the rooms of people being cared for

> Audio Monitoring – Acoustic monitoring with adjustable automatic call triggering (e.g. voice activated calls or automated alarms triggered by medical equipment)

> Option for immediate call response to reassure patients

> Call transfer to mobile communication devices such as telephones and two-way radio

> Intercom stations with Access Control capabilities for doors, gates and barriers

> Life-signs equipment monitoring

> Carer-in-duress alarms

> Integration with patient/client database for activity and event recording, invoicing etc.

> Local and Main Control Room solutions for care support points

Customized Solutions
Beyond the common standard

A suitable solution for every customer need. In case our portfolio of standard products does not cover a specific requirement, our team of hardware and software specialists will work out a tailored concept for you and implement it in Commend's proven high-quality. Here are some examples:

Security for public areas
Switzerland

The Challenge. Cities and communities are faced with the growing problem of vandalism, assault and attack incidents, not just by night, but increasingly also at daytime. In addition to the existing installed camera systems, there is a growing demand for the ability to address assailants directly and to support emergency calls. To avoid the negative image of "public surveillance", the terminals should also serve as information points.

The Solution. A combined info/SOS alarm point station with built-in microphone and loudspeaker. The terminal comes equipped with a large emergency call button and an information request button. The buttons can be programmed for making Intercom calls to a Control Desk or establishing ISDN or SIP connections with a call centre. Several extension options are available to suit individual needs: Camera for direct video contact with emergency callers; monitor for visual feedback from call centre; audio amplifier and horn loudspeaker for addressing bystanders at longer distances; rotating beacon for indicating emergency situations, etc.; touch screen for information purposes.

Prison visitor management
Austria

The Challenge. Intuitive, easy-to-use operation for user and call management, including options for recording conversations, editing call time limits, and adding text notes for documentation purposes.

The Solution. The software allows for establishing and terminating call connections between two Intercom stations (bunks), including easy-to-use call recording and management. Each conversation can be assigned a specific room and time limit (e. g., 10 minutes). Call recording can be initiated manually. Recorded conversations can be complemented by text notes as needed. A touch screen user surface ensures ultimate ease of use throughout. If required, text notes can also be exported by way of a separate web interface.

Our Special Portfolio

- › Customer specific Intercom stations
- › Help Points (e.g. Emergency Call Stations)
- › SDK software for Software Intercom Client & ComWIN
- › User Interfaces (e.g. for Industrial Control Desks or touchscreens)

- › Control Desk user interfaces (e.g. with Software Intercom Client)
- › Browser Interfaces
- › Interfaces to other systems

Lift Emergency Calls
France

The Challenge. Provide a compatible Lift Intercom station with low space requirements and support of multiple manufacturers. Basic requirements included, among others: Remote checking of call button functions, playback of storey-specific information announcements, and an inductive loop system for hearing aid support.

The Solution. The Intercom station is based on a space-saving loudspeaker/microphone module. The module provides several options, including connection of a push-button and various in-/outputs. The electronic control array can be mounted out of the way on the lift car roof and is connected to the module unit. Also mounted on top of the lift car roof are an emergency call button and a separate microphone and loudspeaker unit that serve a communication system for maintenance staff.

Tunnels & Motorways
Austria

The Challenge. Tunnel emergency call stations are subject to the strict Austrian ÖNORM regulations. The front panel was to be designed as per customer's requirements, particularly with respect to user instructions. Also, the front panel was to be fabricated from corrosion-resistant steel with a powder-coated finish in signal white (RAL 9003). Given the noisy tunnel environment, the speech signal was required to be loud and clear, and easy to hear for both staff and callers. This requires special microphones and an appropriate sound volume capacity of the tunnel Intercom station.

The Solution. Tailored to meet all requirements: SOS emergency call system extra-high volume capacity and noise cancelling microphone. The front panel is labelled in there languages (German, English, Bosnian). A green LED indicates incoming emergency calls being processed; errors are indicated in red. The front panel is made of corrosion-resistant, acid-proof steel (V4A 1.4571). The SOS call station is a synergistic combination of various Commend device components: the industrial station, the digital DSP Intercom module, and the vandal-resistant Intercom station.

Products by Commend
Designed and Made in Austria

From idea to function...

Pushing the quality frontier from the usual mediocre market standards to the cutting edge of what is technically possible: this has always been Commend's trademark policy.

It is also why Commend's development laboratories are always buzzing with activity. Specialists for hardware, firmware, mechanical engineering and software development work hand-in-hand with each other to meet market demands in shaping ultimate quality Intercom from initial ideas to finished products. Existing products are subject to continuous extension and optimisation, as they are tailored to constantly rising customer demands.

Well prepared for long-term use

Our product development, design, selection of components, and quality assurance – everything is dedicated to ensure a long running life in the customer's application environment. The result

are products whose longevity comes with a great pay-off for customers: proven Commend Evergreen Engineering bridges the product generation gap to ensure that existing devices integrate fully with latest generation Intercom 2.0 systems – even after decades.

The Commend Audio Lab (Anechoic Chamber)

The Commend Audio Lab is a dream come true for audio and hi-fi specialists: it offers them a unique high-tech environment, complete with an anechoic chamber and Matlab supported development environment that will make every passionate audio engineer's heart beat faster. Achieving ultimate sound quality and clarity of speech connections is the key focus here – a goal that is constantly refined towards the outer limits of what is technically possible today. And where our fundamental research is concerned, we like to aim even further.
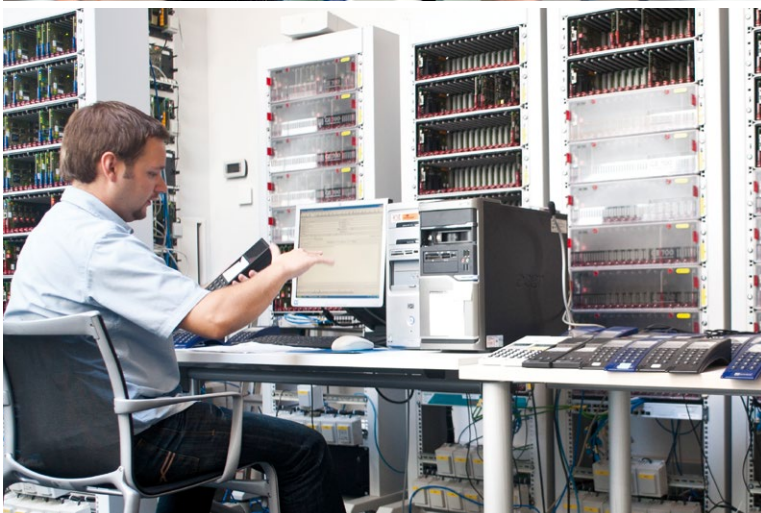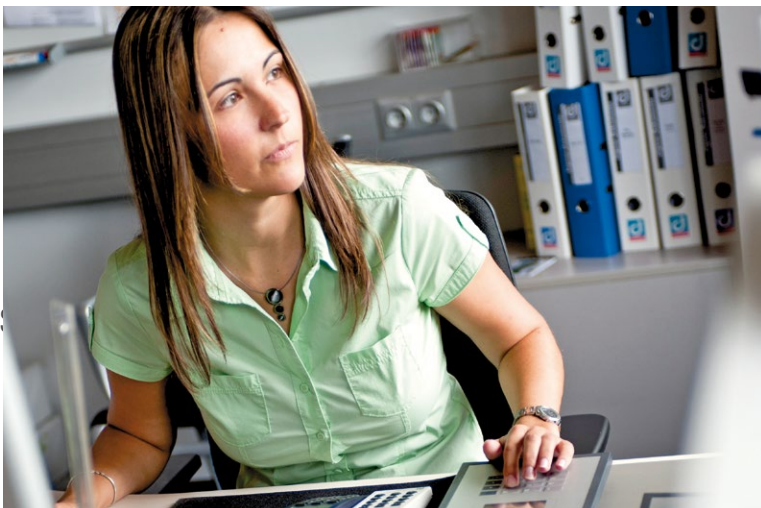
Quality tested.
Reliable. Well designed.

Where performance becomes audible

Our production facilities in Salzburg (Austria) are the birthplace of the stuff that Intercom dreams are made of. Highly automated and clean production facilities ensure that millions of electronic components are brought together to create products that satisfy our clients' demands and deliver excellent audio quality that makes their users prick up their ears.

Where it says Commend, there's quality inside

That this is much more than just a promotional claim is the result of our **100% double quality assurance test** – spot-checks alone are simply not enough.

1. Each and every component is subjected to a fully electronic quality test procedure in a special test adapter.

2. The second-level quality assurance test checks each device's configuration, functions and audio quality.

Certified Quality: ISO, ATEX, IP, IK, RoHS, REACH ...

Our products are frequently required to withstand the toughest of conditions (noise, dirt, extreme temperatures, vandalism and much more). They are tested and certified in accordance with international standards to ensure top performance, whatever the weather.

Standardised development and manufacturing processes as per EN ISO 9001:2008, certified by BVQI (Bureau Veritas International, Austria; Cert. No. AT12464Q) provide the solid basis for continued further development at Commend International.

Intercom Terminals

Wide Product Range

16 kHz eHD Voice speech quality

IoIP – SIP – Digital – Analogue

Intuitive Use

Highest Flexibility

Wallmount Stations

Perfect industrial communication

Multi-functional main and sub stations for indoor and out door use. Apart from voice and video communication, the stations also allow for the control of other systems. In an in-house training room, for example, the projector can be switched on and off, lights switched on and off and blinds opened and closed – all via a wallmount station.

Applications

– Training and recreation rooms
– Warehouses, workshops and passageways
– Outdoor or door station for works premises or car parks

WALLMOUNT STATIONS – SERIES WS 810P | 800P

Key features:

– Intercom stations with Colour-TFT or Mono-LCD display
– Back-lit standard keypad and function keys
– Resistant polycarbonate construction
– OpenDuplex® and IVC for natural, hands free communication with high volume
– 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kit WSFB 50P and Surface Mount Kit WSSH 50P; Desktop/Wallmount Kit WSDK 50P (for surface mount version only).

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED // Analogue 2-wire stations: 2 inputs for floating contacts and 2 Open Collector outputs; red call status LED.

WS 810P

`16 kHz` `IP 65` `IoIP` `Digital`

Wallmount station with Colour-TFT display for graphical menu interface and display of IP based video streams or analogue video signals in PAL or NTSC.

3.5" TFT display; resolution: 320 x 240 pixels; 65,000 colours

WS 810P I	IP – Communication via IoIP
WS 810P D	Digital 2-wire

⚖ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm 📏 920 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

WS 800P

`16 kHz` `7 kHz` `IP 65` `IoIP` `SIP` `Digital` `Analogue`

Wallmount station with Mono-LCD display.

Illuminated Mono-LCD display with 128 x 64 pixels.

WS 800P I	IP – Communication via IoIP
SIP-WS 800P	IP – Communication via SIP
WS 800P D	Digital 2-wire
WS 800P A	Analogue 4-wire

⚖ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm 📏 820 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

WALLMOUNT STATIONS – SERIES WS 200P

Key features:

– Intercom stations with built-in colour video camera
– Illuminated call buttons and label areas
  Resistant polycarbonate construction
– OpenDuplex® and IVC for natural, hands free
  communication with high volume
– 16 kHz eHD Voice speech quality (7 kHz HD Voice
  for communication via SIP)
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kit WSFB 50P and Surface Mount Kit WSSH 50P; Desktop/Wallmount Kit WSDK 50P (for surface mount version only).

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED // Analogue 2-wire stations: 2 inputs for floating contacts and 2 Open Collector outputs; red call status LED.

WS 200P CM
`16 kHz` `IP 65` `IoIP` `Digital`

Wallmount station with call buttons, integrated colour video camera with illumination, built-in heater, viewing angle mechanically adjustable horizontally/vertically by 30°.

IP network camera with M-JPEG video format (max. resolution 640 x 480 pixels) or as analogue camera for colour systems PAL or NTSC.
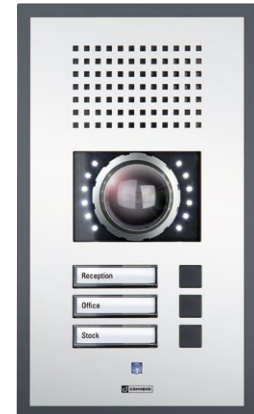
WS 201P I CM	1 call button – IP – Communication via IoIP
WS 201P D CM	1 call button – Digital 2-wire
WS 203P I CM	3 call buttons – IP – Communication via IoIP
WS 203P D CM	3 call buttons – Digital 2-wire

Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm
(dimensions do not include 20 mm camera top clearance)

950 g

WS 201P CA
`16 kHz` `IP 65` `IoIP`

Wallmount station with one call button, integrated AXIS colour video camera with illumination, viewing angle mechanically adjustable horizontally/vertically by 30°.

Video streams H.264 (MPEG-4 Part 10/AVC) and M-JPEG with max. resolution 1440 x 900 Pixel (1.3 MP); compatible to video components e.g. NVRs; support of video functions like motion detection, recording, etc.

WS 201P I CA	1 call button – IP – Communication via IoIP

Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm
(dimensions do not include 20 mm camera top clearance)

950 g

WS 200P
`16 kHz` `7 kHz` `IP 65` `IoIP` `SIP` `Digital` `Analogue`

Wallmount station with call buttons.

|	
WS 201P I	1 call button – IP – Communication via IoIP
SIP-WS 201P	1 call button – IP – Communication via SIP
WS 201P D	1 call button – Digital 2-wire
WS 201P A	1 call button – Analogue 4-wire
WS 203P I	3 call buttons – IP – Communication via IoIP
SIP-WS 203P	3 call buttons – IP – Communication via SIP
WS 203P D	3 call buttons – Digital 2-wire
WS 203P A	3 call buttons – Analogue 2-wire

Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

750 g
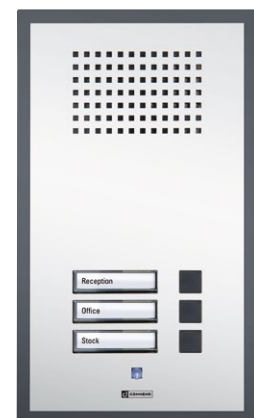
Membrane protected Intercom Stations

Sealed surface for even better protection

These Master Stations have been developed to meet the specific needs of medical facilities, clean rooms and light industrial environments. Despite their membrane-sealed surface, they provide convenient, efficient communication with excellent speech quality. What is more, they are fully protected against dust, dirt and water jets. The special membrane on the front panel is dirt-resistant and can be cleaned quickly and easily with regular over-the-counter detergents and disinfectants. The large membrane protected keys are easy to use, even when wearing protective gloves. A built-in amplifier provides the necessary sound volume in areas with high ambient noise levels.

Typical applications

- Light industry (production facilities and workshops)
- Medical environments (operating theatres and laboratories)
- Clean rooms, indoor and outdoor areas

MEMBRANE PROTECTED INTERCOM STATIONS – SERIES WS 810F | 800F

Key features:

- Closed-sealed membrane surface, detergent and disinfectant resistant
- Intercom stations with Colour-TFT or Mono-LCD display
- Resistant polycarbonate construction
- OpenDuplex® and IVC for natural, hands free communication with high volume
- 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
- Continuous line and function checks
- Extension modules for additional functions

Accessories: Flush Mount Kit WSFB 50P and Surface Mount Kit WSSH 50P; Desktop/-Wallmount Kit WSDK 50P (for surface mount version only).

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED // Analogue 2-wire stations: 2 inputs for floating contacts and 2 Open Collector outputs; red call status LED.

WS 810F

| 16 kHz | IP 65 | IoIP | Digital |

Membrane protected wallmount station with Colour-TFT display for graphical menu navigation, caller ID and display of IP based video streams or analogue video signals.

3.5" TFT display; resolution: 320 x 240 pixels; 65,000 colours.

| WS 810F I | IP – Communication via IoIP |
| WS 810F D | Digital 2-wire |

Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm 920 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

WS 800F

| 16 kHz | 7 kHz | IP 65 | IoIP | SIP | Digital | Analogue |

Membrane protected wallmount station with Mono-LCD display.

Illuminated Mono-LCD display with 128 x 64 pixels.

WS 800F I	IP – Communication via IoIP
SIP-WS 800F	IP – Communication via SIP
WS 800F D	Digital 2-wire
WS 800F A	Analogue 4-wire

Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm 820 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

MEDICAL AND CLEAN-ROOM STATIONS – SERIES WS 800F MD

Key features:
- Closed-sealed membrane surface, detergent and disinfectant resistant
- Intercom stations with Colour-TFT or Mono-LCD display
- Resistant polycarbonate construction
- OpenDuplex® and IVC for natural, hands free communication with high volume
- 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
- Continuous line and function checks
- Extension modules for additional functions

Accessories: Flush Mount Kit WSFB 50P and Surface Mount Kit WSSH 50P; Desktop/Wallmount Kit WSDK 50P (for surface mount version only).

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED

WS 800F MD

`16 kHz` `7 kHz` `IP 65` `SIP` `Digital`

IEC 60601-1 (2nd Edition) compliant digital membrane protected wallmount station with Mono-LCD display and anti-bacterial membrane covered surface.

Illuminated Mono-LCD display with 128 x 64 pixels.

SIP-WS 800F MD   IP – Communication via SIP

WS 800F D MD   Digital 2-wire – Complies with IEC 60601-1 (2nd Edition)

⚖ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm 📏 820 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

EXTENSION MODULES FOR SERIES WS

The wallmount and membrane protected Intercom stations of Series WS can be custom enhanced with powerful extra features by means of extension modules. These can be mounted above, below or on either side of the Intercom station, or positioned freely within the room. For example, loudspeaker modules are usually placed fairly high up for indoor or outdoor public address purposes. These extension modules are protected against dust, dirt and water jets and carry an IP 65 rating. Surface Mount and Flush Mount Kits are available separately – see Accessories.

Camera Module WSCM 50P

`IP 65`

Camera module with colour video camera, adjustable white balance and built-in heater. Can be used as an IP network camera (M-JPEG video format with max. resolution of 640 x 480 pixels) or as analogue camera for colour systems PAL or NTSC. Viewing angle mechanically adjustable horizontally/vertically by 30°. Polycarbonate construction.

External power supply via 22 – 24 V AC / 20 – 35 V DC power adapter or via PoE IEEE 802.3af.

⚖ Dimensions when flush mounted: W 165 mm, H 140 mm, D 13 mm 📏 450 g
Dimensions when surface mounted: W 165 mm, H 140 mm, D 51 mm
(dimensions do not include 20 mm camera top clearance)

TFT Display Module WSTM 50P

`IP 65`

Colour-TFT display module for IP based video streams or analogue video signals in PAL or NTSC. Polycarbonate construction.

3.5" Colour-TFT display; resolution: 320 x 240 pixels; 65,000 colours; External power supply via 22 – 24 V AC / 20 – 35 V DC power adapter or via PoE IEEE 802.3af.

⚖ Dimensions when flush mounted: W 165 mm, H 140 mm, D 13 mm 📏 410 g
Dimensions when surface mounted: W 165 mm, H 140 mm, D 51 mm

Audio Induction Loop Amplifier Module WSIL 50P

`IP 65`

IEC 60118-4 compliant audio induction loop amplifier module for transmitting Intercom audio signals to hearing aids; integrated induction loop; front panel made from polycarbonate

External 15 – 26 V DC power supply; input impedance 10 kΩ; frequency response 80 Hz – 8 kHz; max. loop voltage 6.5 V; loop resistance 0.1 Ω – 1,0 Ω effective resistance; MLC (Metal Loss Correction) 0 to -3dB/ octave.

⚖ Dimensions when flush-mounted: W 165 mm, H 140 mm, D 13 mm 📏 800 g
Dimensions when surface-mounted: W 165 mm, H 140 mm, D 51 mm

Loudspeaker Module WSLM 52P

IP 65

Active loudspeaker module with 2 loudspeakers for use in high-noise environments. Polycarbonate construction.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 – 16,000 Hz; 2 W nominal power; sound pressure max. 100 dB/W/m.

⟁ Dimensions when flush mounted: W 165 mm, H 140 mm, D 13 mm ▮ 250 g
Dimensions when surface mounted: W 165 mm, H 140 mm, D 51 mm

Loudspeaker Module WSLM 56P

IP 65

Active loudspeaker module with 6 loudspeakers for use in very high-noise environments. Polycarbonate construction.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 – 16,000 Hz; 6 W nominal power; sound pressure max. 108 dB/W/m.

⟁ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm ▮ 590 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

Loudspeaker Module WSLM 52F

IP 65

Active loudspeaker module with 2 loudspeakers for use in high-noise environments. Polycarbonate construction with closed membrane surface.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 – 16,000 Hz; 2 W nominal power; sound pressure max. 100 dB/W/m.

⟁ Dimensions when flush mounted: W 165 mm, H 140 mm, D 13 mm ▮ 250 g
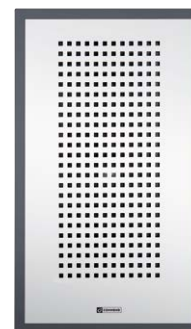Dimensions when surface mounted: W 165 mm, H 140 mm, D 51 mm

Loudspeaker Module WSLM 56F

IP 65

Active loudspeaker module with 6 loudspeakers for use in very high-noise environments. Polycarbonate construction with closed membrane surface.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 – 16,000 Hz; 6 W nominal power; sound pressure max. 108 dB/W/m.

⟁ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm ▮ 590 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

Dummy Module WSDU 52P

IP 65

Half height format. Polycarbonate construction.

WSDU 52P	Standard version
WSDU 52P AM	Version with access reader symbol
WSDU 52P TW	Version with transparent window

⟁ Dimensions when flush mounted: W 165 mm, H 140 mm, D 13 mm ▮ 140 g
Dimensions when surface mounted: W 165 mm, H 140 mm, D 51 mm

Dummy Module WSDU 50P

IP 65

Full height format. Polycarbonate construction.

⟁ Dimensions when flush mounted: W 165 mm, H 280 mm, D 13 mm ▮ 240 g
Dimensions when surface mounted: W 165 mm, H 280 mm, D 51 mm

Handset Module WSHS 50P-JST

IP 40

Handset with integral "Push to Talk" button. Polycarbonate construction; with JST connector.

⟁ Dimensions when surface mounted: W 82 mm, H 280 mm, D 51 mm ▮ 420 g
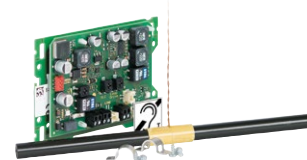
Expansion Card WSEB RJ45

Expansion card for integration in cameras and TFT display extension modules of Series WS. Installing an IP Intercom station with an extension module for a camera or TFT display typically requires two ports on the switch. The expansion card provides an additional downlink port on the module. This solution occupies only one port on the switch; it also requires less cabling and still leaves the option of simply adding these modules later on as needed.

Audio Induction Loop Amplifier - Extension Card WSEB IL

IEC 60118-4 compliant audio induction loop amplifier extension card for transmitting Intercom audio signals to hearing aids; induction loop and adhesive label for front panel included; suitable for installation in Series WS wall-mounted Intercom stations (without camera or TFT display).

External 15 – 26 V DC power supply; input impedance 10 kΩ; frequency response 80 Hz – 8 kHz; max. loop voltage 6.5 V; loop resistance 0.1 Ω – 1,0 Ω effective resistance; MLC (Metal Loss Correction) 0 to -3dB/ octave.

ACCESSORIES FOR WALLMOUNT AND MEMBRANE PROTECTED INTERCOM STATIONS – SERIES WS

Flush Mount Kit WSFB 50P

Flush Mount Kit for flush mounting of Series WS Intercom stations and extension modules – full height format.

W 160 mm, H 275 mm, D 54 mm / thickness on installation surface 13 mm   380 g

Flush Mount Kit WSFB 52P

Flush Mount Kit for flush mounting of Series WS Intercom stations and extension modules – half height format.

W 160 mm, H 134 mm, D 54 mm / thickness on installation surface 13 mm   230 g

Surface Mount Kit WSSH 50P

Surface Mount Kit for surface mounting of Series WS Intercom stations and extension modules – full height format.

W 160 mm, H 275 mm, D 47 mm / thickness on installation surface 51 mm   300 g

Surface Mount Kit WSSH 52P

Surface Mount Kit for surface mounting of Series WS Intercom stations and extension modules – half height format.

W 160 mm, H 135 mm, D 47 mm / thickness on installation surface 51 mm   150 g

Surface Mount Kit WSSH 54P

Polycarbonate Surface Mount Kit for Dummy Module WSDU 54P and Handset Module WSHS 50P; half-width format. Using the handset module in combination with an Intercom station with Desktop Kit requires two Connector Kits WSCP 50SH

W 77 mm, H 275 mm, D 47 mm / thickness on installation surface 51 mm   160 g

Desktop and Wallmount Kit WSDK 50P

This kit allows Series WS Wallmount stations and extension modules with a surface mount box to be used as desktop units. Doing so requires the appropriate Surface Mount Kit. The same kit can also be used for mounting devices (e.g. loudspeaker modules) on slanted walls. Material: powder coated steel.

⚖ W 119 mm, H 66 mm, D 162 mm 📦 400 g

Connector Kit WSCP 50P SH

This optional extension kit allows for interconnecting surface mount boxes of Series WS wallmount stations.

⚖ W 42 mm, H 118 mm, D 1,5 mm

WSDM P

Tool for easy opening polycarbonate and membrane stations of Series WS.

Ethernet Socket RJ45-MONT

The ethernet socket can be used to fix the inflexible connection cable to the surface or flushmount boxes of Series WS. The included connection cable (Length: 0.3 m) is then used to connect to the station.

WALLMOUNT STATIONS – SERIES EE 320A | EF 320A | EE 420

Key features:
– Digital or analogue stations
– 6-digit alphanumeric display (16-segment)
– Standard keypad and function keys
– OpenDuplex® and IVC for natural, hands free communication with high volume
– Handset function
– Available in bright red for use as emergency call stations
– Version available with restricted dialling
– Polycarbonate construction

Technical data of EE 320A und EF 320A: Power supply via Intercom Server (optional external power supply for longer cable lengths or external loudspeakers); 2.5 W Class "D" amplifier; 8 Ω loudspeakers; Electret microphone; multi-functional LED.

Technical data of EE 420: Power supply via Intercom Server; 50 Ω loudspeakers; Electret microphone; red call status LED.

EE 320A
`16 kHz` `Digital`

Digital 2-wire wallmount station with display, standard keypad and function keys. The unit can be removed from its holding frame to use it as a handset for private conversations.

EE 320AS	Black
EE 320AG	Light Grey
EE 320AR	Bright Red

⚖ W 73 mm, H 232 mm, D 57 mm 📦 460 g

EF 320A
`16 kHz` `Digital`

Digital 2-wire wallmount station with display and restricted dialling (T, 0, X keys). The unit can be removed from its holding frame to use it as a handset for private conversations.

EF 320AS	Black
EF 320AG	Light Grey

⚖ W 73 mm, H 232 mm, D 57 mm 📦 460 g

EE 420
`16 kHz` `Analogue`

Analogue 4-wire wallmount station with display, standard keypad and function keys. The unit can be removed from its holding frame to use it as a handset for private conversations.

EE 420S	Black
EE 420G	Light Grey
EE 420R	Bright Red

⚖ W 73 mm, H 232 mm, D 57 mm 📦 442 g

Vandal Resistant Intercom Stations

Protection against malicious damage

In some areas, wanton destruction is a frequent occurrence. This range of Intercom stations are protected against malicious attacks by durable front panels made from high grade steel, poke protection and special screws. The robust construction provides full protection against water jets, dirt and dust. Continuous monitoring function ensures reliable availability around the clock.

Applications:

– Outdoor areas
– Public locations
– Doors and gates
– Parking lots and garages

VANDAL RESISTANT INTERCOM STATIONS – SERIES WS 800V

Key features:

– Vandal resistant design
– IP 65 and IK 07 rating
– Poke protection and special screws
– Front plate made from 3 mm V-2A steel
– Intercom Stations with LCD graphic display.
– OpenDuplex® and IVC for natural, hands free communication with high volume
– 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kits WSFB 50V and WSFB 50V SS FL, Surface Mount Kit WSSH 50V and Rain Protection Roof WSRR 50V.

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED.

WS 800V

`16 kHz` `7 kHz` `IP 65` `IoIP` `SIP` `Digital`

Vandal resistant station with standard keypad and LCD graphic display.

Illuminated LCD display with 128 x 64 pixels; white backlight.
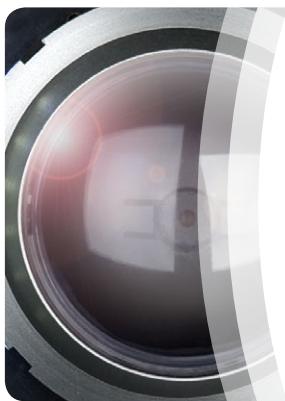
WS 800V I	IP – Communication via IoIP
SIP-WS 800V	IP – Communication via SIP
WS 800V D	Digital 2-wire

⬙ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit

⬙ 1,300 g

VANDAL RESISTANT INTERCOM STATIONS – SERIES WS 500V | 200V

Key features:

– Vandal resistant design
– IP 65 and IK 09 rating
– Poke protected and fitted with special security screws
– Front panel made from 3 mm thick V-2A steel
– Intercom stations with built-in colour video camera
– Back-lit call buttons and label areas
– OpenDuplex® and IVC for natural, hands free communication with high volume
– 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kits WSFB 50V and WSFB 50V SS FL, Surface Mount Kit WSSH 50V and Rain Protection Roof WSRR 50V.

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED. // Analogue 2-wire stations: 2 inputs for floating contacts and 2 Open Collector outputs; red call status LED.

WS 500V CM

[16 kHz] [IP 65] [IoIP]

Vandal-resistant Intercom station with backlit keypad, 3 function keys, bell/call button and key button to enter access code.

Integrated colour video camera with adjustable white balance and built-in heater; M-JPEG video format (max. 640 x 480 pixels); horizontal/vertical viewing angle adjustable mechanically by an additional 30 degrees.

WS 500V I CM   IP – Communication via IoIP

W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
1,700 g

WS 200V CM

[16 kHz] [IP 65] [IoIP] [Digital]

Vandal resistant station with call buttons, integrated colour video camera with illumination, built-in heater, viewing angle mechanically adjustable horizontally/vertically by 30°.

IP network camera with M-JPEG video format (max. resolution 640 x 480 pixels) or as analogue camera for colour systems PAL or NTSC.

WS 201V I CM   1 call button – IP – Communication via IoIP

WS 201V D CM   1 call button – Digital 2-wire

WS 203V I CM   3 call buttons – IP – Communication via IoIP

WS 203V D CM   3 call buttons – Digital 2-wire

W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
1,700 g

WS 201V CA

[16 kHz] [7 kHz] [IP 65] [IoIP] [SIP]

Vandal resistant station with one call button, integrated AXIS colour video camera with illumination, viewing angle mechanically adjustable horizontally/vertically by 30°.

Video streams H.264 (MPEG-4 Part 10/AVC) and M-JPEG with max. resolution 1440 x 900 Pixel (1.3 MP); compatible to video components e.g. NVRs; support of video functions like motion detection, recording, etc.

WS 201V I CA   1 call button – IP – Communication via IoIP

SIP-WS 201V CA 1 call button – IP – Communication via SIP

W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
1,700 g

WS 200V

| 16 kHz | 7 kHz | IP 65 | IoIP | SIP | Digital | Analogue |

Vandal resistant station with call buttons.

WS 201V I	1 call button – IP – Communication via IoIP
SIP-WS 201V	1 call button – IP – Communication via SIP
WS 201V D	1 call button – Digital 2-wire
WS 201V A	1 call button – Analogue 4-wire
WS 203V I	3 call buttons – IP – Communication via IoIP
SIP-WS 203V	3 call buttons – IP – Communication via SIP
WS 203V D	3 call buttons – Digital 2-wire
WS 203V A	3 call buttons – Analogue 4-wire

⬨ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
🏋 1,500 g

VANDAL RESISTANT INTERCOM STATIONS – SERIES WS 211V DA

Key features:
– Vandal resistant design
– Poke protection and special screws
– Front plate made from 3 mm V-2A steel
– IP 65 and IK 07 rating
– Integrated IEC 60118-4 compliant loop amplifier
– Large icons and very bright LEDs for Call Requested, Call Established, Door Opener Active
– Large, easy-to-use call button with tactile bell symbol (special call buttons, e.g. with Braille markings, are available on request).
– OpenDuplex® and IVC for natural, hands free communication with high volume
– Expansion modules for even more functions

Accessories: Flush-Mount Kits WSFB 50V and WSFB 50V SS FL, Surface-Mount Kit WSSH 50V and Rain Protection Roof WSRR 50V.

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED.

WS 211V DA

| 16 kHz | 7 kHz | IP 65 | IoIP | SIP | Digital |

Vandal resistant, multi-functional Intercom station with three pictograms, large call button and built-in induction loop module for indoor and outdoor areas; special functions for barrier-free buildings and living space. Conforms to requirements for people with visual and hearing impairments and Accessibility Regulations in accordance with the Equal Opportunities for the Disabled Principle. Country-specific text and/or symbol labels for the button are available on request.

WS 211V I DA	IP – Communication via IoIP
SIP-WS 211V DA	IP – Communication via SIP
WS 211V D DA	Digital 2-wire

⬨ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
🏋 1,430 g

Emergency Call Stations

Assistance and information at the push of a button

These vandal resistant Intercom stations have many uses. In public areas they serve as information and help points for passers-by to request help and receive assistance in cases of emergency.

The technology ensures excellent speech quality and clarity, regardless of the ambient noise level. Continuous monitoring function ensures reliable availability around the clock. The durable high grade steel front plates with poke protection and special screws provide protection against vandalism. The compact construction is fully protected against water jets, dirt and dust. The extra large emergency call buttons are easily visible even distance and activate easily and reliably.

Applications:

– Public transport stations
– Public areas, parks and city centres
– Parking lots and garages
– Leisure facilities
– Schools and universities

EMERGENCY CALL STATIONS – SERIES WS 210V

Key features:

– Vandal resistant design
– IP 65 and IK 09 rating
– Poke protected and fitted with special security screws
– Front panel made from 3 mm thick V-2A steel
– Intercom stations with built-in colour video camera
– Back-lit call buttons and label areas
– OpenDuplex® and IVC for natural, hands free communication with high volume
– 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kits WSFB 50V and WSFB 50V SS FL, Surface Mount Kit WSSH 50V and Rain Protection Roof WSRR 50V.

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED. // Analogue 2-wire stations: 2 inputs for floating contacts and 2 Open Collector outputs; red call status LED.

WS 210V CM

[16 kHz] [IP 65] [IoIP] [Digital]

Emergency call station with call buttons, integrated colour video camera with illumination, built-in heater, viewing angle mechanically adjustable horizontally/vertically by 30°.

Optional external power supply 22 – 24 V AC / 20 – 35 V DC; IP network camera with M-JPEG video format (max. resolution 640 x 480 pixels) or as analogue camera for colour systems PAL or NTSC.
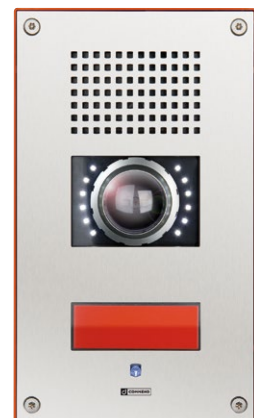
WS 211V I CM	1 emergency call button – IP – Communication via IoIP
WS 211V D CM	1 emergency call button – Digital 2-wire
WS 212V I CM	1 emergency call button and 1 regular call button – IP Communication via IoIP
WS 212V D CM	1 emergency call button and 1 regular call button – Digital 2-wire

⚲ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
▯ 1,700 g

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WS 211V CA

[16 kHz] [IP 65] [IoIP]

Emergency call station with one call button, integrated AXIS colour video camera with illumination, viewing angle mechanically adjustable horizontally/vertically by 30°.

Video streams H.264 (MPEG-4 Part 10/AVC) and M-JPEG with max. resolution 1440 x 900 Pixel (1.3 MP); compatible to video components e.g. NVRs; support of video functions like motion detection, recording, etc.

WS 211V I CA	1 emergency call button – IP – Communication via IoIP

⚲ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
▯ 1,700 g
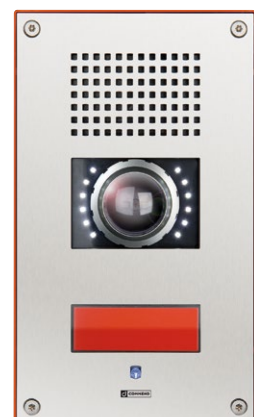
WS 210V

| 16 kHz | 7 kHz | IP 65 | IoIP | SIP | Digital | Analogue |

Emergency call station with call buttons.

| WS 211V I | 1 emergency call button – IP – Communication via IoIP |
SIP-WS 211V	1 emergency call button – IP – Communication via SIP
WS 211V D	1 emergency call button – Digital 2-wire
WS 211V A	1 emergency call button – Analogue 4-wire
WS 212V I	1 emergency call button and 1 regular call button – IP – Communication via IoIP
SIP-WS 212V	1 emergency call button and 1 regular call button – IP – Communication via SIP
WS 212V D	1 emergency call button and 1 regular call button – Digital 2-wire
WS 212V A	1 emergency call button and 1 regular call button – Analogue 4-wire

⟁ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
🏋 1,500 g
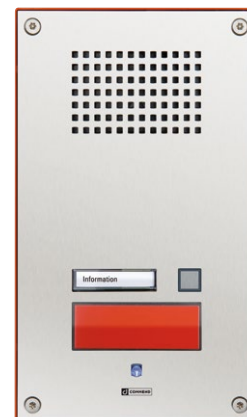
VANDAL RESISTANT EMERGENCY CALL STATION – SERIES WS 211V M

Key features:
– Vandal resistant design
– IP 65 and IK 10 rating
– Poke protected and fitted with special security screws
– Front panel made from 3 mm thick V-2A steel
– Emergency mushroom button with
  continuous function check (NC Contact)
– OpenDuplex® and IVC for natural, hands free
  communication with high volume
– 16 kHz eHD Voice speech quality
– Continuous line and function checks
– Extension modules for additional functions

Accessories: Flush Mount Kits WSFB 50V and WSFB 50V SS FL, Surface Mount Kit WSSH 50V and Rain Protection Roof WSRR 50V.

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 3 inputs for floating contacts and 2 relay outputs; multi-functional LED.
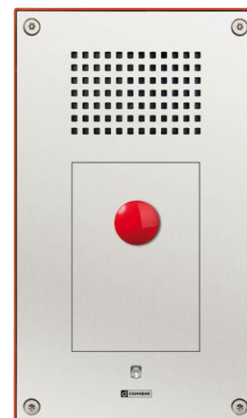
WS 211V M

| 16 kHz | IP 65 | IoIP | Digital |

Vandal resistant emergency call station with mushroom button
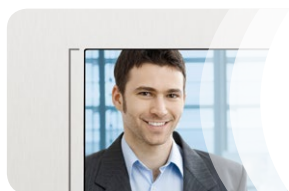
| WS 211V I M | 1 emergency call button – IP – Communication via IoIP |
| WS 211V D M | 1 emergency call button – Digital 2-wire |

⟁ W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
🏋 1,500 g

VANDAL RESISTANT EXTENSION MODULES – SERIES WS

The Series WS Intercom stations can be custom enhanced with powerful extra features by means of extension modules. These can be mounted above, below or on either side of the Intercom station, or positioned freely within the room. For example, loudspeaker modules are usually placed fairly high up for indoor or outdoor public address purposes. The front panel made from 3 mm thick V-2A steel, (optional) sabotage detection contacts and special screws provides optimum protection against vandalism for these modules. Surface Mount and Flush Mount Kits are available separately -- see Accessories.

Camera Module WSCM 50V
`IP 65`

Vandal resistant camera module with colour video camera with adjustable white balance and built-in heater. Can be used as an IP network camera (M-JPEG video format with max. resolution of 640 x 480 pixels) or as analogue camera for colour systems PAL or NTSC. Viewing angle mechanically adjustable horizontally/vertically by 30°.

External power supply via 22 – 24 V AC / 20 – 35 V DC power adapter or via PoE IEEE 802.3af.

Dimensions when flush mounted: W 164 mm, H 139 mm, D 14 mm   875 g
Dimensions when surface mounted: W 164 mm, H 139 mm, D 50 mm
(dimensions do not include 20 mm camera top clearance)

TFT Display Module WSTM 50V
`IP 65`

Vandal resistant Colour-TFT display module for IP based video streams or analogue video signals in PAL or NTSC.

3.5″ TFT display; resolution: 320 x 240 pixels; 65,000 colours; External power supply via 22 – 24 V AC / 20 – 35 V DC power adapter or via PoE IEEE 802.3af.

Dimensions when flush mounted: W 164 mm, H 139 mm, D 14 mm   820 g
Dimensions when surface mounted: W 164 mm, H 139 mm, D 50 mm

Audio Induction Loop Amplifier Module WSIL 50V
`IP 65`

IEC 60118-4 compliant audio induction loop amplifier module for transmitting Intercom audio signals to hearing aids; integrated induction loop; front panel made from 3mm V-2A steel.

External 15 – 26 V DC power supply; input impedance 10 kΩ; frequency response 80 Hz – 8 kHz; max. loop voltage 6.5 V; loop resistance 0.1 Ω – 1,0 Ω effective resistance; MLC (Metal Loss Correction) 0 to -3dB/ octave.

Dimensions when flush-mounted: W 164 mm, H 139 mm, D 14 mm   1,100 g
Dimensions when surface-mounted: W 164 mm, H 139 mm, D 50 mm

Loudspeaker Module WSLM 52V
`IP 65`

Vandal resistant active loudspeaker module with 2 loudspeakers for use in high-noise environments.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 – 16,000 Hz; 2 W nominal power; sound pressure max. 100 dB/W/m.

Dimensions when flush mounted: W 164 mm, H 139 mm, D 14 mm   695 g
Dimensions when surface mounted: W 164 mm, H 139 mm, D 50 mm

Loudspeaker Module WSLM 56V
`IP 65`

Vandal resistant active loudspeaker module with 6 loudspeakers for use in very high-noise environments.

Power supply: 12 – 24 V AC / 15 – 35 V DC; frequency range: 200 —16,000 Hz; 6 W nominal power; sound pressure max. 108 dB/W/m.

W 164 mm, H 279 mm / thickness on installation surface depending on mounting kit
1,500 g
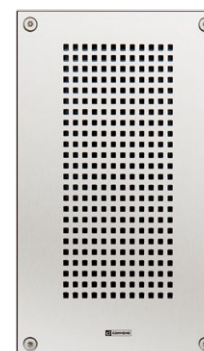
Direct Dialling Button Module WSDD 53V

IP 65

Vandal resistant module with three illuminated direct dialling buttons and labels. Connects directly to an IP based or digital Intercom station of Series WS and to devices with input level detection (Intercom Modules ET 808A, ET 908A, etc.).

Optional external 12 – 24 V AC / 15 – 35 V DC power supply for illumination.

⚖ Dimensions when flush mounted: W 164 mm, H 139 mm, D 14 mm ⬛ 730 g
Dimensions when surface mounted: W 164 mm, H 139 mm, D 50 mm

Direct Dialling Button Module WSDD 59V

IP 65

Vandal resistant module with nine illuminated direct dialling buttons and labels. Connects directly to an IP based or digital Intercom station of Series WS and to devices with input level detection (e.g. Intercom Modules ET 808A, ET 908A, etc.).

Optional external 12 – 24 V AC / 15 – 35 V DC power supply for illumination.

⚖ W164 mm, H 279 mm / thickness on installation surface depending on mounting kit
⬛ 1,630 g

Dummy Module WSDU 52V

IP 65

Vandal resistant dummy module. Half height format.

WSDU 52V AM   Version with access reader symbol

WSDU 52V TW   Version with transparent window

⚖ Dimensions when flush mounted: W 164 mm, H 139 mm, D 14 mm ⬛ 490 g
Dimensions when surface mounted: W 164 mm, H 139 mm, D 50 mm
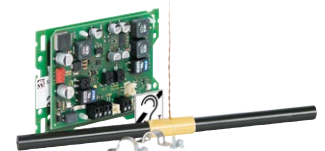

Expansion Card WSEB RJ45

Expansion card for integration in cameras and TFT display modules of Series WS. Installing an IP Intercom station with an extension module for a camera or TFT display typically requires two ports on the switch. The expansion card provides an additional downlink port on the module. This solution occupies only one port on the switch; it also requires less cabling and still leaves the option of simply adding these modules later on as needed.

Audio Induction Loop Amplifier - Extension Card WSEB IL

IEC 60118-4 compliant audio induction loop amplifier extension card for transmitting Intercom audio signals to hearing aids; induction loop and adhesive label for front panel included; suitable for installation in Series WS wall-mounted Intercom stations (without camera or TFT display).

External 15 – 26 V DC power supply; input impedance 10 kΩ; frequency response 80 Hz – 8 kHz; max. loop voltage 6.5 V; loop resistance 0.1 Ω – 1,0 Ω effective resistance; MLC (Metal Loss Correction) 0 to -3dB/ octave.

ACCESSORIES FOR VANDAL RESISTANT STATIONS – SERIES WS

Flush Mount Kit WSFB 50V

Includes a flush mount box and levelling frame made from sheet steel for flush mounting vandal resistant Series WS Intercom stations and extension modules – full height format. The sheet steel is double-coated (with cataphoretic paint and a powder coating). Other RAL colours are available on request.

WSFB 50V SS	High-grade steel finish
WSFB 50V OR	Pure Orange (RAL 2004)

⚒ W 164 mm, H 279 mm, D 58 mm / thickness on installation surface 14 mm 📏 540 g

Flush Mount Kit WSFB 50V SS FL

Flush Mount Kit for flush mounting of Vandal resistant Series WS Intercom stations and extension modules; full height format. Includes a polycarbonate flush mount box and levelling frame made from high grade sheet steel.

⚒ W 164 mm, H 279 mm, D 53 mm / thickness on installation surface 0 mm 📏 540 g

Flush Mount Kit WSFB 52V SS

Includes a flush mount box and levelling frame made from sheet steel for flush mounting vandal resistant Series WS Intercom stations and extension modules – half height format. RAL colours are available on request.

⚒ W 164 mm, H 139 mm, D 58 mm / thickness on installation surface 14 mm 📏 360 g

Surface Mount Kit WSSH 50V

Surface mount box made from 1.5 mm thick high-grade steel for surface mounting vandal resistant Series WS Intercom stations and extension modules – full height format. The coloured version is made from double coated sheet steel (cataphoretic paint treated and powder coated) to ensure maximum corrosion resistance..

WSSH 50V SS	High-grade steel
WSSH 50V WA	White Aluminium (RAL 9006)
WSSH 50V OR	Pure Orange (RAL 2004)
WSSH 50V OR EM	Pure Orange (RAL 2004) with inscription "SOS"
WSSH 50V YL EM	Yellow (RAL 1016) with inscription "HELP"

⚒ W 164 mm, H 279 mm, D 50 mm / thickness on installation surface 50 mm 📏 945 g

Surface Mount Kit WSSH 52V SS

Surface mount box made from 1.5 mm thick high-grade steel for surface mounting vandal resistant Series WS extension modules – half height format. The coloured version is made from double coated sheet steel (cataphoretic paint treated and powder coated) to ensure maximum corrosion resistance.

⚒ W 164 mm, H 139 mm, D 50 mm / thickness on installation surface 50 mm 📏 635 g

Rain Protection Roof WSRR 50V

This optional rain protection roof for Vandal resistant Series WS Intercom stations and extension modules (full height format) provides even higher protection in adverse weather conditions. Material Stainless steel.

⚒ W 164 mm, H 277 mm, D 80 mm 📏 465 g

Sabotage Detection Switch WSSK 50V

Micro switch for sabotage surveillance of Vandal resistant extension modules
Not suitable for loudspeaker modules WSLM 56V or WSLM 52V, or Direct Dialling Button Module WSDD 59V.

WSSK 50V SH	For surface mounted extension modules
WSSK 50V FB	For flush mounted extension modules

Ethernet Socket RJ45-MONT

The ethernet socket can be used to fix the inflexible connection cable to the surface or flushmount boxes of Series WS. The included connection cable (Length: 0.3 m) is then used to connect to the station.

VANDAL RESISTANT STATIONS – SERIES EF 962A

Key features:

- Vandal resistant design
- Poke protected and fitted with special security screws
- Front panel made from 3 mm thick V-2A steel
- Emergency mushroom or high grade steel button with continuous function check (NC Contact)
- OpenDuplex® and IVC for natural, hands free communication with high volume
- 16 kHz eHD Voice speech quality (7 kHz HD Voice for communication via SIP)
- Indicator LEDs and pictograms for Call Requested, Call Established and Door Opener Active

Accessories: Basic housing GUEF 962 (required for surface mounting and flush mounting), surface mount box EF 62

Technical data: Electret microphone; 2.5 W Class "D" amplifier; two 8 Ω loudspeakers; External power supply or PoE (IEEE 802.3af); 1 input for floating contacts and 1 relay output.
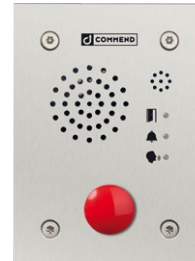
EF 962AM
`16 kHz` `7 kHz` `IP 54` `IoIP` `SIP`

Vandal resistant emergency call station with emergency call button (mushroom button).

| EF 962AM | 1 emergency call button – IP – Communication via IoIP |
| SIP-EF 962AM | 1 emergency call button – IP – Communication via SIP |

W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
700 g

EF 962A
`16 kHz` `7 kHz` `IP 54` `IoIP` `SIP`

Vandal resistant station with call button made from high grade steel.

| EF 962A | 1 call button – IP – Communication via IoIP |
| SIP-EF 962A | 1 call button – IP – Communication via SIP |

W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
700 g

VANDAL RESISTANT STATIONS – SERIES EF 862A

Key features:

- Vandal resistant design
- Poke protection and special screws
- Front plate made from 3 mm V-2A steel
- OpenDuplex® and IVC for natural, hands free communication with high volume
- 16 kHz eHD Voice speech quality

Accessories: Basic housing GUEF 62 (required for surface mounting and flush mounting), surface mount box EF 62

Technical data: Electret microphone; Power supply via Intercom Server (option: external floating power supply for longer cable lengths); Integrated 2.5 W amplifier (1.5 W output when using built-in 8 Ω loudspeaker); multi-functional LED; 1 input for floating contacts and 1 relay output.

EF 862AM
`16 kHz` `IP 54` `Digital`

Vandal resistant emergency call station with emergency call button (mushroom button).

W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
685 g

EF 862AP
`16 kHz` `IP 54` `Digital`

Vandal resistant call station with piezo electric button and 2-colour LED ring (24 V DC, 500 mA for LED ring required).

W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
685 g

EF 862A
`16 kHz` `IP 54` `Digital`

Vandal resistant station with call button made from high grade steel.

W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
685 g

VANDAL RESISTANT STATIONS – SERIES EF 562

Key features:
– Vandal resistant design
– Poke protection and special screws
– Front plate made from 3 mm V-2A steel
– Natural, hands free communication with high volume

Accessories: Basic housing GUEF 62 (required for surface mounting and flush mounting), surface mount box EF 62

Technical data: Electret microphone; 50 Ω loudspeakers; line length up to 4,200 m; red call status LED.

EF 562M
`16 kHz` `IP 54` `Analogue`

Vandal resistant emergency call station with emergency call button (mushroom button).

⚒ W 110 mm, H 151 mm / thickness on installation surface depending on mounting kit
⚖ 650 g

EF 562
`16 kHz` `IP 54` `Analogue`

Vandal resistant station with call button made from high grade steel.

⚒ W 110 mm, H 151 mm / thickness on installation surface depends on mounting kit
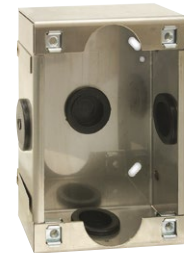⚖ 650 g

ACCESSORIES FOR SERIES EF962, EF 862 AND EF 562

Basic housing GUEF 62

Basic housing for Series EF 862 and EF 562, made from 1.5 mm hot galvanised sheet steel. Required for surface mounting and flush mounting.

⚒ W 90 mm, H 131 mm, D 48 mm ⚖ 436 g

Basic housing GUEF 962

Basic housing with RJ45 adapter for Series EF 962A and EF 962AM, made from 1.5 mm hot galvanised sheet steel. Required for surface mounting and flush mounting.

⚒ W 90 mm, H 131 mm, D 48 mm ⚖ 436 g

Surface Mount Box EF 62

Surface mount box with rain protection roof for outdoor use, made of 1.25 mm thick sheet steel, powder coated.

EF 62G	Grey (RAL 9006)
EF 62O	Pure Orange (RAL 2004) with "SOS" labelling
EF 62NIRO	High-grade steel

⚒ W 114,5 mm, H 155 mm, D 84 mm ⚖ 631 g

Surface Mount Box EF 62W

Surface mount box without rain protection roof for indoor use, made of 1.25 mm thick galvanised sheet steel, powder coated in RAL 9016 (White).

⚒ W 114,5 mm, H 155 mm, D 55 mm ⚖ 631 g
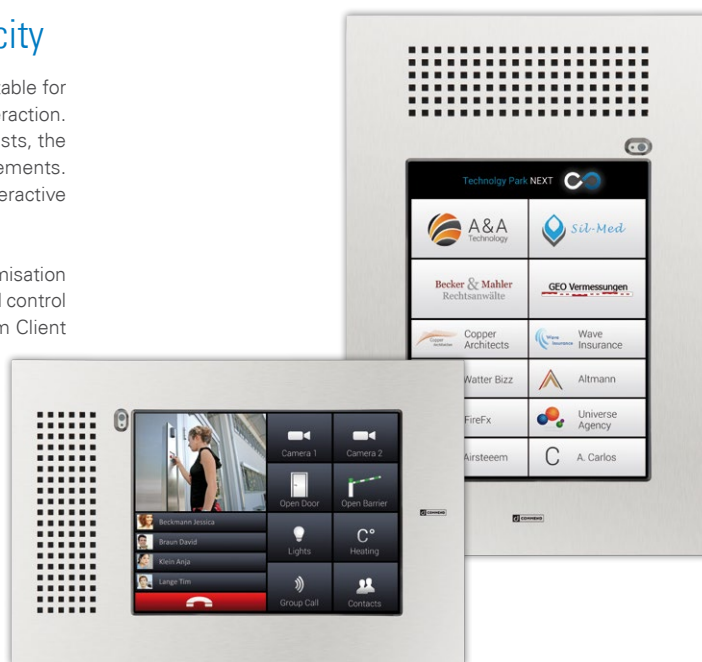
Stations with Touch Screen

User interaction with effortless simplicity

Touch screen equipped Intercom stations by Commend are suitable for any type of application requiring intuitive, yet precise user interaction. While offering standard menus for features such as subscriber lists, the graphical user interface can be adjusted to suit the user's requirements. The options range from creating custom menus to adding interactive on-screen elements such as video feeds.

The following sample layouts show some of the flexible customisation capabilities of the user interface. Licence details for the individual control elements and functions can be found in the section on Intercom Client for Android under Intercom Software.

Typical applications

– Communication terminals for reception areas
– Terminals for visitor guidance and information
– Convenient Door Call Stations for inside and outside use
– Interactive Lift Call Stations
– Compact Control Desks

VANDAL RESISTANT TOUCHSCREEN STATION – SERIES TS 8110V I

Key features:

– Robust, daylight suitable, capacitive 10.1" multi-touch display
– Ambient light sensor for automatic brightness adjustment
– Outdoor capable – IP 65 rating
– Built-in 2 MP video camera
– Vandal resistant design – Front plate made from 3 mm V-2A steel; special lockable Surface-Mount and Flush-Mount Kits
– OpenDuplex® and IVC for natural, hands free communication with high volume
– Continuous line and function checks

Accessories: Flush-Mount Kits TSFB 10V, Surface-Mount Kits TSSH 10V, Desktop Kit TSDK 10V, Protective Camera Cover TSCC 10V.

Technical data: 1.2 GHz Dual Core Processor with built-in hardware security; 1 GB RAM; 16 GB memory for image data; Android OS; Electret microphone; two 8 Ω loudspeakers; 2.5 W Class "D" amplifier; 2 relay outputs (switching contacts); 3 inputs for floating contacts; Line input; Functionality Monitoring; Audio Monitoring; external power supply required – see data sheet for details.

TS 8110V I P

`16 kHz` `IP 65` `IoIP`

Vandal resistant touch screen IP station with 10.1" touch sensitive display and intuitive user interface for easy interaction and communication.

Capacitive XGA LED touch sensitive display with 1024 x 768 pixel resolution.

TS 8110V I P   Vertical installation

W 240 mm, H 360 mm / thickness on installation surface depending on mounting kit
3,500 g

TS 8110V I L

`16 kHz` `IP 65` `IoIP`

Vandal resistant touch screen IP station with 10.1" touch sensitive display and intuitive user interface for easy interaction and communication.

Capacitive XGA LED touch sensitive display with 1024 x 768 pixel resolution.

TS 8110V I L   Horizontal installation

W 360 mm, H 240 mm / thickness on installation surface depending on mounting kit
3.500 g

VANDAL RESISTANT TOUCHSCREEN STATION – SERIES TS 8107V I

Key features:

– Robust, daylight suitable, capacitive 7″ multi-touch display
– Ambient light sensor for automatic brightness adjustment
– Outdoor capable – IP 65 rating
– Built-in 2 MP video camera
– Vandal resistant design – Front plate made from 3 mm V-2A steel; special lockable Surface-Mount and Flush-Mount Kits
– OpenDuplex® and IVC for natural, hands free communication with high volume
– Continuous line and function checks

Accessories: Flush-Mount Kits TSFB 07V, Surface-Mount Kits TSSH 07V, Desktop Kit TSDK 07V, Protective Camera Cover TSCC 10V.

Technical data: 1.5 GHz Dual Core Processor with built-in hardware security; 1 GB RAM; 16 GB memory for image data; Android OS; Electret microphone; two 8 Ω loudspeakers; 2.5 W Class "D" amplifier; 2 relay outputs (switching contacts); 3 inputs for floating contacts; Line input; external power supply required – see data sheet for details.
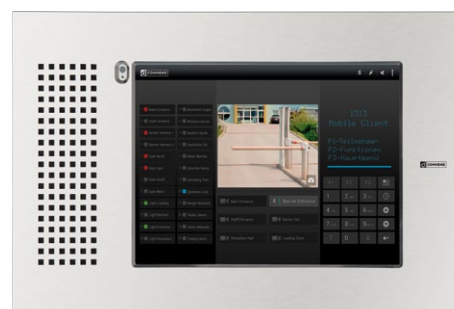
TS 8107V I P

`16 kHz` `IP 65` `IoIP`

Vandal resistant touch screen IP station with 7" touch sensitive display and intuitive user interface for easy interaction and communication.

Capacitive WSVGA touch sensitive display with 1024 x 600 pixel resolution.

TS 8107V I P Vertical installation

W 160 mm, H 319 mm / thickness on installation surface depending on mounting kit

2,600 g

TS 8107V I L

`16 kHz` `IP 65` `IoIP`

Vandal resistant touch screen IP station with 7" touch sensitive display and intuitive user interface for easy interaction and communication.

Capacitive WSVGA touch sensitive display with 1024 x 600 pixel resolution.

TS 8110V I L Horizontal installation

W 319 mm, H 160 mm / thickness on installation surface depending on mounting kit

2,600 g

ACCESSORIES FOR TOUCHSCREEN STATIONS

Flush Mount Kit TSFB

Flush Mount Kit made from 1.25 mm stainless steel, suitable for flush-mounting touch screen Intercom stations. Station can only be opened with a special unlocking tool.

TSFB 07V	Standard Version for Touchscreen Station TS 8107V
TSFB 10V	Standard Version for Touchscreen Station TS 8110V

Surface-Mount Kit TSSH

Surface-Mount Kit made from 1.5 mm stainless steel, suitable for surfacing touch screen Intercom stations. Station can only be opened with a special unlocking tool.

TSSH 07V	Standard Version for Touchscreen Station TS 8107V
TSSH 10V	Standard Version for Touchscreen Station TS 8110V

Desktop Kit TSDK

This kit allows for using touch screen Intercom station as a desktop device. Note that this also requires a TSSH Surface-Mount Kit. Material: powder-coated steel.

TSDK 07V	Standard Version for Touchscreen Station TS 8107V
TSDK 10V	Standard Version for Touchscreen Station TS 8110V

Protective Camera Cover TSCC 10V

This cover allows for covering the camera lens (e.g., for reasons of data protection).

Modular Door Stations

Building Security – Protection for People and Valuables

Doors and access points, one might say, provide the first impression of a company or building. Arriving visitors must not be intimidated by strict, impersonal security measures. However, security must not be neglected either. Apart from visitor flow and protected areas, many other factors need to be taken into consideration when it comes to access control solutions – especially people and their individual needs. From door Intercom stations and access readers to software modules, They allow for guiding and controlling the movements of people within buildings without being obstructive while still ensuring the required protection of sensitive areas.

Typical applications:

– Speech communication solution for doors, gates, barriers and turnstiles.
– Integration into columns, plinths and letterbox systems.

DOOR INTERCOM MODULES

Key features:
These Intercom modules provide excellent speech quality at access points and in transit areas. Their timelessly modern design matches that of Siedle's Vario Series. As a result, doors, gates and airlocks – whether indoors or outdoors – integrate smoothly and fully with the Intercom system.

Technical data: Electret microphone; power supply via Intercom Server; loudspeaker with special membrane for optimum sound quality and high volumes; // Digital 2-wire: Class "D" amplifier; Relay output for direct connection of a door opener; Input for floating contacts;

ET 861A | ET 661

[16 kHz] Digital Analogue

Door station module with one call button.

ET 861AWE	Digital 2-wire – White
ET 861ASI	Digital 2-wire – Silver
ET 861ADG	Digital 2-wire – Dark Grey
ET 861ABG	Digital 2-wire – Amber
ET 661WE	Analogue 4-wire – White
ET 661SI	Analogue 4-wire – Silver
ET 661DG	Analogue 4-wire – Dark Grey
ET 661BG	Analogue 4-wire – Amber

W 99 mm, H 99 mm, D 9 mm   200 g

Desktop Stations

IP DESKTOP STATIONS – SERIES EE 900A

Key features:

– IP and DSP technology
– Standard keypad and function keys
– Illuminated LCD graphic display
– OpenDuplex® for natural, hands free communication
– High volume capacity thanks to digital Class "D" amplifier
– Multi-functional LED for visual user guidance and information
– Built-in switch

Technical data: Graphic display (8 lines at 14 characters each); 8 Ω loudspeaker with special membrane for optimum speech quality; Class "D" amplifier with 2.5 W (1.5 W output with built-in loudspeaker); Connection for optional handset or headset; Power can be supplied via PoE IEEE 802.3 af – see PoE Injector under Accessories.

EE 900AS

16 kHz   IoIP

Master and control desk station with illuminated LCD graphic display and standard keypad with "T" and "X" keys, six function keys, and programmable handset function. Colour black.
Typical applications: Use as a control and desktop station.

W 66 mm, H 58 mm, D 240 mm   500 g

EE 972AS

16 kHz   IoIP

Master and control desk station with gooseneck microphone, illuminated LCD graphic display, standard keypad with "T" and "X" keys and six function keys. Colour black.
Typical applications: Control desk and command station.

W 179 mm, H 58 mm, D 240 mm / Length of gooseneck: 430 mm   800 g

Accessories for Series EE 900A

PA15WPOE	PoE Injector – Single Port 15.4 W PoE Adapter (without power plug)
KAB-C13-EU	Power plug for PoE Injector – Version for Europe
KAB-C13-UK	Power plug for PoE Injector – Version for UK
KAB-C13-US	Power plug for PoE Injector – Version for USA
KAB-C13-AU	Power plug for PoE Injector – Version for Australia
ASKKAT5-3S	Network cable, 3 m, black

2-WIRE DSP DESKTOP STATIONS – SERIES EE 811A

These digital Master Stations are based on DSP technology in a timeless, ergonomic design for handsfree OpenDuplex® speech connections. They come with a large rear-illuminated graphical display and are capable of displaying multiple messages (e.g., alarms). A bright multi-function LED is provided for visual feedback and user guidance.

Technical data: Graphic display (8 lines at 14 characters each); Power supply via Intercom Server (optional external power supply for longer cable lengths or external loudspeakers); 8 Ω loudspeaker with special membrane for optimum speech quality; 2.5 W Class "D" amplifier (1.5 W with built-in loudspeaker, 2.5 W with external 4 Ω loudspeaker); Connection port for external loudspeaker; 1 input for floating contact; 1 Open Collector output; relay contact can be retro-fitted; Plug-in port for handset or headset; 3 m connection cable.

EE 811A

16 kHz   Digital

Master and central control station with illuminated graphic display and standard keypad with "T" and "X" keys, six function keys, and programmable handset function.
Typical applications: Use as a control and desktop station.

EE 811AS	Black

⟁ W 66 mm, H 58 mm, D 240 mm   ▮ 500 g

EE 872A

16 kHz   Digital

Master and control desk station with cardioid gooseneck microphone, illuminated graphic display, and standard keypad with "T" and "X" keys and six function keys.
Typical applications: Control desk and command station.

EE 872AS	Black

⟁ W 179 mm, H 58 mm, D 240 mm / Length of gooseneck: 430 mm   ▮ 800 g

EE 872A EG

16 kHz   Digital

Master and control desk station with active add-on loudspeaker, cardioid gooseneck microphone, illuminated graphic display, and standard keypad with "T" and "X" keys and six function keys. Special screws and adhesive bonding make these Intercom stations particularly durable.
Typical applications: Use as a control and command station in environments with high ambient noise levels.

Class "D" amplifier with 15 W speech signal; sound pressure: 82 dB/W/m (1 kHz); impedance: 8 Ω; magnetically shielded; external 15 V DC power supply; plug-in power adapter PA20W15V is available separately – see Accessories.

EE 872AEGS	Black

⟁ W 205 mm, H 95 mm, D 280 mm / Length of gooseneck: 430 mm   ▮ 800 g

2-WIRE DSP-DESKTOP STATIONS – SERIES EE 311A

Digital master stations in DSP-technology and ergonomic design, for hands free speech in OpenDuplex®, with display for caller identification and indication of multiple messages (e.g. alarms). A bright, multi-functional LED allows for visual signals and user guidance.

Technical data: 6-digit alphanumeric display (16-segment); power supply via Intercom Server (optional: external power supply for greater line length or external loudspeaker); built-in Class "D" amplifier with 2.5 W (1.5 W power with built in loudspeaker or 2.5 W with external 4 Ω loudspeaker); built-in 8 Ω loudspeaker with special membrane type for optimal sound quality; connection possibility for external loudspeaker; one input for floating contact; one open collector output; connection of handset or headset possible; 3 m connection cable.

EE 311A

`16 kHz` `Digital`

Master station with standard keypad, complete with "T" and "X" keys and six function keys, and programmable handset function.
Typical applications: Office use and use as control desk and command station.

EE 311AS	Black
EE 311AG	Light Grey

⚖ W 66 mm, H 55 mm, D 230 mm 🗜 380 g

EE 301A

`16 kHz` `Digital`

Master station with standard keypad, complete with "T" and "X" keys and three function keys. Without position switch and handset/headset connection port.
Typical applications: Office use and use as control desk and command station.

EE 301AS	Black
EE 301AG	Light Grey

⚖ W 66 mm, H 55 mm, D 230 mm 🗜 380 g

EF 311A

`16 kHz` `Digital`

Substation with restricted dialling ("T", "0", "X") and programmable handset function.
Typical applications: Substations for offices, supermarket checkouts, etc.

EF 311AS	Black

⚖ W 66 mm, H 55 mm, D 230 mm 🗜 360 g

EE 372A

`16 kHz` `Digital`

Master and control desk station with cardioid gooseneck microphone and standard keypad with "T" and "X" keys and three function keys.
Typical applications: Control desk and command station.

EE 372AS	Black

⚖ W 179 mm, H 57 mm, D 230 mm / Length of gooseneck: 430 mm 🗜 715 g

4-WIRE DESKTOP STATION – SERIES EE 411

Analogue master stations in ergonomic design, for hands-free speech even from great distances, with display for caller identification and indication of multiple messages (e.g. alarms). A bright call LED indicates clearly if the station is active. The LCD screen enables scrolling of incoming calls, detailing all call numbers.

Technical data: 6-digit alphanumeric display (16-segment); Power supply via Intercom Server; 3 m connection cable.

EE 411

`16 kHz` `Analogue`

Master station in desktop version with reinforced silicone keypad (standard keypad with "T" and "X" buttons as well as three function keys), built-in programmable handset function.
Typical applications: Offices, control desk station in small systems.

EE 411S	Black
EE 411G	Light Grey

W 66 mm, H 55 mm, D 230 mm   370 g

EE 401

`16 kHz` `Analogue`

Master station in desktop version with reinforced silicone keypad (standard keypad with "T" and "X" buttons as well as three function keys); without position switch.
Typical applications: Offices, control desk station in small systems.

EE 401S	Black
EE 401G	Light Grey

W 66 mm, H 55 mm, D 230 mm   370 g

EE 472

`16 kHz` `Analogue`

Master station – Control Desk – desktop version, with gooseneck microphone with cardioid characteristic and anti-tilt stand. Reinforced silicone keypad (standard keypad with "T" and "X" buttons as well as three function keys).
Typical applications: Control Desk and Command stations.

EE 472S	Black
EE 472G	Light Grey

W 179 mm, H 57 mm, D 230 mm / Length of gooseneck: 430 mm   700 g

EF 401

`16 kHz` `Analogue`

Substation with restricted dialling possibilities ("T", "0", "X").
Typical applications: Substation in offices, supermarket check-outs, etc.

EF 401S	Black
EF 401G	Light Grey

W 66 mm, H 55 mm, D 230 mm   350 g

4-WIRE DESKTOP STATIONS – SERIES EE 400

Analogue master stations in ergonomic design, for hands free speech even from great distances, with individually designable index field that can be used to show call numbers and other important information. A bright call LED indicates clearly if the station is active. Compatible with the previous Intercom Server generation GE 416, GE 501 and GE 601.

Technical data: Power supply via Intercom Server; 3 m connection cable.

EE 400

16 kHz Analogue

Master station in desktop version with reinforced silicone keypad (standard keypad with "T" and "X" buttons).
Typical applications: Offices.

EE 400S	Black
EE 400G	Light Grey

⚖ W 66 mm, H 55 mm, D 230 mm 📏 350 g

EE 470

16 kHz Analogue

Master station – Control Desk – desktop version, with gooseneck microphone with cardioid characteristic and anti-tilt stand. Reinforced silicone keypad (standard keypad with "T" and "X" buttons).
Typical applications: Simple Control Desk and Command stations.

EE 470S	Black
EE 470G	Light Grey

⚖ W 179 mm, H 280 mm, D 230 mm / Length of gooseneck 430 mm 📏 700 g

EF 400

16 kHz Analogue

Substation with restricted dialling possibilities ("T", "0", "X").
Typical applications: Simple substations in offices, at cash registers in stores, etc.

EF 400S	Black
EF 400G	Light Grey

⚖ W 66 mm, H 55 mm, D 230 mm 📏 340 g

ACCESSORIES

Plug-in power adapter PA20W15V

20 W switching power supply with high efficiency output; Primary: 90 – 264 V AC; 0.67 A; Secondary 15 V DC; including changeable plug attachments for Europe, the UK, USA and Australia.

EW 401

Wall-bracket for the desktop station Series EE 311A, EE 400 and EE 411.

EW 401S	Black
EW 401G	Light Grey

⚖ W 73 mm, H 235 mm, D 58 mm 📏 160 g

EW 102

Wall-Mount Bracket for Series EE 200, EE 300 and EE 400 Desktop Intercom Stations.

EW 102	Transparent

⚖ W 72 mm, H 52 mm, D 42 mm 📏 28 g

Modules

Your Individual Intercom Station

The right choice for all typical applications: whatever is expected of an individual solution, with modules by Commend it is always going to be the best one. The modules allow for Intercom stations to be built in accordance with customers' requirements and integrated into custom housings or panels. What is more, they make it possible to equip various terminals (ticket vending machines, info terminals, ATMs, etc.) with efficient, space-saving Intercom units. This way, operators can offer their customers extra services with added value.

Applications

– Implementation of special Intercom stations
– Integration into panels and enclosures
– Call terminals and emergency facilities,
  e.g. for help points, lifts, etc.

IP-MODULES

These modules connect to the Intercom Server over the IP network by direct connection to the Ethernet (LAN/WAN). A built-in switch with downlink function allows for direct connection of another IP device (e.g., IP-camera). The module supports DSP functionalities such as OpenDuplex®, Audio Monitoring and function monitoring.

ET 908A

`16 kHz` `7 kHz` `IoIP` `SIP`

IP-based module with switch and RJ 45 ports for IP Uplink/Downlink. Ready for connection of a keypad with 18 keys or three single buttons, a loudspeaker, a microphone, a headset or handset, and the supplied call status LED. Line input for audio feed (e.g. music, radio conference, etc.).
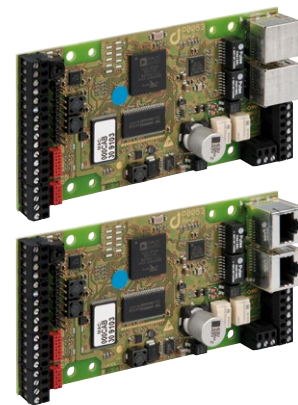
ET 908A	IP – Communication via IoIP; Version with horizontally installed RJ 45 ports – without microphone
SIP-ET 908A	IP – Communication via SIP; Version with horizontally installed RJ 45 ports – without microphone
ET 908A-1	IP – Communication via IoIP; Version with vertically installed RJ 45 ports – without microphone
SIP-ET 908A-1	IP – Communication via SIP; Version with vertically installed RJ 45 ports – without microphone

⚖ W 130 mm, H 65 mm, D 21 mm ⬛ 220 g

ET 908AM

`16 kHz` `7 kHz` `IoIP` `SIP`

IP-based module with switch, microfon MIC 480 and RJ 45 ports for IP Uplink/Downlink. Ready for connection of a keypad with 18 keys or three single buttons, a loudspeaker, a microphone, a headset or handset, and the supplied call status LED. Line input for audio feed (e.g. music, radio conference, etc.).

ET 908AMI	IP – Communication via IoIP; Version with horizontally installed RJ 45 ports – with microphone MIC 480
SIP-ET 908AMI	IP – Communication via SIP; Version with horizontally installed RJ 45 ports – with microphone MIC 480
ET 908AMI-1	IP – Communication via IoIP; Version with vertically installed RJ 45 ports – with microphone MIC 480
SIP-ET 908MI-1	IP – Communication via SIP; Version with vertically installed RJ 45 ports – with microphone MIC 480

⚖ W 130 mm, H 65 mm, D 21 mm ⬛ 220 g
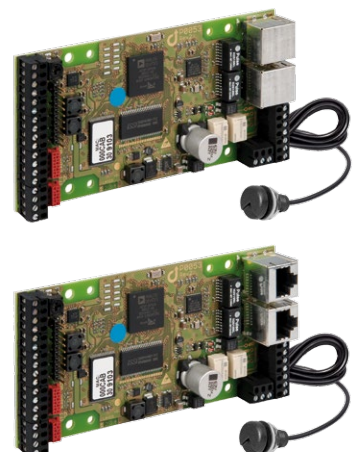
ET 962A

`16 kHz` `7 kHz` `IoIP` `SIP`

IP-based Intercom Module in rugged installation enclosure with integrated electret microphone, loudspeaker and multi-functional LED. Supports optional connection of a keypad (12-button matrix) or up to 12 call buttons.

Power supply via PoE (Power over Ethernet IEEE 802.3af); 2.5 W class "D" final amplifier (1.5 W amplifier power with integrated 8-Ω loudspeaker); loudspeaker with special membrane for optimum speech quality; 1 input for floating contact, and 1 relay output Optional: I/O expansion with expansion board EB2E2AHE, providing 2 additional inputs for floating contacts and 2 relay outputs.

ET 962A	IP – Communication via IoIP
SIP-ET 962A	IP – Communication via SIP

⟁ W 109 mm, H 87.5 mm, D 45 mm (without Ethernet cable) 📏 220 g

ET 970A

`16 kHz` `7 kHz` `IoIP` `SIP`

IP-based Intercom Module in rugged installation enclosure with integrated electret microphone and multi-functional LED. Supports optional connection of a keypad (12-button matrix) or up to 12 call buttons.

Power supply via PoE (Power over Ethernet IEEE 802.3af); 2.5 W class "D" final amplifier; plug-in port for external loudspeaker (4 - 50 Ω); 1 input for floating contact, and 1 relay output. Optional: I/O expansion with expansion board EB2E2AHE, providing 2 additional inputs for floating contacts and 2 relay outputs.

ET 970A	IP – Communication via IoIP – with microphone MIC 480
SIP-ET 970A	IP – Communication via SIP – with microphone MIC 480

⟁ W 109 mm, H 87.5 mm, D 45 mm (without Ethernet cable) 📏 220 g

2-WIRE DSP MODULES

Digital modules with DSP-technology for hands free speech in OpenDuplex®. Used in situations where stations are permanently mounted and special requirements to the station are made. The digital construction allows line-saving cabling. The DSP-technology enables a host of additional features, such as loudspeaker/microphone function tests or Audio-Monitoring. New features can easily be added in the future via software update.

ET 811A

`16 kHz` `Digital`

Module supplied as a build-in kit for building of digital master stations, with large, illuminated graphic display for caller identification and message indication. Includes full keypad, loudspeaker and microphone. Connection possibility for headset, headphones or gooseneck microphone, one input for floating contacts, one open collector output, possibility for later installation of a relay.

Typical applications: Mounting in control panels/desks.

Electret microphone; Power supply via Intercom Server (optional: external floating supply for greater line length); built-in Class "D" amplifier with 2.5 W (1.5 W output power with supplied loudspeaker resp. 2.5 W with 4 Ω loudspeaker); 8 Ω loudspeaker with special membrane type for optimal sound quality; connection possibility for external loudspeaker.

⟁ Main print: W 79 mm, H 173 mm, D 18 mm 📏 450 g
  Loudspeaker print: W 58 mm, H 83 mm, D 35 mm

ET 808A

`16 kHz` `Digital`

Module for building customised master stations and substations. Ready for connection of a keypad with 18 keys or three single buttons, a loudspeaker, a headset or handset, the supplied call status LED plus a built-in microphone. Line input for audio feed (e.g. music, radio conference, etc.).

Power supply via Intercom Server (option: external floating power supply for longer cable lengths or for loudspeakers with less than 8 Ω resistance); 2.5 W Class "D" amplifier (2.5 W output when using 4 Ω loudspeaker, 1.5 W when using 8 Ω loudspeaker); 3 inputs for floating contacts and 2 relay outputs (switching contacts);. Optional: I/O expansion with expansion board EB2E2AHE, providing 2 additional inputs for floating contacts and 2 relay outputs.

ET 808A	Intercom Module with weatherproof built-in electret microphone MIC 480
ET 808AME	Intercom Module without microphone

⟁ W 130 mm, H 65 mm, D 24 mm 📏 200 g

ET 862A

16 kHz | Digital

Module in rugged installation enclosure with integrated electret microphone, loudspeaker and multi-functional LED. Supports optional connection of a keypad (12-button matrix) or up to 12 call buttons.

Power supply via Intercom Server (external floating power supply for longer cable lengths available as an option); 2.5 W Class "D" amplifier (1.5 W output when using built-in 8 Ω loudspeaker); Loudspeaker with special membrane for optimum speech quality; 1 input for floating contact, and 1 relay output. Optional: I/O expansion with expansion board EB2E2AHE, providing 2 additional inputs for floating contacts and 2 relay outputs.

⌖ W 109 mm, H 87,5 mm, D 40 mm ▮ 195 g

## ET 870A | ET 871A

16 kHz | Digital

Module in durable installation housing with weatherproof build-in electret microphone MIC 480 and integrated multi-functional LED. Supports optional connection of up to 2 call buttons.

Power supply via Intercom Server (option: external floating power supply for longer cable lengths or for loudspeakers with less than 8 Ω resistance); 2.5 W Class "D" amplifier (1.5 W output when using 8 Ω loudspeaker, 2.5 W when using 4 Ω loudspeaker); 1 input for floating contact, and 1 relay output. Optional: I/O expansion with expansion board EB2E2AHE, providing 2 additional inputs for floating contacts and 2 relay outputs.

| ET 870A | Intercom Module without loudspeaker, with connection port for external loudspeaker |
| ET 871A | Intercom module with built-in 8 Ω loudspeaker |

⌖ W 109 mm, H 87,5 mm, D 40 mm ▮ ET 870A 205 g, ET 871A 220 g
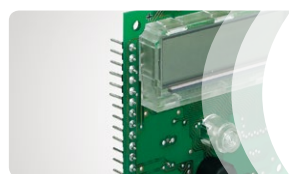
4-WIRE MODULES

With Analogue 4-wire modules it is possible to realise low-cost, customer specific intercom terminals. The various measurements and functionalities ensure a fitting intercom module for all areas of application. In particular for building of special stations, where the shape of the housing, buttons, material, IP-rating and so on must be individually adapted.

ET 508

16 kHz | Analogue

Module for building of suW stations, Compact measurements for easy installation. A special circuit allows excellent speech quality even in loud areas. Prepared for connection of a microphone, a loudspeaker, five single buttons and a red operation lamp.
Typical applications: Due to its small measurements this build-in kit fits perfectly into standard installation boxes.

Microphone input for electret or dynamic microphone; Power supply via Intercom Server; connection for a loudspeaker greater than 16 Ω.

⌖ W 50 mm, H 50 mm, D 18 mm ▮ 42 g

ET 509

16 kHz | Analogue

Module, developed in particular for Simplex operation, including loudspeaker and microphone. Prepared for connection of an external call button.
Typical applications: Compact Intercom terminals, built into control desks that are permanently switched to listen to the area which initiated the call.

Omnidirectional electret microphone; Power supply via Intercom Server; loudspeaker with special membrane type for optimal sound quality.

⌖ W 85 mm, H 55 mm, D 20 mm ▮ 145 g

ET 562

`16 kHz` `Analogue`

Intercom module in rugged build-in housing with mounting tabs, complete with built-in microphone and loudspeaker. A duplex controller ensures highest possible speech quality even with high ambient noise, and from a great distance. Possibility of connecting up to 3 call buttons.

Typical applications: Mounting behind panels or in housings, for all types of call or emergency call devices, for example: emergency help points, lift cabins, etc.

Omnidirectional electret microphone; Power supply via Intercom Server; loudspeaker with special membrane type for optimal sound quality.

📐 W 109 mm, H 87.5 mm, D 40 mm ⚖ 162 g

ET 570 | ET 571

`16 kHz` `Analogue`

Intercom module in durable mounting frame with mounting tabs; includes weather-resistant, omnidirectional add-on Electret Microphone MIC 480. The built-in 2 W amplifier ensures sufficient sound volume on site. Ready for connection of a call button.

ET 570 – requires external power supply (12 – 24 V AC or 16 – 24 V DC); loudspeaker to be connected must be 8 Ω or higher.
ET 571 – requires external power supply (12 – 24 V AC or 16 – 24 V DC); built-in 8 Ω l oudspeaker with special membrane for optimum speech quality.

ET 570	Intercom Module loudspeaker with connection port for external loudspeaker
ET 571	Intercom Module with built-in 8 Ω loudspeaker

📐 W 109 mm, H 87.5 mm, D 40 mm ⚖ ET 570 190 g, ET 571 205 g

I/O MODULES

ET 8E8A

`Digital`

Remote in/output module for management of inputs and outputs far from the central: 8 inputs (with 5 steps) and 8 outputs (4 make and 4 switch over). The connection to the in/output module is realised via a 2-wire line with up to 3,000 m length (depending on cable type and power supply). Mounting is possible in a 19" rack on a DIN rail or with the supplied rail for wall mounting. LEDs for status indication for all inputs and outputs. Line-monitoring from G7-8E8A to Intercom Server.

8 inputs for floating contacts; 8 relay outputs 30 V/3 A (4 make and 4 switch over); power supply via Intercom Server (optional: power supply for greater line length).
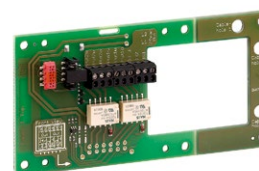
📐 W 105 mm, H 62 mm, D 105 mm (incl. mounting rail, screws and dowels) ⚖ 350 g

EB2E2AHE

Option board for I/O expansion of Intercom modules connection of 2 inputs as floating contacts, as well as 2 relay outputs.

📐 W 130 mm, H 65 mm, D 12 mm ⚖ 30 g

EB8E4A

Option board for I/O expansion of Intercom modules (ET 808A) connection of 8 inputs as floating contacts, as well as 4 relay outputs.

📐 W 130 mm, H 65 mm, D 12 mm ⚖ 30 g

INDUSTRIAL STATIONS – SERIES EE 8000

Series EE 8000 Stations are designed specifically to withstand extreme temperatures, moisture and dirt, and providing clearly intelligible audio communication even in areas with extreme ambient noise. This way, they contribute significantly to enhanced safety and smooth workflows in various and extreme applications. Focused on maximum reliability, easy operation and high scalability the robust hardware is controlled by flexible, site-configurable software whose functions and features provide exactly what the user and local regulations require. The products of the Series EE 8000 are used successfully in numerous projects and industrial applications such as metal and mining,

manufacturing industry, oil and gas, chemical industry or energy and public utilities. Because of their useful qualities, the stations are also installed in ports, waterways, tunnels and highways.

Technical data: IP 66 rating; Power supply 24 – 42 V AC/40 VA or 22 – 60 V DC/40 W; built-in Class "D" amplifier with 25 W speech power, 8 Ω; 2 floating relay outputs (30 V/ 3 A) and 2 inputs for floating contacts. Microphone sensitivity adjustable in a range of 30 dB; speaking distance adjustable 3 cm to 5 m (dependent on ambient noise and microphone sensitivity); ambient noise level up to max. 120 dB.

EE 8158M

`7 kHz` `IP 66` `Digital`

Station with 8 programmable LED buttons, built-in loudspeaker and universal microphone. The DSP-technology facilitates a single microphone with both omnidirectional and noise cancelling characteristics. Button labels are included for marking the buttons' functions. The cable glands are within the extent of supply.

⌖ W 175 mm, H 312 mm, D 145 mm ⚖ 3,200 g

EE 8148M

`7 kHz` `IP 66` `Digital`

Station with 6 programmable buttons, built-in loudspeaker, universal microphone and 2 programmable LED buttons. The DSP-technology facilitates a single microphone with both omnidirectional and noise cancelling characteristics. Button labels are included for marking the buttons' functions. The cable glands are within the extent of supply.

⌖ W 175 mm, H 312 mm, D 145 mm ⚖ 3,340 g

EE 8238M

`7 kHz` `IP 66` `Digital`

Station with a full keypad, universal microphone, and 2 programmable LED buttons. The DSP-technology facilitates a single microphone with both omnidirectional and noise cancelling characteristics. An external loudspeaker is required for this station. The cable glands are within the extent of supply.

⌖ W 175 mm, H 312 mm, D 145 mm ⚖ 2,960 g

EE 8108M

`7 kHz` `IP 66` `Digital`

Station with 2 programmable LED buttons, built-in loudspeaker and universal microphone. The DSP provides the characteristics of both a noise cancelling microphone and an electret microphone. The cable glands are within the extent of supply.

⌖ W 175 mm, H 312 mm, D 145 mm ⚖ 3,100 g

EE 81ADMSOS

$\boxed{\text{7 kHz}}$ $\boxed{\text{IP 66}}$ $\boxed{\text{Digital}}$

Station imprinted with 'SOS' on the front and side panels, built-in loudspeaker, universal microphone, LED button and a large red mushroom button imprinted with 'SOS'. Both buttons can be assigned with various functions. The DSP technology facilitates a single microphone with both omnidirectional and noise cancelling characteristics. This station has no lateral expansion openings. The cable glands are within the extent of supply.

⟁ W 175 mm, H 312 mm, D 145 mm 📏 3,100 g

BASIC HOUSING – SERIES EE 8000

The modular concept of this system allows a flexible, customer specific configuration of digital heavy industrial stations. One basic and two expansion housings can be combined. This way industrial stations with up to 50 freely programmable direct dialling buttons can be configured.

EE 8999M

$\boxed{\text{IP 66}}$

Basic housing with three module slots, includes electronics, cable glands, expansion openings on four sides and dummy plugs.

⟁ W 175 mm, H 312 mm, D 122 mm 📏 2,300 g

EE 8999MSOS

$\boxed{\text{IP 66}}$

Basic housing with three module slots, includes electronics, cable glands, 'SOS' imprint on both sides (hence the expansion openings are only at the top side and bottom of the unit).

⟁ W 175 mm, H 312 mm, D 122 mm 📏 2,300 g

EE 8999S

$\boxed{\text{IP 66}}$

Expansion housing with three module slots, includes electronics, cable glands, expansion openings on all four sides and dummy plugs. The mounting kit (EE 8999-KIT) for expansion housings has to be ordered separately.

⟁ W 175 mm, H 312 mm, D 122 mm 📏 2,240 g

ACCESSORIES

EDI 600

$\boxed{\text{IP 66}}$

Empty housing without electronics and modules, for accommodation of distribution boards, terminal strips or additional electronics. Required cable glands are included.

⟁ W 175 mm, H 312 mm, D 122 mm 📏 2,080 g

EE 8999-KIT

Installation Kit for combining multiple enclosures.

MODULES FOR 2-WIRE AND 4-WIRE HEAVY INDUSTRIAL STATIONS

There are modules for dialling, modules with inscribable direct dialling buttons, microphone modules and a loudspeaker module. The modules are connected to the PCW of the housing and can be combined as desired.

Product Code	Module Code	
EM 600	**0**	**Dummy module** for covering empty module slots or for mounting of customer specific buttons.
EM 6A0	**A**	**Dummy module** imprinted **with 'SOS'** for covering empty module slots.
EM 650	**1**	**Loudspeaker module** for industrial stations. The loudspeaker features high sound pressure and excellent intelligibility of speech. Impedance 8 Ω.
EM 6CA	**2**	**Camera module** with AXIS colour video camera and LED light; vertical/horizontal viewing angle mechanically adjustable by additional 30°; video streams are possible in H.264 (MPEG-4 Part 10/AVC) and M-JPEG format at resolutions up to 1440 x 900 pixels (1.3 MP).
EM 602	**3**	**Keypad module** with buttons **1** to **6** as part of a full keypad. The buttons can be assigned with various functions.
EM 603	**4**	**Keypad module** with buttons **7** to **X** as part of a full keypad. The buttons can be assigned with various functions.
EM 606	**5**	**Keypad module** with 6 buttons that can be custom-labelled. The buttons can be assigned with various functions. Tags are included for labelling the buttons.
EM 605	**6**	**Keypad module** with 6 **LED buttons** that can be custom-labelled. The buttons can be assigned with various functions. Tags are included for labelling the buttons.
EM 660	**7**	**Microphone module** with a universal microphone and 2 buttons. The two buttons can be assigned with various functions. Optional button labels **L** and **X** are included in extent of supply. *
EM 680	**8**	**Microphone module** with a universal microphone and 2 LED buttons. The two buttons can be assigned with various functions. Optional button labels **L** and **X** are included in extent of supply. *
EM 681	**D**	**Microphone module** with a universal microphone, 1 LED button and 1 large red mushroom button imprinted with 'SOS'. The two buttons can be programmed with various functions. *
EM 6B0	**B**	**Microphone module** with a universal microphone, white conversation lamp and large red mushroom button imprinted with 'SOS'. The button can be assigned with various functions. *

Microphone-characteristics

The DSP provides the possibility, to have a single microphone working for omnidirectional and noise cancelling characteristics. Microphone sensitivity adjustable from –21 to +12 dB; speaking distance adjustable from 3 cm to 5 m (dependent on ambient noise and microphone sensitivity adjusted); ambient noise level up to max. 120 dBA.

Secure communication under EXtreme conditions

Extreme conditions are a typical feature of the application environments for the Commend explosion proof Intercom stations. Whether in explosive atmospheres, extreme frost or heat – the explosion proof Intercom stations keep communication lines going wherever there is possible danger in the air: in chemical and petrochemical environments or oil and gas production facilities, for example.

STATIONS FOR EX ZONES – SERIES EX 200

Key features:
– ATEX Certification
  II 2 G D
  Ex e ia mb IIC T6 Gb
  Ex tb ia IIIC T80°C Db
– Approved for Zone 1 and 2
– Highest Explosion Hazard Group IIC
– Highest Temperature Class T6
– Temperature range from –40°C to +60°C
  (Terminals with loudspeaker up to +50°C)
– OpenDuplex® and for natural, hands free communication with high volume

Technical data: Integrated powerful 25 Watt amplifier, 8 Ω / 25 W loudspeaker connection port, 2 inputs and 2 relay outputs (1 voltage controlled relay output for example to switch a signal light), emergency operating mode via Intercom Server with power supplied, multi-functional LED.

EX 220

`16 kHz` `IP 66` **Digital**

Digital station for Ex zones, with fluorescent membrane keypad, full key set and 2 volume adjustment keys. Colour: Yellow Orange - RAL 2000.

EX 220 LV	Standard version / 18 – 45 V AC or 20 – 65 V DC
EX 220 HV	Standard version / 90 – 264 V AC
EX 220 LV SK	Version with loudspeaker / 18 – 45 V AC or 20 – 65 V DC
EX 220 HV SK	Version with loudspeaker / 90 – 264 V AC
EX 220 LV HS	Version with handset / 18 – 45 V AC or 20 – 65 V DC
EX 220 HV HS	Version with handset / 90 – 264 V AC
EX 220 LV SKHS	Version with loudspeaker and handset / 18 – 45 V AC or 20 – 65 V DC
EX 220 HV SKHS	Version with loudspeaker and handset / 90 – 264 V AC

⚖ W 193 mm, H 346 mm, D 125 mm / without handset; without loudspeaker
⬛ 8.5 kg

EX 200P

`16 kHz` `IP 66` **Digital**

Digital station for Ex zones, with fluorescent membrane keypad, Party Line keys and 2 volume adjustment keys. Colour: Yellow Orange - RAL 2000.

EX 200P LV	Standard version / 18 – 45 V AC or 20 – 65 V DC
EX 200P HV	Standard version / 90 – 264 V AC
EX 200P LV SK	Version with loudspeaker / 18 – 45 V AC or 20 – 65 V DC
EX 200P HV SK	Version with loudspeaker / 90 – 264 V AC
EX 200P LV HS	Version with handset / 18 – 45 V AC or 20 – 65 V DC
EX 200P HV HS	Version with handset / 90 – 264 V AC
EX 200P LV SKHS	Version with loudspeaker and handset / 18 – 45 V AC or 20 – 65 V DC
EX 200P HV SKHS	Version with loudspeaker and handset / 90 – 264 V AC

⚖ W 193 mm, H 346 mm, D 125 mm / without handset; without loudspeaker
⬛ 8.5 kg

EX 203

[16 kHz] [IP 66] **Digital**

Digital Intercom Station for Ex Zones, with 3 Direct dialling buttons.
Colour: Yellow Orange – RAL 2000.

EX 203 LV	Standard version / 18 – 45 V AC or 20 – 65 V DC
EX 203 HV	Standard version / 90 – 264 V AC
EX 203 LV SK	Version with loudspeaker / 18 – 45 V AC or 20 – 65 V DC
EX 203 HV SK	Version with loudspeaker / 90 – 264 V AC
EX 203 LV HS	Version with handset / 18 – 45 V AC or 20 – 65 V DC
EX 203 HV HS	Version with handset / 90 – 264 V AC
EX 203 LV SKHS	Version with handset and loudspeaker / 18 – 45 V AC or 20 – 65 V DC
EX 203 HV SKHS	Version with handset and loudspeaker / 90 – 264 V AC
EX 200LABEL1	Adhesive high-grade steel label (1 piece).

W 193 mm, H 346 mm, D 125 mm / without handset; without loudspeaker

8.5 kg

ACCESSORIES

Ex Loudspeaker EXLSAL8G

[IP 67]

The loudspeaker for EX zones has been designed specifically to enable the reliable transmission of voice signals under rough environmental conditions. The device's ignition protection rating makes it suitable for use in explosive Zones 1 and 2. Although the design meets the highest demands in terms of explosion protection (IIC and T6), it provides high-volume sound at superior quality. Weather-proof, thanks to M20 Ex ATEX cable glands and dummy plug (included). Enclosure manufactured from aluminium, Light Grey (RAL 7035).

Frequency range: 650 to 7,000 Hz; Power output: 8 W; impedance 8 ohm; sound pressure: 94 dB/W/m (1 kHz). Ignition protection types: II 2G Ex d e mb IIC T6 Gb -50°C ≤ Ta ≤ +50°C;

Diameter 124 mm, D 141 mm   2 kg

Ex Loudspeaker EXLSPA25B

[IP 67]

The loudspeaker for Ex zones has been designed specifically to enable the reliable transmission of voice signals under rough environmental conditions. The device's ignition protection rating makes it suitable for use in explosive Zones 1 and 2. Developed for an extra-high sound volume output, the design also provides a high degree of explosion protection (IIB and T5). Weather-proof, thanks to M20 Ex ATEX cable glands and dummy plug (included). Enclosure made from black polyamide.

Frequency range: 370 to 7,000 Hz; Power output: 25 W; impedance 8 ohm; Ignition protection types: II 2G Ex d e mb IIB +H2 T5 Gb -53°C ≤ Ta ≤ +55°C;sound pressure: 106 dB/W/m (1 kHz). I
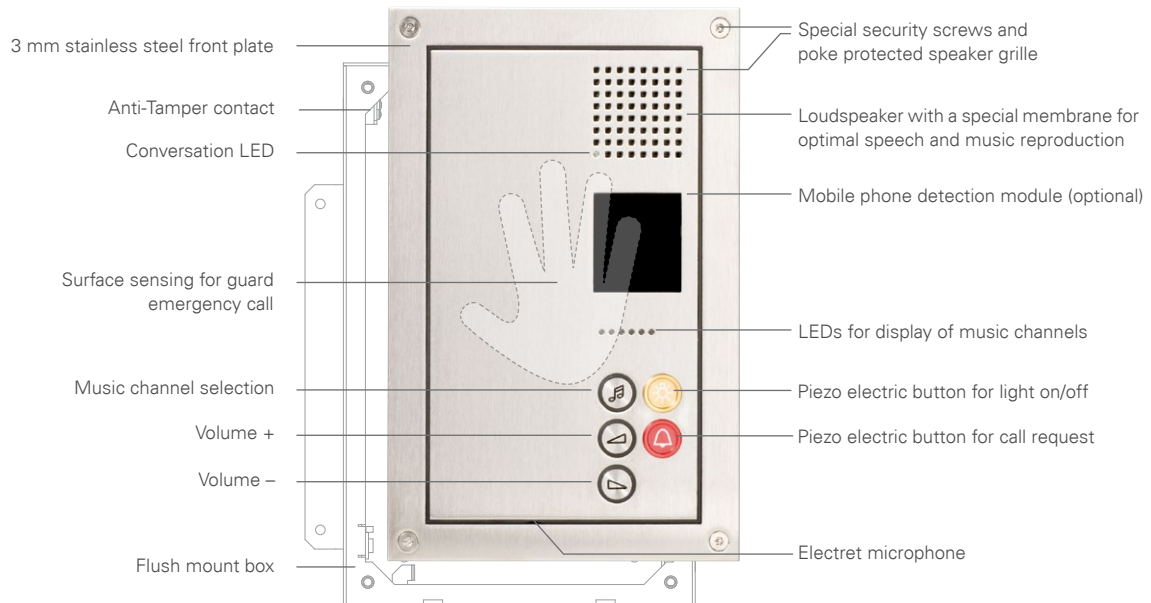
Diameter 250 mm, D 340 mm   4 kg

2-Wire Detention Cell Terminal

Commend's Detention Cell Intercom terminal was specifically designed for prison and police cells, correctional and court holding facilities, custody suites, forensic laboratories, etc. To further enhance security, cell terminals not only provide speech communication, they also facilitate control functions signalling, mobile phone detection and emergency alarm calls.

Innovative technologies combined with a modular approach ensures a future-proof investment. The optional mobile phone detection module combats the problem of detainees being illegally in possession of mobile

phones. The surface sensing feature helps protects guards whilst in the cell, in critical situations the guard only needs to touch the front plate to activate the guard alert.

Digital 2-wire DSP technology allows Audio-Monitoring and OpenDuplex® as well as loudspeaker/microphone surveillance, which in combination with programmable line monitoring ensures that the operational status of the detention cell intercom terminals is known at all times.

Labels (left side):
- 3 mm stainless steel front plate
- Anti-Tamper contact
- Conversation LED
- Surface sensing for guard emergency call
- Music channel selection
- Volume +
- Volume –
- Flush mount box

Labels (right side):
- Special security screws and poke protected speaker grille
- Loudspeaker with a special membrane for optimal speech and music reproduction
- Mobile phone detection module (optional)
- LEDs for display of music channels
- Piezo electric button for light on/off
- Piezo electric button for call request
- Electret microphone

Safety, Standards Compliant

DIN	VDE 0834 Part 1+2	Call systems in hospitals, nursing homes and similar institutions
EN	50082-1	Meets the standard for EMC; Immunity for residential, commercial and light-industrial environments
EN	55022	Information technology equipment radio disturbance characteristics limits and methods of measurement
ENV	50204	Radiated immunity, keyed carrier, 900 MHz phone band
EN	60950	Safety of information technology equipment

Cell Installation

Option 1 – Mounting with integrated electronics
- UP 030 flush mount box
- EW 330 | EW 330S cell electronics module
- EF 031x front plate

Option 2 – Mounting with remote electronics
- Cell electronics module mounted on "top hat" DIN rail or in surface mount box
- UP 030 flush mount box
- Connectivity board for connection of cell electronics module with front plate
- EF 031x front plate

Installation bay

EF 031 FRONT PLATE SERIES

The front plates are made of 3 mm stainless steel with a brushed surface. Special security screws and speaker grille protect against damage and the insertion of foreign substances, debris, etc. The front plates are suited for flush wall mount using the UP-030 flush mount box.

Technical data: Integrated 2.5 W power amplifier (1.5 W over integrated loudspeaker); 8 Ω loudspeaker with a special membrane for optimal speech reproduction; electret microphone.

EF 031-1

`7 kHz` `Digital`

Front panel with piezo electric buttons for call/help request, microphone and loudspeaker.

EF 031-1	Front panel
EF 031-1R	Front panel with antenna window for installation of a Mobile Phone Detection Module

⟁ W 179 mm, H 279 mm, D 3 mm   ▮ 1,660 g

EF 031-2

`7 kHz` `Digital`

Front Panel with 2 piezo electric buttons for call/help request, light, microphone and loudspeaker.

EF 031-2	Front panel
EF 031-2R	Front panel with antenna window for installation of a Mobile Phone Detection Module

⟁ W 179 mm, H 279 mm, D 3 mm   ▮ 1,660 g

EF 031-2M

`7 kHz` `Digital`

Front Panel with 2 piezo electric buttons for call/help request, light, microphone and loudspeaker. 3 buttons (TCT technology) for music selection and volume adjustment; 6 LEDs for indicating music channels.

EF 031-2M	Front panel
EF 031-2MR	Front panel with antenna window for installation of a Mobile Phone Detection Module

⟁ W 179 mm, H 279 mm, D 3 mm   ▮ 1,740 g

FLUSH MOUNT BOX

Flush in-wall mounting box for accommodation of EF 031x front plates and EW 330 cell electronics. Two diagonally located sabotage break contacts. The flush mount box is to be ordered separately for preparatory mounting.

UP 030

Flush in-wall mounting box for accommodation of EF 031x front plates and EW 330x cell electronics. 5 cable feeds (20 mm diameter) in top and bottom and one in each sidewall.

⟁ W 183.5 mm, H 283.5 mm, D 63.5 mm (excluding plaster tabs)   ▮ 1,700 g
   W 223.5 mm, H 283.5 mm, D 63.5 mm (including plaster tabs)

CELL ELECTRONICS

Various electronics modules are available for mounting options 1 and 2 (integrated or remote electronics). Additionally, there are electronics modules with integrated surface sensing with which front plates can be made touch-sensitive for guard alerts etc. As an alternative to the EF 031 Series of front plates, analogue intercom modules can be connected. This allows for custom front plate design. Please note: Electronics modules and flush mount boxes need to be ordered separately.

Technical data: External 24 V AC/8.5 VA or 24 – 35 V DC/8.5 W power supply; power consumption: 3.5 W standby, 8.5 W max at 24 V AC (current min. 130 mA/h min. / 350 mA/h max. at 24 V AC); 10 floating input contacts; 6 relay outputs (3 breakers and 3 two-way contacts); 60 V DC/V AC – 1A; 30 V DC/V AC – 2A.

EB 330
7 kHz | Digital

Cell Electronics Flush Mount Kit for integrated installation and connection of an EF 031 front panel.

| EB 330 | Cell Electronics Flush Mount Kit |
| EB 330S | Flush mountable cell electronics module with surface sensing function |

W 147 mm, H 162 mm, D 25 mm   360 g

EB 330AH
7 kHz | Digital

Cell Electronics Surface Mount Kit for set-off installation (e.g. in risers) and connection of Front Panel EF 031. The module comes attached to a mounting plate with a DIN rail bracket.

| EB 330AH | Cell Electronics Surface Mount Kit |
| EB 330AHS | Flush mountable cell electronics module with surface sensing function |

W 150 mm, H 162 mm, D 69,5 mm   800 g
(incl. fitting panel suitable for "top hat" DIN rail mounting and flap)
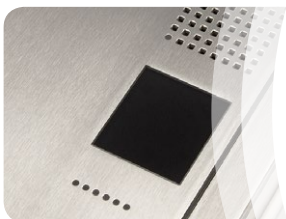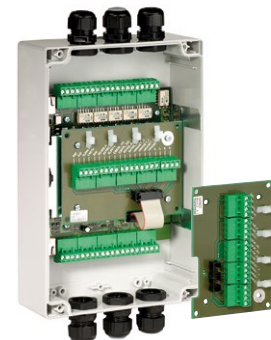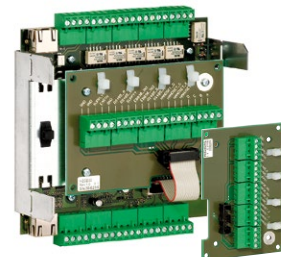
EB 330A
7 kHz | Digital

Cell Electronics Surface Mount Kit for set-off installation (e.g. in risers) and connection of Front Panel EF 031. The Surface Mount Kit comes in a protective housing.

| EB 330A | Cell Electronics Surface Mount Kit |
| EB 330AS | Flush mountable cell electronics module with surface sensing function |

W 160 mm, H 296 mm, D 90 mm   1.680 g

MOBILE PHONE DETECTION MODULE

This module detects mobile phone/modem connections using UMTS and GSM networks and is user friendly in terms of installation – plug & play. Depending on the structural conditions of the building, the modules detect a connection within a 20 meter radius. As soon as anyone attempts to make a mobile call, send a text message, or use an internet connection, an alarm is triggered at the station or control desk within the complex on the Commend intercom system. The connections can be located with the aid of the identification number or name of the active module on the display screen. A visual indication, in the form of a lamp for example, is also possible.

HF 100-EB

Build-in module for detecting mobile phone/modem connections, consisting of an antenna, a high frequency and a signal section. The module is equipped with a free relay output (break contact) and is enabled for data transfer via the RS 485 port. Able to be installed in the EF031-xxR Series front panels of detention cell intercoms.

Typical applications: Prisons, arrest, detention and immigration centres, in police stations and law courts, hospitals, public buildings and schools.

Power supply: 18 to 30 V DC, max. 1.5 W; detected frequency ranges:
GSM 880 MHz to 950 MHz and 1710 MHz to 1840 MHz; UMTS 1900 MHz to 2170 MHz.

W 75 mm, H 60 mm, D 24 mm   86 g

Public Address and Induction Loop Amplifiers

The amplifier series for secure Public Address solutions.

Their compact design makes the 20 Watt amplifiers ideal for a decentralised, cable saving installation next to PA loudspeakers and Intercom terminals. To provide even greater flexibility, the analogue amplifiers are available as add-in modules that integrate easily into the Intercom terminals themselves. Series AF 50 provides a particularly high output range and various audio ports. Amplifiers in this series are universally suitable for any size of application up to complex public address and Intercom solutions. The devices are specifically optimised for installation either in a 19-inch rack or on-site. This added flexibility helps to save on cabling and the resulting costs.

Applications

- Announcements
- Alerts and evacuation messages
- Music and advertising
- Warehouses and production halls

- Office and administration facilities
- Schools and universities
- Public areas (e.g. railway stations and airports)
- Waiting rooms

AUDIO AMPLIFIER – SERIES AF

Key features:
- 20 W or 50 W output power
- Available in IP, digital and analogue technologies
- Low impedance audio output; min. impedance: 4 Ω
- 70 V/100 V audio output with loudspeaker line monitoring (Series AF 50 only)
- Class-D amplifier, optimised for high efficiency at low operating temperatures
- Short circuit and overload protected
- Suitable for decentralised on-site use
- Rugged polycarbonate housing
- Speaker line monitoring between amplifier and Intercom Server

Technical Data: Audio input adapted to the output of Intercom Server subscribers or standard audio components (input impedance: 10 Ω; input signal sensitivity 390 mV – 3 V); low resistance audio output for up to two loudspeakers; level adjustable audio output; status LEDs for power supply and signal control; external 20 – 26V DC power supply // Digital and IP based amplifiers: Line output for combination with standard audio components; microphone input; 2 floating inputs and 1 relay output; 0–10 V control input; support for connection of expansion boards; graphic equaliser for sound adjustment; integrated switch (IP version); optional operation via PoE or power supply via Intercom Server at reduced output.

Serie AF 50

`16 kHz` `IoIP` `Digital` `Analogue`

50-Watt amplifier with polycarbonate housing.

AF 50I	IP – Communication via IoIP
AF 50D	Digital 2-wire
AF 50A	Analogue 4-wire

W 201 mm, H 44 mm, D 260 mm 1,600 g

Serie AF 20

`16 kHz` `IoIP` `Digital` `Analogue`

20-Watt amplifier with polycarbonate housing.

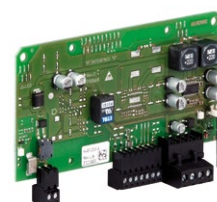| AF 20I	IP – Communication via IoIP
AF 20D	Digital 2-wire
AF 20A	Analogue 4-wire

W 159 mm, H 49 mm, D 87 mm 240 g

AF 20A EB

`16 kHz` `Analogue`

20-Watt amplifier add-in module, without housing; Analogue version; suitable e.g. for integration into Intercom terminals requiring extra volume capacity.

AF 20A EB	Analogue 4-wire

W 130 mm, H 82 mm, D 16 mm 67 g

Licence for speaker line monitoring L-AF-LM

Licence for speaker line monitoring for IP-based and digital amplifiers of Series AF 50.

Network-compatible IP loudspeakers with crucial added value

The wide range of innovative functions that powers the network-compatible Commend IP loudspeakers sets them apart from any classic Public Address solution. The integrated microphone, for example, supports new audio features such as IVC (Intelligent Volume Control) for the automatic adjustment of the volume setting to ambient noise, even during message playback. This ensures a high level of acoustic intelligibility, even at extreme, changeable background noise. Additional benefits include the duplex and call-back functions, as well as the "Audio Monitoring" feature, which allows for ambient acoustic surveillance and automatic triggering of actions such as voice announcements or emergency calls.
Since IP-based loudspeakers by Commend can be used in IoIP as well as SIP environments, they integrate easily and seamlessly into Commend Intercom or Voice-over-IP systems. Another feature distinguishing the loudspeakers from classic Public Address systems is their upward compatibility. This way, a new functions can easily be added via a simple software download.

IP LOUDSPEAKER – SERIES AFLS

Key features:
– Loudspeaker with built-in Intercom module, individually addressable and configurable
– Microphone for duplex and call-back functionality
– OpenDuplex® and IVC for natural, hands-free communication at high volume levels
– 16 kHz eHD Voice speech quality (7 kHz HD Voice when using SIP connections)
– Continuous line and function self-checking
– Easy adding of new functions via software update
– Different designs for indoor, outdoor and industrial applications
– No need for central amplifiers – ideal for small-sized and remote PA zones

Technical specifications: Power supply via PoE (IEEE 802.3af); nominal load 10 W; nominal impedance 4 Ω; 10 W Class "D" final amplifier; 2 inputs for floating contacts and 2 relay outputs.

IP Horn Loudspeaker

`16 kHz` `7 kHz` `IP 66` `IoIP` `SIP`

IP horn loudspeaker, designed specifically for Public Address in rough, industrial conditions (e. g., industrial sites, railway stations, etc.); Built-in electret microphone with automatic volume adjustment to ambient noise (IVC) and other functions; Max. sound pressure: 118 dB.

AFLS 10H HG IP Communication via IoIP or SIP;

W 180 mm, H 120 mm, D 230 mm   1,800 g

IP Projector Loudspeaker

`16 kHz` `7 kHz` `IP 54` `IoIP` `SIP`

IP projector loudspeaker, designed specifically for Public Address in buildings and halls (e. g., parking garages, exhibition halls, indoor event venues, etc.); Built-in electret microphone with automatic volume adjustment to ambient noise (IVC) and other functions; Max. sound pressure: 101 dB.

AFLS 10H PW IP – Communication via IoIP or SIP;

Diameter 145 mm, D 210 mm   1,850 g

IP Ceiling-Fitted Loudspeaker

`16 kHz` `7 kHz` `IP 54` `IoIP` `SIP`

IP ceiling-fitted loudspeaker, designed specifically for installation in drywall ceilings and buildings (e. g., schools, conference rooms, hotels, etc.); 1 Microphone port; Max. sound pressure: 105 dB.

AFLS 10H CW IP – Communication via IoIP or SIP;

Diameter 167 mm, D 112 mm   850 g

AUDIO INDUCTION LOOP AMPLIFIER – SERIES AFIL

Key features:
– IEC 60118-4 compliant design
– High efficiency, low thermal footprint
– Flexible integration into individual installation environments
– Same function range as MLC and AGC; designed for easy start-up and fault-free operation

Technical specifications: Input impedance 10 kΩ; Frequency response 80 Hz – 8 kHz; max. loop voltage 6.5 V; loop resistance 0.1 Ω – 1,0 Ω effective resistance; MLC (Metal Loss Correction) 0 to -3dB/ octave; external power supply 15 – 26 V DC;

AFIL

Audio induction loop amplifier module with polycarbonate casing, for transmission of audio signals to hearing aids; induction loop not included.

W 159 mm, H 49 mm, D 87 mm   300 g

AFIL EB

Audio induction loop amplifier module without casing, for transmission of audio signals to hearing aids; induction loop not included.

ACCESSORIES

Mounting Kit for Series AF 20 and AFIL

ET 901-HSH35   Mounting bracket for attaching an amplifier to a DIN rail in a switch rack.

Wallmount and desktop mounting kit PF-WM

Wallmount and desktop mounting kit for Intercom Server IS 300 or amplifier AF 50.

Rack mounting kit PF-RM-1HE

19" rack mounting kit (1U) for one or two Intercom Server IS 300 or amplifier AF 50 side-by-side.

Switched-Mode Power Supply PA70W24V

70 W primary switched-mode power supply adapter with high efficiency output. Primary: 100 – 240 V AC; Secondary: 240 V DC; 0 °C to +40 °C; Colour: black. Power cords must be ordered separately.

W 58 mm, H 132 mm, D 30 mm   345 g

Power Cord

KAB-C13-EU	Version for Europe
KAB-C13-UK	Version for UK
KAB-C13-US	Version for USA
KAB-C13-AU	Version for Australia

1,5 m

IP Converters

The interface between the IP network and Intercom terminals

IP Converter ET 901 allows for connecting any Intercom terminal with all functions directly to an IP network (LAN/WAN). This way, it is possible to turn the analogue or digital Intercom terminals of the Commend product range into full IP Intercom stations. A built-in switch with downlink function allows for direct connection of another IP device (e.g., IP based camera). The built-in DSP technology of connected Intercom terminals (including analogue 4-wire terminals) enables additional functions such as Audio Monitoring or OpenDuplex®.

IP CONVERTER

IP Converter ET 901 installs between the Ethernet connection (LAN/WAN) and any Intercom Terminal. This will turn the station into a fully-featured IP Intercom station.

Technical data: External power supply via power adapter (24 V AC or 28-35 V DC, 8.4 W) or via PoE (Power over Ethernet) IEEE 802.3af; Connections via RJ 45 ports for IP Uplink / Downlink and Intercom; audio bandwidth 16 kHz for digital 2-wire Intercom stations, and 7 kHz for analogue 4-wire Intercom stations.

ET 901   `IoIP`

IP Converter Box with built-in switch for Intercom terminals.
Typical applications: Offices, warehouses, switch-boxes, etc.

ET 901-D	Connection of digital 2-wire Intercom terminals
ET 901-A	Connection of analogue 4-wire Intercom terminals

⟁ W 159 mm, H 49 mm, D 78 mm   ▯ 280 g

ET 901HE   `IoIP`

IP Converter as plug-in board with built-in switch for Intercom terminals.
Typical applications: For integration into existing housings.

ET 901HE-D	Connection of digital 2-wire Intercom terminals
ET 901HE-A	Connection of analogue 4-wire Intercom terminals

⟁ W 130 mm, H 24 mm, D 65 mm   ▯ 230 g

OPTION BOARDS

Option boards offer additional powerful features, enabling specific applications to easily be solved.
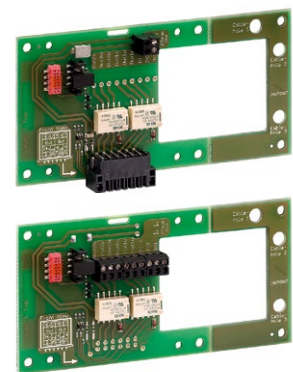
EB2E2A

Option board for I/O expansion of IP Converter box ET 901 and ET 901WP for connection of 2 inputs as floating contacts, as well as 2 relay outputs.

⟁ W 130 mm, H 65 mm, D 12 mm   ▯ 30 g

EB2E2AHE

Option board for I/O expansion of IP Converter ET 901HE for connection of 2 inputs as floating contacts, as well as 2 relay outputs.

⟁ W 130 mm, H 65 mm, D 12 mm   ▯ 30 g

ACCESSORIES

ET 901-HSH35

Mounting bracket for mounting the IP Converter box to a DIN-rail in a switch rack.

Power supply unit PA20W30V

Plug-in power supply for IP Converter.

20 W high efficiency switched-mode power supply. Primary: 90 – 264 V AC; Secondary: 30 V DC; 0.67 A

PA20W30V-EU	Version for Europe
PA20W30V-CA	Version for UK, USA, Australia

Serverless Counter Intercom

Counter intercom systems from Commend make barriers vanish.

The most modern communication systems are required wherever glass or walls form barriers between staff and the general public. Despite the existence of such barriers, natural and personal speech comprehension should be possible. Commend counter intercom systems satisfy these requirements completely. Thanks to the special speech processor control, naturally sounding speech and full comprehension are guaranteed under all conditions.

Power supply

Option: Headset

GEC 880

Wall socket

AL 10-16

Q 400

Indoor

Outdoor
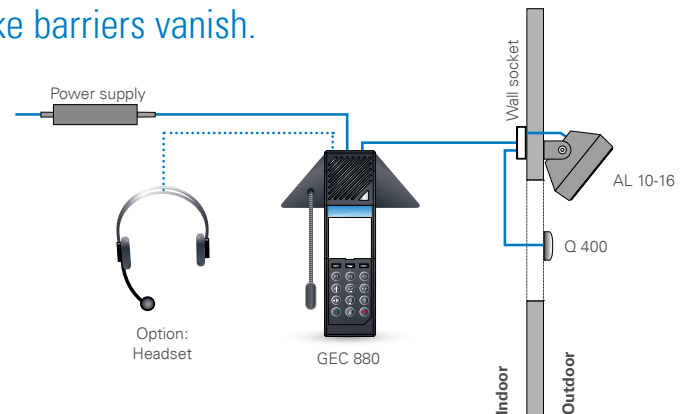
SERIES GEC 880

The digital counter intercom GEC 880 is equipped with powerful features. The system automatically adapts to the acoustic conditions on site and provides plentiful output power. An additional amplifier can be connected to enhance the output even further.

The modular construction of the system allows manifold counter intercom configurations. The base of these is an intercom terminal that is available in two versions (with and without gooseneck microphone).

Technical data: Connections: RJ 45 port for outdoor microphone, outdoor loudspeaker, call button/proximity switch and RJ 10 port for a headset/handset. Integrated amplifier with 10/15 W output power. One input for floating contact. Connection option for additional amplifiers, e.g. induction loop amplifiers.

GEC 881   15 kHz | Digital

Digital desktop counter call station with plastic reinforced silicon keypad and built-in microphone with omnidirectional characteristic for unrestricted speech. Keypad with 15 keys, printed with easily understood non-verbal pictograms. Extent of supply: Wall mounting box for surface mounting, 3 m connection cable. Colour: Black. Further accessories must be ordered separately.

W 66 mm, H 55 mm, D 230 mm   280 g

GEC 882   15 kHz | Digital

Digital desktop counter call station with plastic reinforced silicon keypad, anti-tilt device and cardioid type goose neck microphone. Keypad with 15 keys, printed with easily understood non-verbal pictograms. Extent of supply: Wall mounting box for surface mounting, 3 m connection cable. Colour: Black. Further accessories must be ordered separately.

W 179 mm, H 280 mm, D 230 mm / Length of goose neck: 422 mm   440 g

SERIES GEC 480

Cost effective counter intercom system with base functionality for simple applications with normal acoustic conditions and low to medium ambient noise. Volume for both sides can be individually set from the inside station. Optionally a proximity sensor or call button can be added on the customer side to activate the system.

Technical data: Power supply via included mains adapter; conversation modes Open (full duplex), Open PLUS (feedback reduce full duplex) or Simplex; built-in amplifier with 2 x 4 W at 4 Ω; gooseneck microphone (electret noise cancelling microphone) hypercardioid characteristic for max. 50 cm speaking distance; frequency range 200 Hz to 12 kHz. Power supply unit 100–240 V AC, 50–60 Hz, 400 mA included. Country-specific power supply available

GEC 480

`12 kHz` `Analogue`

Counter Intercom System as desk station with gooseneck microphone. Colour: Black. Microphone Q 400 for outside station and power supply 230 V included in extent of supply.

Power supply unit with 230 V AC, 6 VA / 12 V AC, 500 mA.

⊿ W 179 mm, H 280 mm, D 230 mm / Length of gooseneck: 430 mm   ▮ 1,185 g

GEC 481

`12 kHz` `Analogue`

Counter Intercom System as desk station without microphone for outside station. Colour: Black. Power supply 230 V included in extent of supply.

Power supply unit with 230 V resp. 120 V AC, 6 VA / 12 V AC, 500 mA.

| GEC 481S | with 230 V plug-in power adapter |
| GEC 481S U | without plug-in power adapter |

⊿ W 179 mm, H 280 mm, D 230 mm / Length of gooseneck: 430 mm   ▮ 1,185 g

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ACCESSORIES

AL 10-16

`IP 44`

Compact, high efficiency column speaker. Weatherproof polyamide housing for indoor and outdoor use. Can be rotated and tilted. Mounting bracket included.

Frequency range 220 to 16,000 Hz; 12/15 W output power; Sound pressure 94 dB/W/m (1 kHz); Max. sound pressure 110 dB; Impedance 16 Ω.

| AL 10-16S | Black |
| AL 10-16W | White |

⊿ W 100 mm, H 300 mm, D 98 mm (including brackets)   ▮ 1,780 g

Power supply unit PA24W15V

24 W primary switched-mode power supply adapter with high-efficiency output. Power cords KAB-C13 must be ordered separately.

Primary: 90 – 264 V AC; Secondary: 15 V DC; –5°C to +40°C.

⊿ W 42 mm, H 106 mm, D 76 mm   ▮ 200 g

Power Cord

KAB-C13-EU	Version for Europe
KAB-C13-UK	Version for UK
KAB-C13-US	Version for USA
KAB-C13-AU	Version for Australia

⊿ 1,5 m

Microphones and Headsets

MIC 800 | MIC 473

Gooseneck microphone with hyper cardioid characteristic with western plug (RJ 10) for building of special stations or control desks. With nut for mounting in build-in panels. Colour Black.

Sensibility 4.2 mV/Pa; directional hyper cardioid characteristic to the front; cable length 0.28 m (shielded).

MIC 800SW	Version for installation via screw terminal
MIC 800SWJ	Version with 3.5 mm jack
MIC 473SW	Version without Western connector for installation with screw terminal

⚖ Length 400 mm / Bore diameter 10 mm

MIC Q400

Miniature, cardioid-type extension microphone. Housing made from impact-resistant and distortion-free plastic, can be bonded to a flat surface. Improved acoustics. Colour: Black.
Typical applications: As outside microphone for counter intercoms.

Sensitivity 15 mV/Pa; directional characteristic: cardioid; frequency range: 100 Hz – 8 kHz; cable length 2.8m (shielded)

| MIC Q400 | Version for installation via screw terminal |
| MIC Q400AJ | Version with 3.5 mm jack |

⚖ W 24 mm, H 13 mm, D 43 mm   ▮ 58 g

MIC 480

Omnidirectional Electret microphone for installation in up to 10 mm thick glass or aluminium panels; weather proof (IP 53 rating). Colour: Black.
Typical applications: As Intercom terminals in parking gates, ticket vending machines, lift control panels or as external microphone for desktop counter intercom systems.
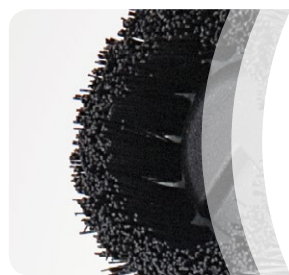
Sensitivity: 5.6 mV/Pa; hypercardioid characteristic; shielded cable.

MIC 480	Cable length 4 m
MIC 480S-08	Cable length 8 m
MIC 480AJ	Cable length 4 m; with 3.5 mm jack

⚖ Diameter 14 mm x D 20 mm

MICROPHONE WIND GUARD

Microphones are subject to acoustic problems when exposed to windy environments or air streams caused by passing vehicles. A good wind guard breaks up the energy-rich air streams and air swirls, thus eliminating the energy that causes acoustic distortions. Commend Products are used primarily in outdoor areas. Emergency call stations on motorways, toll roads and railway stations are only a few of the main application environments. Here the devices must withstand ambient conditions such as rain, frost, dust and other environmental influences. Commend has developed a special wind guard attachment made of plastics, which has a unique brush shape to ensure supreme speech intelligibility. Problems such as icing over or becoming encrusted with dust is a thing of the past, thanks to the windBRUSH®!

Microphone wind guard – windBRUSH®

Microphone wind guard in unique brush shape (patent pending) for ultimate speech intelligibility. Quick and easy to install on any MIC480.

| WIND MIC480 | Brushes black. |

⚖ Diameter 25 mm, D 13 mm   ▮ 20 g

Headset HS 1

Lightweight, wired headset for series GEC 880 and all compatible devices (EE 811A, Conductor, etc.). Connection cable KAB-HS1-RJ has to be ordered separately. Colour: Black.

📏 246 g

Illustration picture

KAB-HS1-RJ

Adapter cable QD to RJ10 for headset HS1 for connection to Intercom Terminals with headset socket and station series GEC 880. Cable length: 0.5 – 2.0m (Spiral cable).

Presentation Material

PRESENTATION CASE

The Presentation Case is intended for showcasing the operation and features of Intercom Systems. The two connection panels are equipped with status LEDs and keys for the demonstration of control and messaging functions. The durable aluminium case is fitted with a well-designed trolley system for convenient transportation.

XX 300

Presentation Case XX 300 includes a GE 300 IP Intercom Server, subscriber cards for connecting 2-wire, 4-wire and IP Intercom Terminals, an Input/output card, an IP based Desktop Station EE 900A, a Digital Desktop Station EE 311A, an Analogue Desktop Station EE 411, a Vanda Resistant Station WS 201V, an 8-port PoE switch, a connecting and programming cable, and a CD with the Intercom Client software. To support the presentation of various Intercom functions, the TESTALL demo Licence is activated by default.

XX 300 EU	Version for Europe
XX 300 AU	Version for Australia
XX 300 UK	Version for UK
XX 300 US	Version for USA

📐 W 500 mm, H 430 mm, D 305 mm   📏 20.5 kg

XX WS

Presentation Case XX WS contains an IP based Wallmount Station WS 810P with TFT display and handset WSHS 50P, an IP based Membrane Protected Intercom Station WS 800F I with LCD display, a vandal resistant IP based Emergency Call Station WS 211V I, and a vandal resistant IP based Intercom Station WS 203V I CM with camera and 8-port PoE switch. The call stations and the switch are mounted on display panels in the form of floor stands. More detailed presentations of Intercom functionalities require Presentation Case XX 300.

📐 W 500 mm, H 430 mm, D 305 mm   📏 20 kg

Software Intercom Terminals

Unlimited mobility

Intuitive operation

Flexible solutions

Extensive Intercom competence

Platform independence

Software Intercom Client

Custom tailored Virtual Intercom Stations for ultimate mobility, flexibility and convenience

Use your Commend Intercom stations to your maximum advantage: With proven hardware solutions for large-scale Control Desks, rough environments and any application requiring seamless hardware and software interaction to meet your requirements. Take advantage of the benefits of software-based Intercom Clients in all tasks that require flexibility and location independence.

Fully mobile and integrating seamlessly with existing equipment, they deliver reliable performance in a minimum of space and adjust easily to individual user needs. Ideally suited for call centres, embedded terminals, maintenance and office management, the Commend Software Intercom Clients enhance your scope of action while boosting system security.

Tablet-Layout · Display · Function keys · Direct dialling buttons · Video monitor · Standard keypad · Phone-Layout · TileView

Secure technology for optimum communication

Expand your freedom of movement – installing the software-based Intercom Client lets you use your notebook as a Commend Intercom station. This way, you are free to expand your existing Control Desks if you want to handle communication peaks or add an instant integrated Intercom solution to your machine control panel.

What is more, Commend's exceptionally high sound transmission quality also allows you to get the most from your other equipment. Combined with optional equipment such as a headset or gooseneck microphone, the Software Client solution makes for a perfect productive working environment.

Commend Software Intercom Clients are designed with ultimate fail-safety in mind. They work reliably on various different operating systems, which makes them easy to integrate into existing devices. Your company notebook? Your private mobile? A tablet device in the control room? Utilise existing hardware from within the Commend Software Intercom Client.

Enhancing performance, optimising costs

With the right combination of Commend hardware and Software Intercom Clients you can get the most from your resources while bringing mobility and a new level of service quality to your business.

Of course, the Software Intercom Client provides the same familiar appearance of its hardware counterpart – including numeric keypad, function keys and display. And of course you can also adjust its settings to your individual needs and wants.

You can browse conveniently through the subscriber directory, open gates at a simple click or tap, and even control building management equipment with perfect ease. When you have to leave the Control Desk, you can take all of its functions with you,

as the Software Intercom Clients speak Windows as fluently as Android or iOS. Your mobile Software Intercom Client installs easily on your existing computers, telephones and tablet devices to make the most of your equipment.

Your Commend Software Clients

Commend Software Clients are available for all common operating systems:

- Software Intercom Client for **Windows**®: Turns any Windows-based computer into an Intercom station.
- Software Intercom Client for **Android**®: Supports your mobility on a tablet device or mobile phone.
- Software Intercom Client for **iOS**®: Brings Intercom convenience to your iOS device.

Software Intercom Clients

	Windows	iOS	Android
Window layout	Modular single windows	Telephone/Tablet	Telephone/Tablet
Scaling	Fully scalable	Full Screen function	Full Screen function
Caller list	Yes	Yes	Yes
Background operation	Yes, including num-block binding	iOS Notification Centre support	Yes
Audio quality	7 kHz HD Voice (16 kHz eHD Voice in combination with Commend hardware)		
Special functions	Direct adjustment of volume and Private Mode	Switching between telephone and loudspeaker, Private Mode	Direct adjustment of volume and Private Mode
Connection	Status bar	Display only	Display only
Video codec support	Extended	http/MJPG	http/MJPG
Direct Dialling Button modules	Up to 4 modules	Up to 2 modules	Up to 2 modules
Personalisation	Web View	–	Tile View, Web View
Automatic start-up	Yes	–	Yes

Customisable range of functions

When it comes to ease of use, you are in charge. Specific to each device, the Commend Software Intercom Clients give you the option of choosing your own monitor, telephone or tablet display layout. Thanks to the modular licensing model, you only pay for what you need. The Software Intercom Client also offers additional options for tailoring the solution to individual requirements.

The Web View Module lets you view web-based content such as visitor calendars or information for service staff. You can even design your own HTML-based user interface layout. With these custom-made user surfaces at your fingertips, you will be able to speed up work flows, provide tailored user surfaces for terminals in special application environments, and ensure ultimate ease of use even for users who are not familiar with the system.

Software Intercom Clients for everyday use

Our customers use Software Intercom Clients in different configurations for a variety of purposes. They appreciate having a solution at hand that is individual, flexible and smart.

PC-based workstations

In application environments such as call centres, the Software Intercom Client really comes into its own. Unlike simple software-based IP/VoIP clients, it brings a fully featured Intercom station to the computer. While communicating in superior audio quality over their headsets, call centre agents can operate and control additional applications conveniently by pressing custom pre-programmed numeric buttons on the keyboard. Maximum Intercom power in a minimum of space

Terminals

Many industrial terminals, vending machines and integrated tablets run on a Windows or Android operating system. The Commend Software Intercom Client integrates this variety to perfection. Easy to operate via mouse or touch. Suitable for mobile and stationary solutions. Accompanied by Commend Audio hardware or as a software soloist, in proven Commend layout or with a fully customised user surface.

Desktop terminal with flexible expansion options

Professional Control Desks can be highly cost-efficient and powerful at the same time. For example, if they are based on a Commend desktop base station with added flexible Software Intercom Client modules, e. g. for bi-directional video or direct dialling buttons. This way, an audio device can be transformed into a video conferencing system by adding a webcam and monitor, for example. There are many other useful applications, including remote operation of automated doors, control of building management equipment, and information display.

On-demand dial-up interface

Thanks to its integrative capabilities, the Software Intercom Client is also a flexible, cost-efficient client for managing Intercom on demand. The result is perfect communication support, whether at the office or on the road. Superior speech quality, Intercom Pro features, and full support of plug-in headsets and webcams make for a perfect mobile Intercom experience.
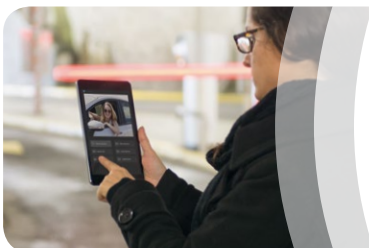
Mobile Control Desk

Since they are ideally suited for use as mobile Control Desks, Software Intercom Clients can help to resolve problems before they escalate. Switchboard attended by a single person who is urgently needed elsewhere in the building? Stationary Control Desk temporarily out of order? No problem. With the Commend Software Intercom Client, the operator can take the Control Desk along on a tablet device, mobile phone or notebook.

SOFTWARE INTERCOM CLIENT

Technical specifications: Connection to the Intercom Servers is via Intercom over IP (IoIP®). Each Software Intercom Client instance requires one IP port on an IP subscriber card (similar to ET 901). The IP address and IP address must be specified during configuration. For Windows, Android and iOS.
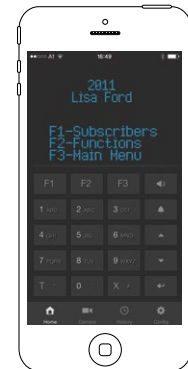
ICCAA Audio Licence

`7 kHz` `IoIP`

Standard Intercom Client functions, including Audio functionality for up to 7kHz, depending on audio hardware used.

L-ICCAA1	Licence for 1 Client
L-ICCAA1-4	Licence for 4 Clients
L-ICCAA1-8	Licence for 8 Clients

ICCNA Non-Audio Licence

`IoIP`

Standard Intercom Client functions, without direct audio support Audio functionality only in combination with Commend Audio hardware (e.g., ET 908A, EE 811A, EE 900A, etc.).

L-ICCNA1	Licence for 1 Client
L-ICCNA1-4	Licence for 4 Clients
L-ICCNA1-8	Licence for 8 Clients

Example with Tile Layout

ICCDDA Direct Dialling Licence

`IoIP`

Licence for 12-button Direct Dialling module as Software Intercom Client expansion option. The supported maximum number of modules depends on the type of Software Intercom Client used.

L-ICCDDA	Licence for 1 Module (12 Direct dialling buttons)
L-ICCDDA 4	Licence for 4 Modules (4 x 12 direct dialling buttons)
L-ICCDDA 8	Licence for 8 Modules (8 x 12 direct dialling buttons)
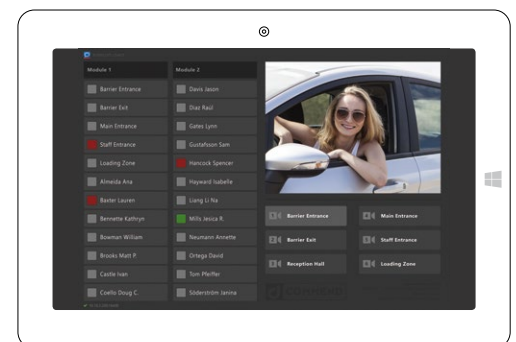
Video Licence for Android ICCVA

`IoIP`

Video Licence as Software Intercom Client expansion option; enables the display of an IP Video image on the Software Intercom Client and provides access to the integrated camera from within the Intercom network. Bi-directional video, Surveillance Mode, etc.

L-ICCVA	Licence for 1 Client
L-ICCVA-4	Licence for 4 Clients
L-ICCVA-8	Licence for 8 Clients

SOFTWARE INTERCOM CLIENT SDK

Add Commend Intercom power to your Windows and Linux applications. The Software Development Kits for Windows and Linux allow Commend partners to implement powerful integrated Intercom applications quickly and easily.

Build your own Commend Intercom station

Machine operating terminals, automation controls, Control Desk solutions – enhance your equipment with user interfaces that are precision tailored to your requirements. With the Commend Intercom SDKs, integrating helpful Intercom functions into special applications is a breeze. This makes for a seamless user experience while saving valuable resources.

The Intercom SDKs offer a wide range of interfaces for controlling the Software Developer's Kit core. They come with a range of functions for perfect audio processing. In combination with the respective components they and ensure superior audio quality even under extreme ambient conditions.

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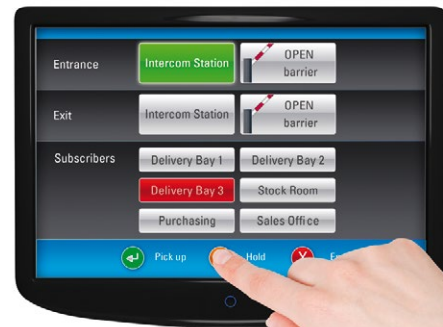
For illustration purposes only

Typical applications

– Speech-only applications, e.g. for pay-on-foot machines or gate terminals
– Direct dialling buttons for activating outputs and display of inputs
– Intercom stations with one key

Key benefits

– Easy to integrate
– Individual design of graphical user interfaces (GUIs)
– Individually definable scope of user interfaces
– Optional integration into building management systems

ACCESSORIES

MIC Q400AJ

Surface mount microphone with cardioid characteristic with small form factor. Housing made of shock proof, rugged plastic; can be glued to flat surfaces. Colour: Black

Connection via 3.5 mm stereo audio jack; cable length 2 m (6.6 ft); sensitivity 15 mV/Pa.

W 24 mm, H 13 mm, D 43 mm

MIC 480AJ

Build-in electret microphone with omnidirectional characteristic for up to 10 mm thick panels; IP 53 rating. Colour: Black

Connection via 3.5 mm stereo audio jack; cable length 2 m (6.6 ft); sensitivity 5.6 mV/Pa.

Diameter 14 mm, D 20 mm

Intercom Control Systems

Perfect overview

Flexible Control Room solutions

Networked Control Desk

Integration of 3rd party systems

Hardware and software solutions

ComWIN Control Desk Management

ComWIN visualises, controls and automates

Extreme situations such as car accidents or technical faults are just as much part of the job description of ComWIN as 'normal' communication within office applications. ComWIN always provides an instant overview of the system and enables quick reaction in emergencies. All control desk functions of the Intercom Server are displayed on one or several monitors. Interactive icons (on-screen symbols) represent calls and error or alarm messages; they change colour depending on the required level of attention. Reaction plans, help texts, logging details and much more can be displayed

in additional on-screen windows. Individually definable status windows provide a quick, general overview of the ComWIN system, showing the operator all important information at a glance. No matter whether it is manual or automated control, ComWIN offers the possibility of integrating a wide range of outputs of the Intercom world (barriers, doors, heaters, lighting, etc.) and third party devices into the ComWIN project visualisation for easy viewing and control.

WHAT, WHEN, WHERE, HOW

To enable quick assistance in case of an emergency, the following details should be provided: What has happened? Where has it happened? When did it happen? How can one help? ComWIN makes the source of all this information conveniently accessible through a uniform software. Plans with relocatable icons will support the comprehensive locating of an event. Based on pre-defined priority levels, the software switches automatically to the appropriate plan in case of critical event. This helps the operator to

stay focused on the most urgent events at all times. Crystal clear speech communication and directly integrated video support help the operator to evaluate situations quickly and correctly. On-screen windows indicating response measures and help texts support the operator in making the correct decisions. ComREPORT logs the when, what and where of each event, along with the actions and decisions taken by the operator (i.e. the how).
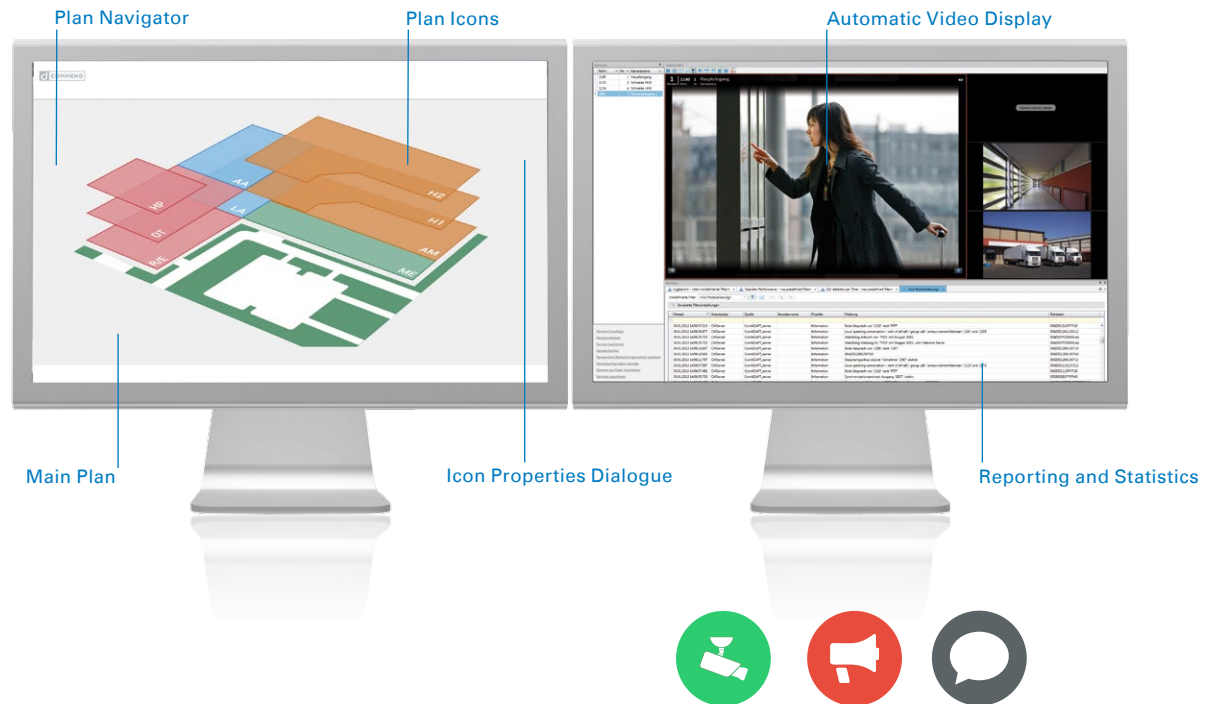
General Features

– Automatic switching between plans, flashing on-screen items, zooming, notification sounds and the display of overviews in status windows help operators to focus their attention on important events.
– Various visualisation and alarm options.
– E-mail notification in case of system events.
– Multi-monitor support ensures more clarity and a better overview, with options for saving individual layout profiles and free positioning of plan overviews, status windows, actions, etc.
– Subscriber lists for direct call dialling/ending can be loaded as part of the facility configuration profile or imported from Excel or CSV files.
– State-of-the-art client-server architecture.
– Flexible, scalable licensing model to suit individual requirements.

User Privileges

– Users can be divided into individual roles, users and user groups.
– Access to plansets, permissions and groups based on user privileges.
– The user language can be set for each user individually.

PlanSet

– Individual user privileges define the ability to access/view plans and icons.
– Depending on their privileges, users can access only specific plansets.
– Plans are organised into plan/map hierarchies (countries, cities, car parks, etc.). These hierarchies can each be assigned several plans (e.g., car park levels).
– Controlled access to specific plans and all sub-plans, or only to specific individual plans.

Plan Navigator · Plan Icons · Automatic Video Display

Main Plan · Icon Properties Dialogue · Reporting and Statistics

ComWIN Measures

– Flexible design of dialogues for input of remarks or illustrations of required actions, measures and information.

– Display of documents (HTML, PDF, etc.) or images as a measure.

– Individual illustration of workflows to support the operator.

– Detailed logging of operator input in ComREPORT.

ComWIN Icons

– Individually designable icons (PNG, JPEG, BMP, GIF or XAML format) for indicating any type of situation.

– Icon graphics can be configured and positioned on plans as needed.

– Situations and events can be assigned differently coloured icons to reflect different levels of priority and urgency.

– Sound signals and flashing on-screen elements direct attention to important issues and events.

– Optional integration of animated icons in GIF or XAML format.

ComWIN Plans

– Individually custom configurable plans (overview plans, vertical plans, construction plans, structural and area plans, etc.) in highest graphic resolution.

– ComWIN plans allow for displaying any type of buildings, elements, routes or information.

– The Plan Navigator or navigation icons can be used to switch back and forth between the individual plans of a ComWIN project.

– In case an emergency situation is detected, ComWIN automatically switches to the respective plan.

Industry

Subway

University

Parking

Hospital

Hospital
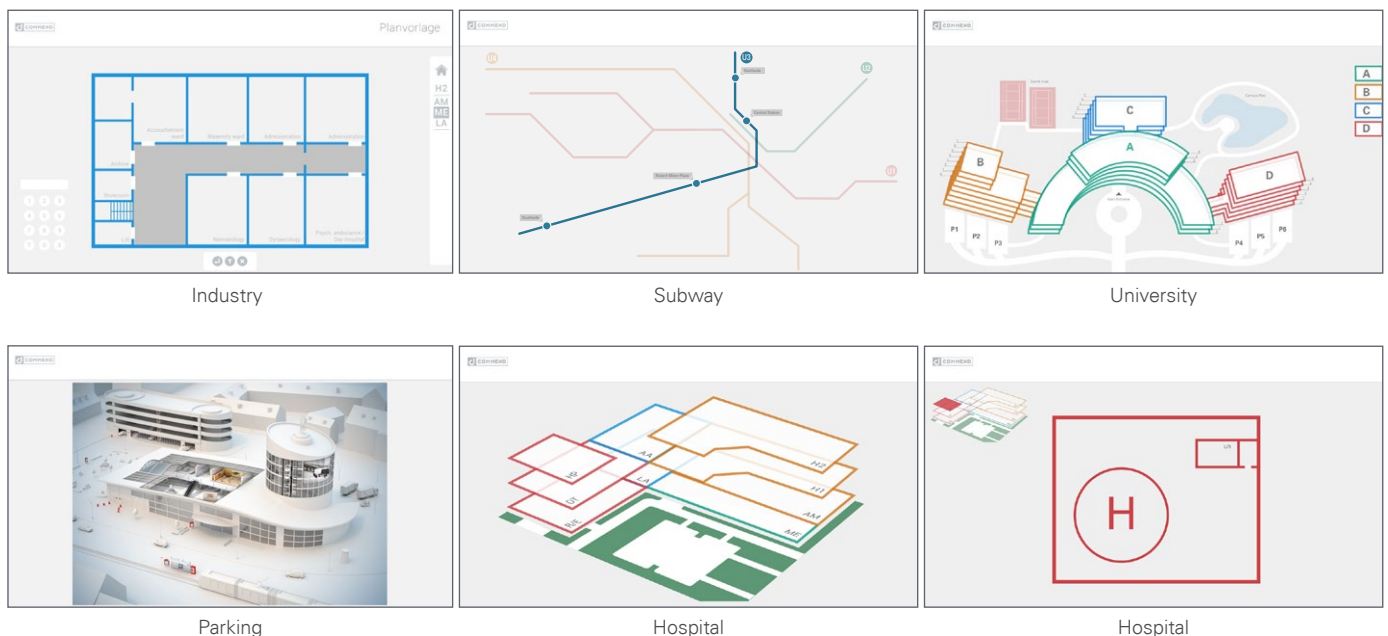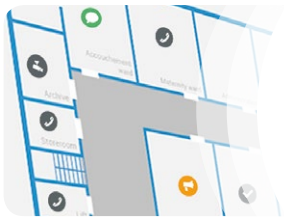
MODULES

All modules can be used standalone or in combination with each other.

ComWIN   ComREPORT   ComREC   ComVIDEO   ComSCHEDULE

ComWIN Single Clients

The entire system (ComWIN_server and ComWIN Client) runs on a local computer.

L-WINL4	ComWIN Light: Visualisation of up to 100 icons and 10 plans.
L-WINW4	ComWIN Workstation Standalone version for the visualisation of complex Control Desk functions, including 1,000 icons and an unlimited number of plan levels; the number of icons can be extended with a L-ComWIN-5 License (500 additional icons).

Intercom Server   Workstation

GE 800

IP/V24

ComWIN Multi Clients

The ComWIN application (ComWIN Client) is connected to an external Server via the IP network on which the ComWIN_server service is running.

L-WINN4	ComWIN Net: Client-Server version for multi-workstation Control Desks (also at different sites), including 2 Clients and 1,000 icons and an unlimited number of plan levels; can be upgraded to a L-ComWIN-5, L-ComWINWEB-C or L-ComWIN-C license.

Client 1   Client 2   Client 3

Switch

IP-Networking

ComWIN_server   IP/V24   GE 800   IP/V24   ComWIN_server

ComWIN_server   Intercom Server   Backup Server

ComWIN Webclient

The ComWIN Webclient is a web version of the ComWIN Native-Client.
The ComWIN Webclient requires no installation, just a network connection and a browser (the ComWIN Server is included in the base licence); can be extended with additional icons and clients (e.g. L-ComWIN-5, L-WINWEB-C or L-ComWIN-C).

ComWIN Extensions

L-COMWIN-5	Extension by 500 icons for ComWIN Visualisation WINW or WINN.
L-WINI100	Extension by 10,000 icons for ComWIN Visualisation WINW or WINN.
L-COMWIN-C	Extension by one additional Visualisation Client for WINN
L-COMWIN-B	Backup Server for meeting particularly high demands on system fail safety.

ComWIN Upgrade Licenses

|	
L-WINL4U	Upgrade for ComWIN Light (upgrade from ComWIN v3.x) Upgrading from ComWIN v2.x requires an additional WINL3U.
L-WINW4U	Upgrade for ComWIN Workstation (upgrade from ComWIN v3.x) Upgrading from ComWIN v2.x requires an additional WINL3U.
L-WINN4U	Upgrade for ComWIN Network (Upgrade from ComWIN v3.x) Upgrading from ComWIN v2.x requires an additional WINL3U.
L-WINL3U	Upgrade for ComWIN Light (upgrade from ComWIN v2.x)
L-WINW3U	Upgrade for ComWIN Workstation (upgrade from ComWIN v2.x)
L-WINN3U	Upgrade for ComWIN Network (upgrade from ComWIN v2.x)
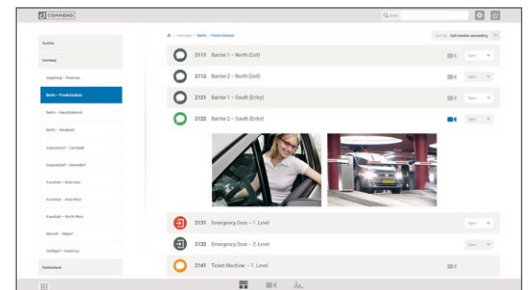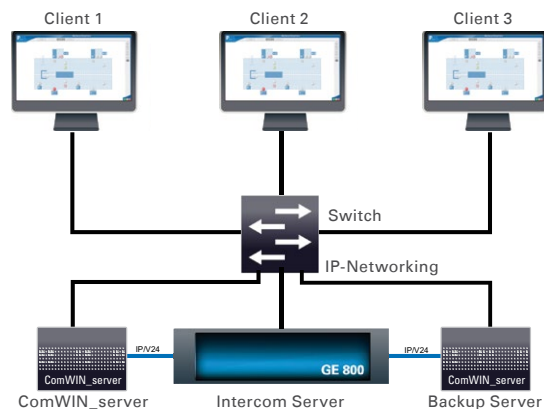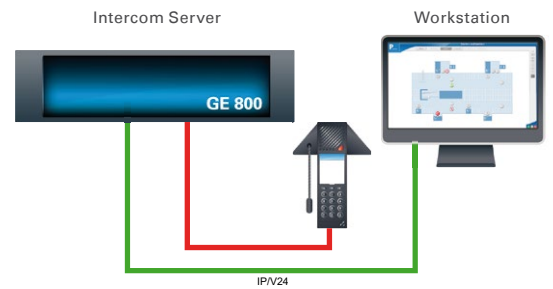
ComREPORT – Reporting and Statistics

ComWIN Modul ComREPORT logs all system events and writes all system messages to an SQL database. This comprehensive system archive can be accessed and compiled into custom reports by means of configurable data filters.

– Consistent logging of all events and data on the Intercom System

– Statistical data analysis for Intercom systems, Emergency Call system and Call Centre systems

    – Number of calls: Temporal distribution over days/weeks/months/years

    – Call waiting time: This indicates the customer's waiting time before the call was answered

    – Operator performance: This registers the log-in times, calculated average call duration, number of calls processed, and call details

– 10 GB of data storage with license-free Microsoft® SQL Server 2008 Express R2

– Report Designer for custom designing reports

L-COMRPT   Integration of ComREPORT into ComWIN
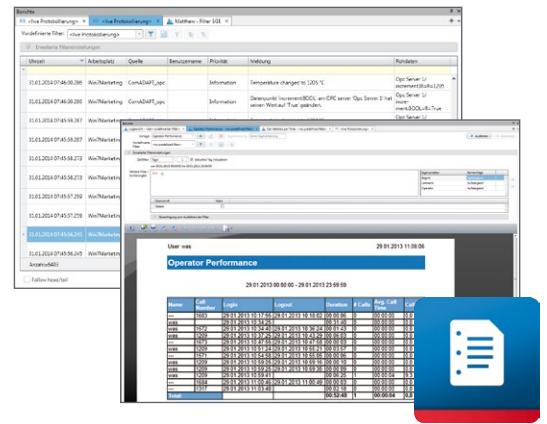
ComREC – Audio Recording

ComREC is a software based recording solution which can handle up to 100 simultaneous recordings and stores them in a single database for further use. It is a Windows® based software and the standard protocol RTP is used.

– Record RTP audio streams from Intercom Servers and/or directly from supported IP terminals

– Analogue, digital or radio (6T) subscribers can be recorded via the Intercom Server

– It is possible to record up to 100 simultaneous audio streams and save up to 10 million recordings; per IP-card it is possible to use up to five simultaneous clients

– Audio files are stored in the file system either on the local server or in the network, meta data (call information, timestamp, etc.) is stored in a SQL database (not included)

– A base licence and a licence for every recording channel is required

L-COMREC   Base licence for the Recording server (needed only once)

L-IP-REC1   For every RTP recording channel at the Intercom Server or Intercom terminal
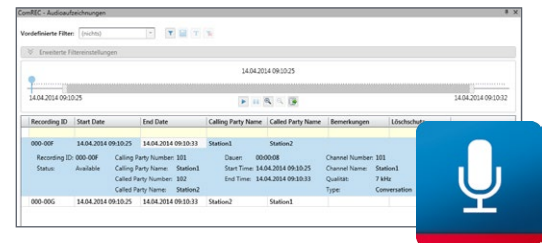
ComVIDEO – Video Integration

This application integrates live video streams from Video-over-IP sources into the security and communication solution. The video images are arranged on-screen in a clearly structured grid for easy viewing.

– Master monitor, preview monitors, surveillance monitors (video sequencing function).

– Automatic video display on preview monitor when receiving call requests.

– Automatic video display on master monitor during call

– Intuitive operation via drag-and-drop (e.g. switching to another view or camera)

– Integration of many common Video over IP solutions (e.g. Axis, Bosch, Mobotix, etc.) – see ComWIN Manual for details.

L-WINVC   Adds video functionality for one Client. Features: Integration of many common Video-over-IP cameras, video display upon reception of call requests and door calls, and video scanning in separate monitor windows, or monitor matrix, etc.
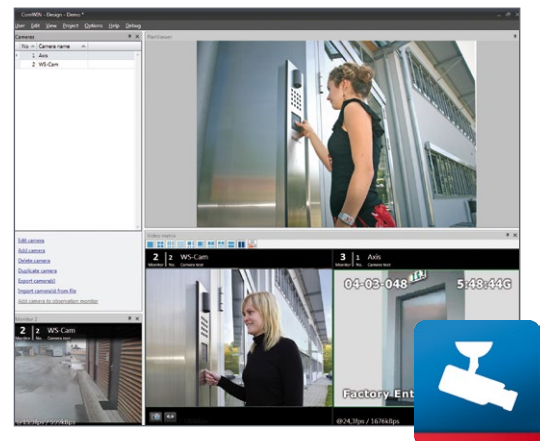
ComSCHEDULE – Time-Scheduled Planning and Control

This application, which comes integrated in ComWIN, allows for running functions and procedures of the Intercom system on a definable time schedule. For example, the Scheduler can set ComWIN data points or run various actions in the form of workflow procedures. A wide range of individual solutions are supported, from automated call forwarding during the night shift to fixed-time test calls (eg. for lift emergency call stations) and controls for announcements. Administering scheduled events and series of events is easy, thanks to dialogue windows and views familiar from applications such as MS Outlook®. The application is integrated into the ComWIN_server service and can be used without a ComWIN Visualisation License.

– Scheduling and planning of Intercom functions

– Support for individual events or event series (easy wizard-based scheduling)

L-COMSCH   Integration of ComSCHEDULE into ComWIN
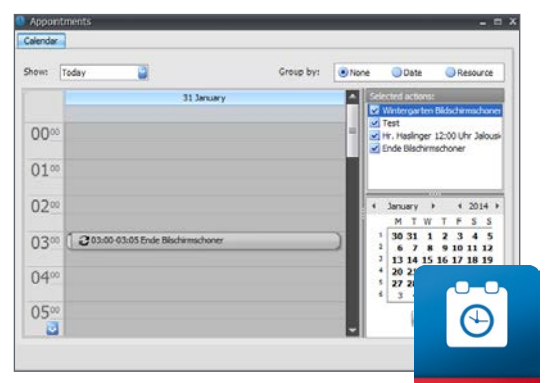
INTERFACES

Video Management Systems

L-WINAMST	Licence for integration of Milestone systems into ComVIDEO
L-WINASEE	Licence for integration of Seetec systems into ComVIDEO
L-WINAVDG	Licence for integration of VDG systems into ComVIDEO

TAPI

L-WINATAPI	Licence for integrating telephone systems via TAPI (Telephony Application Programming Interface) under ComWIN

Parking Management Systems

ComWIN Interface to PM Systems by Skidata and Scheidt & Bachmann.

L-WINASKI	Licence for integration of Skidata systems into ComWIN
L-WINASBA	Licence for integration of Scheidt & Bachmann systems into ComWIN

Fire Alarm Systems

L-WINASHP	Licence for integration of Hektatron Fire Alarm Systems into ComWIN

Network and File Systems

L-WINAFIL	Licence for integration of SNMP and file monitoring

More interfaces available on request.

ComSDK enables the integration of third-party systems or databases – see under ComSDK for details.

ComSDK – Tailored Control Station Solutions

The software interface on ComWIN_server supports individual solutions to tailor ComWIN operator workstations precisely to the customer's needs. As a result, it is possible to integrate third party systems or databases and to implement solutions without ComWIN visualisations. This means that ComSDK may also be used without a ComWIN Visualisation License.

Application examples

– Individual allocation of reassurance messages to emergency call stations.
– Database registration of monitored persons and automated display of personal details during calls.
– Integration of accounting systems for car park call centres
– Detention cell telephony: Administration of telephone numbers that the detained person is allowed to call (e.g. lawyer), and automated evidential recording of calls.
– Sending of on-screen messages to displays of Intercom call stations, and management of message templates
– Automated announcements, generated with text-to-speech function

One license per ComWIN_server may be activated; there is no limit on the number of SDK applications that may be implemented and run in parallel. The application package comes with a full developer's manual of the software interface.

L-COMSDK	Integration of ComSDK into ComWIN
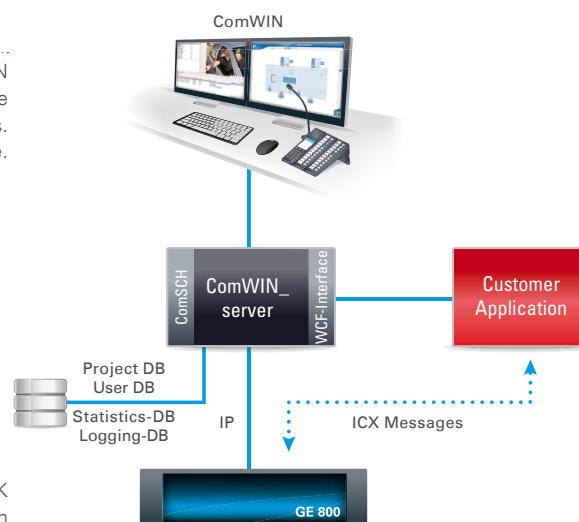
Control Desk System CONDUCTOR

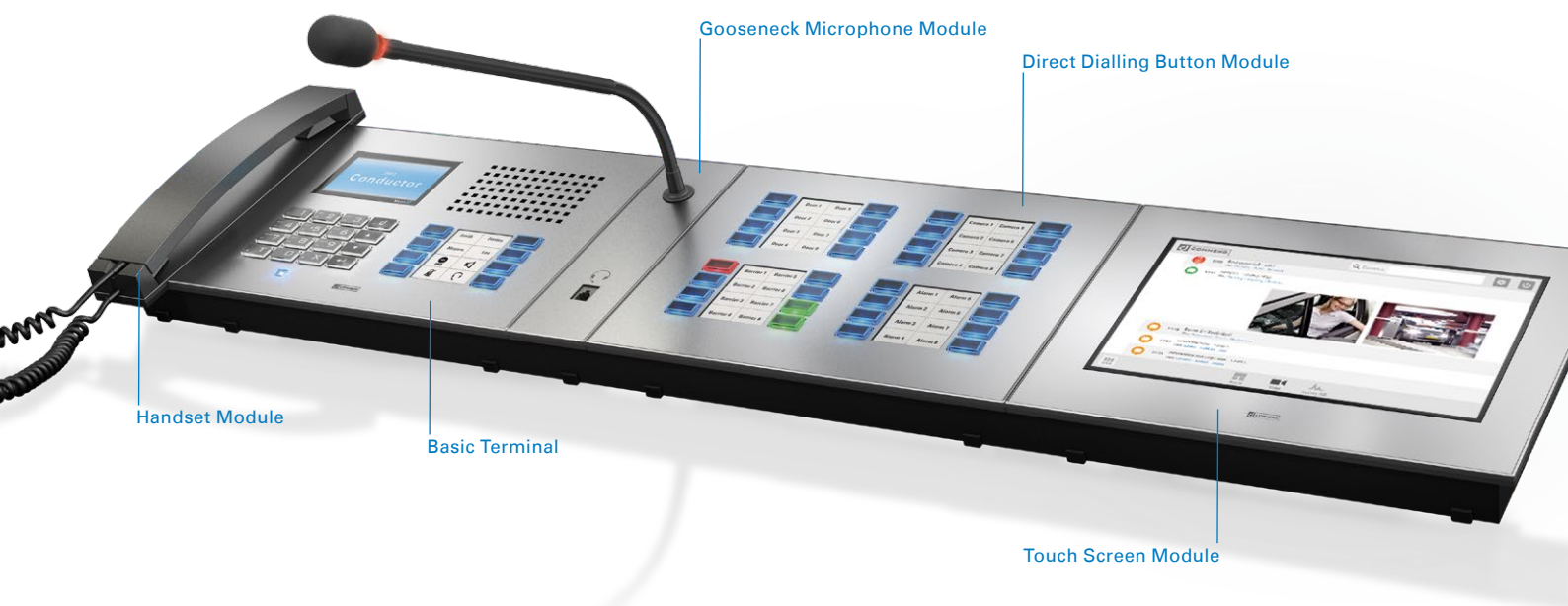## Everything under control. Simplicity in concert with power.

Like the harmonious interplay between orchestral instruments, the reliable, well coordinated interplay of the components in a communication and security solution is absolutely essential. Using different hardware and software technologies requires central coordination and control – the essential star

quality of all Commend Control Desk solutions. This allows you to keep even the most complex of Intercom infrastructures and integrated external systems under easy, fast and reliable control from a central point.

Comprehensive Control Desk solutions by Commend.

Good conductors can get in tune with the audience, too. Thanks to its modular design, the CONDUCTOR can be fine-tuned in accordance with individual user requirements. As with all Commend systems, the CONDUCTOR's technology and design and have been carefully developed with the users and

their environment in mind. Crystal clear 16 kHz eHD Voice speech quality and an extra-high volume capacity are just as essential to Commend's new, comprehensive Control Desk concept as full mobile system access.

Gooseneck Microphone Module

Direct Dialling Button Module

Handset Module

Basic Terminal

Touch Screen Module

Superior speech intelligibility

– 100 dB volume capacity – unique in the industry
– 16 kHz eHD Voice speech quality
– OpenDuplex® for hands-free talking in rooms with high ambient noise levels

Full Overview

– Various display versions with optimised user guidance
– Custom configurable button illumination colours and flashing rhythms to indicate operating status
– Acoustic notification via custom sounds

Security meets durability

– Software routines keep monitoring the device's functionality
– IP 50 rating
– High resistance against chemicals and physical impact
– Suitable for extreme ambient conditions at temperatures up to +70°C

Investment protection

– Upwards compatible
– High product life cycle combined with long-term availability

CCTV integration

– Display of video camera images on Intercom System – for identifying persons, detecting critical situations and assessing activities correctly as they happen
– Optional integration of recording systems

Scalable to any need

– Modular 'building blocks' type system
– Quick and easy to expand
– Individual solutions with touch screen flexibility
– Fast and easy to install, either as desktop unit or fitted Control Desk console

User-friendliness included

– Intuitive, context-based control via Touch Screen Module
– Large buttons and label areas
– Fast, targeted access to specific Intercom stations, automated announcements with pre-recorded messages, RF conference calls, door and gate controls
– Console unit can be tilted to adjust to ambient seating and viewing conditions

CONTROL DESK BASIC TERMINAL – SERIES CD 800P | CD 810P

Key features:
- Modular Control Desk Solution
- Control Desk Basic Terminal with TFT or LCD display
- Eight 3-colour LED illuminated direct dialling buttons
- Extension modules for up to 104 direct dialling buttons in total
- Illuminated standard keypad
- IP 50 rating
- Polycarbonate construction
- Expansion modules for even more functions

Technical data: Omnidirectional electret microphone for up to 7 m speaking distance; Integrated 2.5 W Class 'D' amplifier; two 8-ohm loudspeakers; Max. sound pressure 99 dB; Supports PoE and optional external power supply: 20 – 30 V DC; Direct dialling buttons and Touch Screen Module require a separate power supply; 2 inputs for floating contacts and two relay outputs 30 V / 1 A; Multi-functional LED (Colours: rot, green, blue);

CD 810P I
`16 kHz` `IP 50` `IoIP`

Control Desk Basic Terminal with TFT Display for graphical menu navigation and display of IP-based video steams.

3.5" TFT display; resolution: 320 x 240 pixels; 65,000 colours.

⟁ W 262 mm, H 196 mm, D 45 mm   ▮ 1,270 g

CD 800P I
`16 kHz` `IP 50` `IoIP`

Control Desk Basic Terminal with LCD graphic display.

Illuminated LCD display with 128 x 64 pixels; white backlight.

⟁ W 262 mm, H 196 mm, D 45 mm   ▮ 1,200 g

EXTENSION MODULES FOR SERIES CD

Thanks to its modular design, the Control desk adjusts perfectly to individual requirements.
The extension modules are easy to install by simple connection to the Basic Terminal.

Direct Dialling Button Module CDDD 32P
`IP 50`

Up to 3 modules with 32 direct dialling buttons can be attached to a Basic Terminal.
The dialling buttons can be programmed as needed: direct dialling with call indication (conversation, call, emergency call), output functions, e.g., for switching lighting fixtures, triggering processes, opening doors and gates, displaying system status information such as door and gate status details.

32 direct dialling buttons with 3-coloued LEDs and four label areas; external 20 – 30 VDC power supply required for first Direct Dialling Button Module – this also powers any additional Direct Dialling Button Modules; recommended power adapter: PA30W24V.

⟁ W 262 mm, H 196 mm, D 45 mm   ▮ 1,040 g

Touch Screen Module CDTS 50P
`IP 20`

Enables seamless integration of Commend-based and third-party software products into the Control Desk Solution, e.g., for operating Intercom Client or ComWIN controlled Direct Dialling Button Modules and Video Monitor Modules.

8,4" TFT touch screen with 800 x 600 pixel resolution; industrial PC running Windows Embedded 7; including 12 V DC plug-in power adapter with country specific plug attachments.

⟁ W 262 mm, H 196 mm, D 45 mm   ▮ 1,600 g

Gooseneck Microphone Module CDMI 50P HD

IP 50

Extension module with gooseneck microphone and headset connector port. Red LED ring for call indication. Cardioid electret microphone. Material: polycarbonate.

W 55 mm, H 196 mm, D 43 mm; gooseneck microphone length: 365 mm   570 g

Headset Module CDHD 50P

IP 50

Extension module with headset connector port. Material: polycarbonate.

W 55 mm, H 196 mm, D 43 mm   350 g

Handset Module CDHS 50P

IP 40

Handset with "Push to Talk" key. Material: polycarbonate.

W 55 mm, H 238.5 mm, D 74 mm   530 g

ACCESSORIES

Desktop Kit CDDK

Desktop Kit for Basic Terminal, Direct Dialling Button Module and Touch Screen Module.
Tilting angle: 20° – 65°; Colour: black.

W 190 mm, H 80 mm, D 50 mm   560 g

Plug-in Power Adapter PA30W24V

30 W switched-mode power supply adapter with high-efficiency output.
Primary: 90 – 264 V AC; Secondary: 24 V DC.

PA30W24V-EU   Version for Europe

PA30W24V-CA   Version for UK, USA and Australia

Control Desk System DUETTO

One device to bring together different worlds. SIP telephony and Intercom in one device.

Compact but powerful, the new Control Desk DUETTO brings together highly developed functionality and superior flexibility. Designed as a space-saving master Intercom station for desktop use or wall-mounting, it combines IoIP and SIP to provide the best of both worlds. The DUETTO integrates

Control Desk solutions with building automation, video communication and video surveillance. As a result, It opens up a world of possibilities for visitor management with excellent video-enhanced communication, even in areas with limited space. Perfect communication via Intercom and telephone

Integration of video sources

Optionally available with megapixel camera

Large 7-inch IPS touch display

Configurable via Web Interface

Main Gate

Dual audio processing Telephony & Intercom

16 kHz eHD Voice speech quality

Full Control Desk functionality

Suitable for desktop use and wall mounting

Intuitive operation with 7" touch display

The large-sized touch display offers excellent viewing qualities with a viewing angle of almost 180°. The display of multiple pending tasks provides an excellent overview. Easily recognisable interaction controls and symbols ensure intuitive, reliable operation throughout.

Modern video-enhanced Intercom station

Being able to see each other makes communicating information easier. With integrated bi-directional video, the DUETTO optimises the communication experience from the get-go. As a result, visitors feel welcome from the first moment of making contact.

DUETTO also provides high-quality surveillance video to help staff assess sensitive situations quickly and correctly. External video sources, such as weather or traffic cameras, can be integrated seamlessly as well.

Powerful Control Desk in a compact design

No longer restricted to the reception desk environment, modern Control Desks have already found their way into the office, where they offer the operating convenience of a regular desktop device. They can be networked with other systems to integrate seamlessly into the everyday working environment.

DUETTO not only controls communication, it also serves as a switching hub for lighting, shading, heating and multimedia devices. It manages emergency calls and call requests, provides status information and provides an overview of all communication lines.

Superior speech intelligibility

DUETTO comes with powerful acoustic capabilities in Commend's typical extra-high audio quality. Equipped with 16 kHz audio support and intelligent acoustic algorithms, the DUETTO sets the standard for excellent speech intelligibility, noise suppression and automatic voice focussing.

Well integrated

The DUETTO Video Control Desk enables the integration of telephone and Intercom Control Desks with a compact user interface. Building automation systems for the control of lighting, shading, heating, multimedia etc. integrate just as easily.

As a Control Desk system, the DUETTO also allows for handling two calls in parallel. This way, no emergency call goes unanswered and visitors are not kept waiting at the gate during an ongoing conversation.

Future-proof system architecture

Used as a desktop station or mounted on a wall, the DUETTO adapts perfectly to any space requirements and acts as a convenient all-purpose hub for IP video, SIP and Commend Intercom lines.

COMPACT CONTROL DESK – SERIES EE 980

Key features:

– Compact Control Desk solution
– Large 7-inch IPS touch display
– Optionally available with built-in megapixel camera
– OpenDuplex® for natural hands-free communication with high volume capacity
– 16 kHz eHD Voice speech quality
  (7 kHz HD Voice when using SIP connections)
– Enclosure made from robust high-grade polycarbonate
– Suitable for desktop use and wall mounting
– Easy to configure via Web Interface

Technical specifications: External power supply or via PoE (IEEE 802.3af); 3 USB 2.0 connections; WLAN ready; MicroSD slot for memory expansion; 2 inputs, active or passive, analogue or digital (configurable); 2 digital outputs; multi-functional LED.

EE 980

`16 kHz` `7 kHz` `IP 20` `IoIP` `SIP`

Control Desk Terminal with IPS display for graphical menu navigation and display of IP video steams. Desktop and Wall-Mounting Kit not included.

7-inch IPS display, 800 x 480 pixel resolution, and IPS technology.

EE 980	IP-based communication via IoIP oder SIP

⛶ W 270 mm, H 138 mm, D 37 mm   ▮ 998 g

EE 980 CM

`16 kHz` `7 kHz` `IP 20` `IoIP` `SIP`

Control Desk terminal with integrated megapixel camera and IPS display for graphical menu navigation and display of IP video steams. Desktop and Wall-Mounting Kit not included.

7-inch IPS display, 800 x 480 pixel resolution, and IPS technology.

EE 980 CM	IP-based communication via IoIP or SIP

⛶ W 270 mm, H 138 mm, D 37 mm   ▮ 998 g

ACCESSORIES

Handset

`IP 20`

Handset for EE 980 Control Desk Terminal; JST connector.

EE HS9	Black

Desktop Kit

Desktop Kit for EE 980 Control Desk Terminal; tilt angle: 35° – 70°.

EE DK9	Black

Wall-Mounting Frame

Wall-mounting frame for EE 980 Control Desk Terminal;

EE SH9	Silver

Digital Control Desk System EE 380A

EE 380A – Clear, Compact, Multi-functional.

The digital control desk system EE 380A is a new, compact intercom terminal concept, which perfectly suits the demands of small to medium sized central control workplaces. It provides good control and easy operation in situations where many calls are directed to one central point.

Up to 4 modules with 12 direct access buttons can be connected to a base station. The buttons can be assigned to various functions: direct dialling with call indication (conversation, call, emergency call); output functions, e.g. switching light circuits, starting processes, operating doors and gates etc.; indication of input messages, e.g. status of doors, gates and barriers. The button modules are equipped with 3-colour LEDs, at which calls or

system statues (for example) can be indicated clearly. Thanks to it's newest DSP-technology, the base station offers OpenDuplex® with crystal clear speech quality and standard functions such as loudspeaker/microphone surveillance. Firmware is upgradable for future functionality.

Applications

– Control rooms
– Areas with high ambient noise levels

CONTROL DESK SYSTEM BASE STATIONS

Modular construction enables the system to be optimally configured to a variety of different control desk applications. The base of each control desk is an intercom terminal, available in 4 different versions (with or without gooseneck microphone and with or without an additional loudspeaker). This helps to find the right terminal for each working environment, whether in a quiet office or in a noisy, busy control room.

Technical data: 6-digit alphanumeric display (16-segment); Connection via RJ 11, socket for A/B, mini DIN socket for connection to EM-module, 4-way modular socket for headset,

handset or earphones. Built-in Class "D" amplifier with 2.5 W (1.5 W power with built-in 8 ohm loudspeaker or 2.5 W with external 4 ohm loudspeaker). One input for floating contacts and one open collector output.

EE 380AA

16 kHz | Digital

Basic terminal with cardioid gooseneck microphone, standard keypad with "T" and "X" keys and three function keys; for connection of up to four keypad modules EM 302.

EE 380AAS   Black

⚖ W 179 mm, H 57 mm, D 230 mm / Length of gooseneck: 430 mm   ▮ 740 g
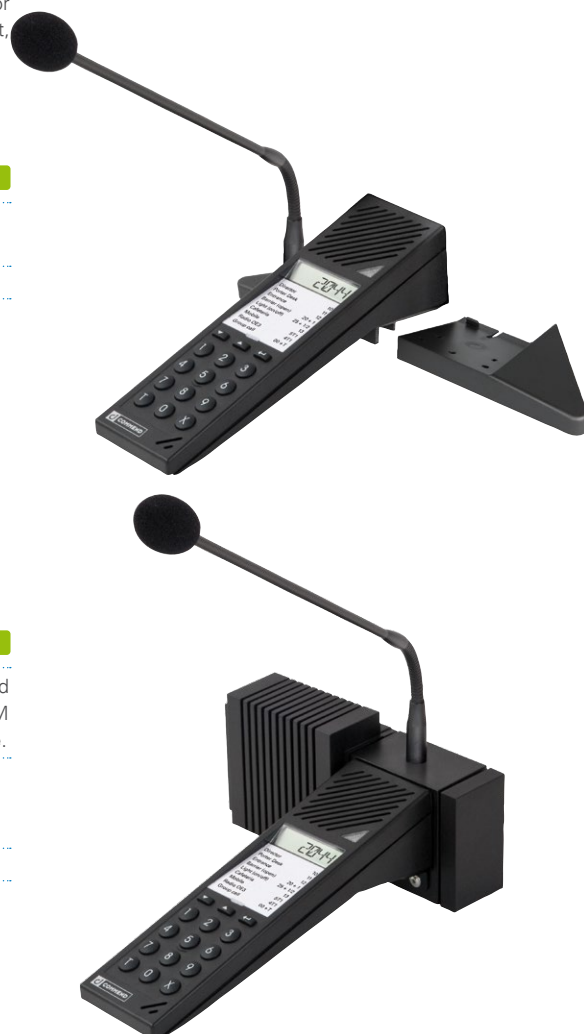

EE 380ABEG

16 kHz | Digital

Basic terminal with cardioid gooseneck microphone, active add-on loudspeaker, standard keypad with "T" and "X" keys and three function keys; for connection of up to four keypad modules EM 302EG. Special screws and adhesive bonding make these Intercom stations particularly durable.

Class "D" amplifier with 15 W speech signal; sound pressure: 82 dB/W/m (1 kHz); impedance: 8 ohms; magnetically shielded; 15 VDC external power adapter; plug-in power adapter PA20W15V is available separately – see Accessories.

EE 380ABEGS   Black

⚖ W 205 mm, H 96 mm, D 271 mm / Length of gooseneck: 430 mm   ▮ 1,340 g

EE 380AC

`16 kHz` `Digital`

Basic terminal with electret microphone, standard keypad with "T" and "X" keys and three function keys; for connection of up to four keypad modules EM 302. Also suitable for wall mounting with wall mount kit.

EE 380ACS	Black

W 66 mm, H 55 mm, D 230 mm   440 g

EE 380ADEG

`16 kHz` `Digital`

Basic terminal with cardioid gooseneck microphone, active add-on loudspeaker, standard keypad with "T" and "X" keys and three function keys; for connection of up to four keypad modules EM 302EG. Special screws and adhesive bonding make these Intercom stations particularly durable.

Class "D" amplifier with 15 W speech signal; sound pressure: 82 dB/W/m (1 kHz); impedance: 8 ohms; magnetically shielded; 15 V DC external power adapter; plug-in power adapter PA20W15V is available separately – see Accessories.

EE 380ADEGS	Black

W 205 mm, H 96 mm, D 271 mm   1,220 g

KEYPAD AND HANDSET MODULES

Up to four keypad modules can be connected to the basic terminals. This gives each control desk terminal its unique range of functionalities: direct dialling to and from Intercom terminals, switching of outputs and display of system status details. The basic terminal and modules are interlinked via a bus system; connections are by way of Mini-DIN ports.

EM 302

Keypad modules with 12 keys (with 3-colour LEDs) for Basic Terminals EE 380AA and EE 380AC.

External power supply: 12 – 24 V AC / 15 VA; 15 – 35 V DC / 15 W; Plug-in power adapter not included – see Accessories.

EM 302S	Black

W 66 mm, H 55 mm, D 230 mm   400 g

EM 302 EG

Keypad modules with 12 keys (with 3-colour LEDs) for Basic Terminals EE 380ABEG and EE 380ADEG.

Power supply via Basic Terminal EE380ABEG or EE380ADEG (15 V DC).

EM 302EGS	Black

W 104 mm, H 80 mm, D 45 mm   440 g

Handset Module EE-HS3

Handset module with "Push to Talk" button. Material: polycarbonate.

Power is supplied via the base terminal.

EE-HS3	Black

W 66 mm, H 80 mm, D 230 mm 500 g

ACCESSORIES

Plug-in power adapters PA 20W

20 W primary switched-mode power supply adapter with high-efficiency output.
Primary: 90 – 264 V AC; 0,67 A.

PA20W30V-EU	Secondary: 30 V DC – Version for Europe (excl. UK)
PA20W30V-CA	Secondary: 30 V DC – Version for UK, USA, Australia
PA20W15V	Secondary: 15 V DC – Including changeable plug attachments for Europe, the UK, USA and Australia.

Intercom Server

GE 300

GE 800

IS 300

99.998 % availability

Global networks

Scalable solutions

Flexible interfacing

Future-proof

Performance Characteristics

Audio

– 7 kHz audio bandwidth (HD Voice) or 16 kHz (eHD Voice)
– Conversations in OpenDuplex® (for DSP-stations)
– Audio Monitoring (with PRO 800)
– Speech recordings (with PRO 800)
– Up to 40 music channels can be received
– Tone signals for different operation states, tone generator
  to create different tone signals

General Intercom Features

– Up to 8-digit calling numbers
– All Calls and Group Calls (up to 90 programmable groups)
  with automatic answer
– Handset function
– Automatic disconnection of conversations after a set time,
  programmable per subscriber
– Inquiry / further connection
– Automatic re-call in instances when line is busy; acoustic
  and optical indication of waiting subscribers
– Privacy fix programmable or activated at Intercom Station
– Feed-in of waiting information for busy, privacy or further connection
– Priority call with automatic/manual disconnection
  of busy or private subscribers
– Send re-call request
– Direct dialling for all or individual subscribers, also
  programmable at the station
– Hierarchy function (programmable)
– Manifold functions for inputs and outputs
  (dialling simulation for inputs, attendant contacts)
– Various possibilities of call forwarding and call
  transfer (automatic, manual, transfer chain)
– Call History (list of time stamped calls)

Doors and Gates

– Door station with one or multiple door opening contacts
– Ability to listen to the door station whilst opening
– Automatic cancelling of the conversation
  after door opening after a programmable time
– Indication of door status in the display
– Ringing at one station or a group of stations
– Forwarding of Group ringing
– Ability to broadcast waiting information whilst ringing
– Transfer of door calls to telephone dialer with possibility of opening
– Access control – 1 to 4 digit codes
– Programmable number of re-attempts for code entry,
  security call to a control station in case of misuse

Video

– Control of video management systems (VMS) and video switchers
– Allocation of main monitors, observation monitors
  and preview monitors to a station
– Automatic camera switching for calls, call requests,
  input messages and ringing
– Time delay for camera disconnection after door opening
– Connection of cameras and definition of scanning
  sequences for certain monitors via button code

Conference, Radio-conference

– Conference calls with unlimited number of subscribers
– OpenDuplex® conference call (with PRO 800)
– Up to 40 different conferences with automatic connection
  of predefined subscribers
– Feed-in of up to 48 radio conferences, listen and speak
– Listening of up to 8 freely definable radio conferences simultaneously

Alarming

– Silent alarm activation (e.g. employment offices)
– Alarm function with playback of message (e.g. evacuation alarm)
– Initiate alarms via button or input (e.g. foot switch)
– Up to 8 different alarms simultaneously
– Automatic change of priorities and alarm groups after
  programmable time
– Cancel alarm with code
– Audio alarm transmission with alphanumeric display
  (one programmable group)
– Reception of chime signal

Central Control Functions

– Indication of call requests from stations at a control desk station
– Indication of input messages at a control desk station
– Function monitoring of microphone, loudspeaker and
  connection lines of the stations
– Line monitoring of input contacts
– Parallel indication and operation of functions at several
  central control stations
– Manifold possibilities for call transfer (manual call transfer,
  call transfer after programmable time, day / night switching)
– Audio-Monitoring
– Dynamic call distribution (Call Centre)

Licensing (with PRO 800)

– Features can be unlocked via Licences
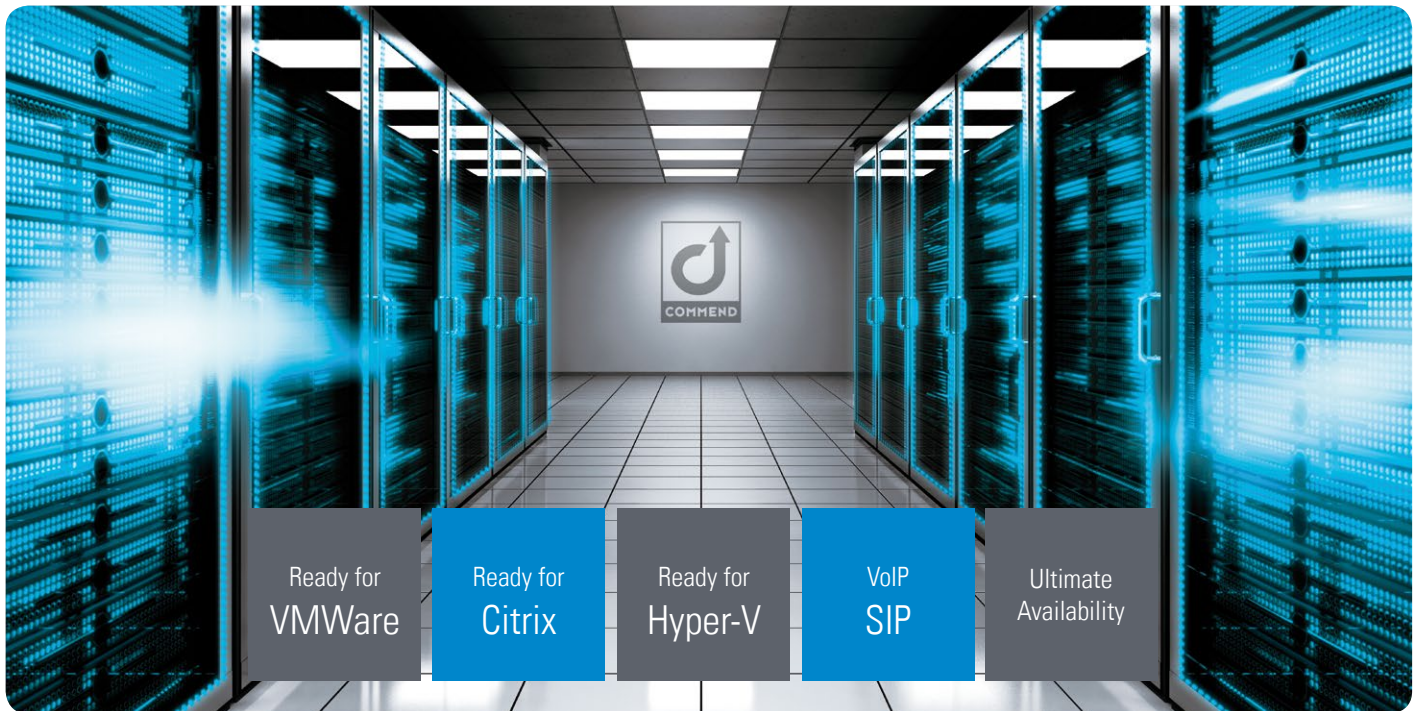– Unlocking can be performed locally or via remote maintenance

Feature levels

The various applications and functions of the subscribers (Intercom Stations) require the appropriate feature levels (B, C, D, P). The higher levels provide the entire feature set of the next-lower level plus some additional functions. Feature levels can be unlocked with a licence key.

See the PRO Manual for a detailed list of functions.

B	Basic Intercom	Substations
C	Advanced Intercom	Substation with extended functionality, e.g. for door control and radio communication
D	Control Desk Intercom	Control Desk Intercom Stations, Video Control
P	Customized Intercom	Each subscriber can be assigned individual feature levels.

VirtuoSIS – Software Intercom Server

Software Intercom Server for virtualised IT platforms

| Ready for VMWare | Ready for Citrix | Ready for Hyper-V | VoIP SIP | Ultimate Availability |

Up to 1,120 IP subscribers per virtual machine
112 IP subscribers per instance

Intercom Server as an App

**The world's first 100% software-based Intercom Server VirtuoSIS** by Commend is designed specifically to integrate seamlessly into the flexible, dynamic world of virtual IT environments.

It is here that the new Software Intercom Server shows its true talents and great benefits: same functionality as its hardware-based cousins at remarkably low investment and operating costs. As a 'fellow inhabitant' of the virtual server landscape without the need for any separate hardware, the Software Intercom Server is child's play to maintain and requires no extra personnel.

Embedded into the virtual server infrastructures, the server can take advantage of the usual extra-high **backup and security mechanisms**. This automatically ensures the essential **high availability** that has become a hallmark of Commend solutions.

Ultimate Availability –
Ultimate security (Mirroring*)

Entire virtual environments can be stored and migrated reliably without interruptions. This eliminates the need for planned downtimes, enabling continued operation at levels up to a fully interruption-free switch-over. Full operation can be resumed quickly after unplanned interruptions.

*Mirroring – From VMWare Enterprise Edition upwards, the Fault Tolerance (FT) option provides continued availability in case of a server failure.
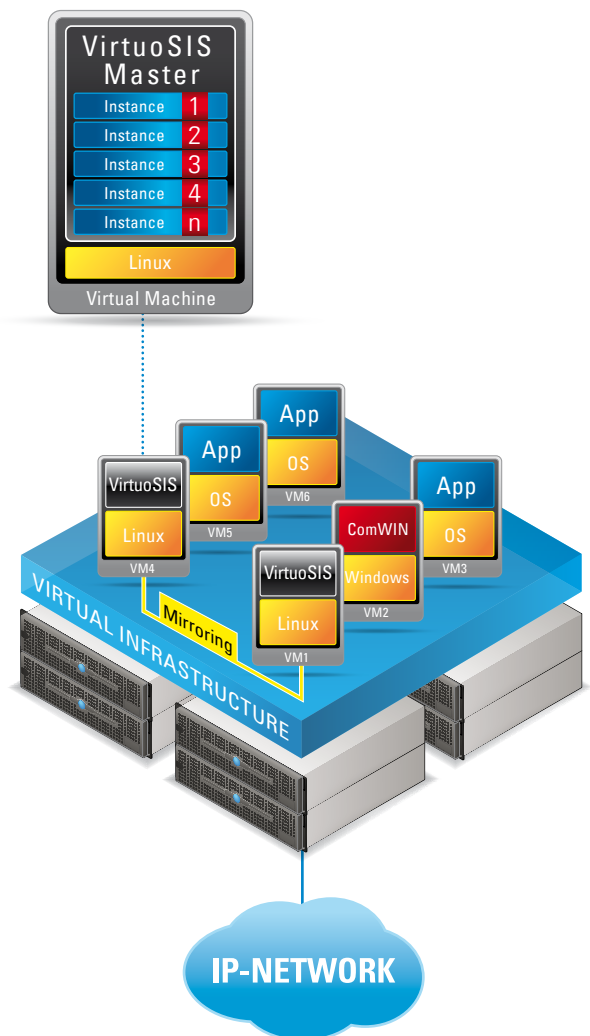
SERVER

Key features:

- Software Intercom Server based on Linux (Debian) for virtualised IT platforms
- Ready for use on virtualisation platforms vSphere 5 by VMWare, XenServer 6 by Citrix and Hyper-V by Microsoft
- Ultimate Availability – Ultimate Security
- Flexible licensing options – expandable at a mouse click – no dongle required
- Intercom system for up to 25,000 subscribers
- Supports IP-based, digital and analogue Stations
- Supports Commend SIP terminals and 3rd-party SIP phones
- VoIP connectivity via SIP trunk to IP-PBX servers and service providers
- VoIP connectivity to PSTN via SIP gateways
- Supports all Intercom functions and performance levels
- Networkable via LAN/WAN – also with hardware Intercom Servers GE 800, GE 300, GE 150, IS 300, GE 700 and GE 200
- IP interfaces: ICX over IP, RTP, IoIP®
- Convenient configuration via PC software CCT

VirtuoSIS Basic Professional Licence

Each Software Intercom Server requires one Basic Professional Licence, which covers an unlimited number of instances.

L-SIS-PRO4	Basic Professional Licence PRO 800, Version 4.x
L-SIS-PRO5	Basic Professional Licence PRO 800, Version 5.x

VirtuoSIS Licences and available expansion levels

L-SIS-PRO4U	Upgrade Licence for VirtuoSIS Master
L-SIS-PRO5U	Upgrade Licence for VirtuoSIS Master
L-SIS-IP-8B	Licence for 8 subscribers, Feature Level B
L-SIS-IP-32B	Licence for 32 subscribers, Feature Level B
L-SIS-IP-8C	Licence for 8 subscribers, Feature Level C
L-SIS-IP-32C	Licence for 32 subscribers, Feature Level C
L-SIS-IP-2D	Licence for 2 subscribers, Feature Level D
L-SIS-IP-8D	Licence for 8 subscribers, Feature Level D
L-SIS-ICX	Single Licence for ICX Interface
L-SIS-LAN8	Licence for 8 LAN connections
L-SIS-WAN8	Licence for 8 WAN connections
L-SIS-SIPT1B	Licence for SIP trunk, 1 channel, Feature Level B
L-SIS-SIPT8B	Licence for SIP trunk, 8 channels, Feature Level B
L-SIS-SIPT1D	Licence for SIP trunk, 1 channel, Feature Level D
L-SIS-SIPT8D	Licence for SIP trunk, 8 channels, Feature Level D
L-SIS-SIP-8B	Licence for 8 SIP subscribers, Feature Level B
L-SIS-SIP-8C	Licence for 8 SIP subscribers, Feature Level C
L-SIS-SIP-2D	Licence for 2 SIP subscribers, Feature Level D
L-SIS-SIP-8D	Licence for 8 SIP subscribers, Feature Level D

VirtuoSIS®
by Commend

IP Intercom Server

GE 800 IP Intercom Server

XXL-Intercom Solutions
896 IP-Subscribers per Housing
19" Technology

100% IP

16 kHz Audio Experience

14,280 Servers in one Network

GE 300 IP Intercom Server

Compact Intercom Solutions
80 IP-Subscribers
Design Housing for Wall Mounting

SIP/VoIP Integration

Green IT Power Management

Backwards Compatibility

99.998% Availability

100% DIGITAL, 100% IP

The IP Intercom Server GE 800 and GE 300 set new standards. With the IP and digital bus concept and the huge power reserves of the DSP-processors (400 MIPS), they are prepared for the future.

100% Flexible, 100% Compatible

The IP Intercom Servers flexibly adapt to all requirements and are compatible with all previous system generations. All IP, digital and analogue stations of Commend can be connected to the IP Intercom Servers GE 800 and GE 300, as well as SIP Servers and SIP and analogue telephones.

Simple Networking

IP-technology makes it possible. Networking of IP Intercom Servers within a rack via the built-in switch as well as cross border networking of locations is easier than ever before. The system is scalable as required and grows with the requirements of the operator and users.

16 kHz Audio Experience

Enhanced HD Voice transmits voice communication, emergency calls and music with previously (literally) unheard-of clarity. At the same time the new IP Intercom Servers assume the tasks of PA-servers and allow the consolidation of PA and Intercom onto a single platform.

Green IT

The power concept of the Intercom Server according to "Green IT" means high degree of efficiency with an optimal energy balance.

Integrated speech storage

The Subscriber Cards all have built-in speech storage. This allows storing of individual messages (waiting information, info or alarm messages) which can be played back across the entire system, flexibly and at various times.

Integrated speech recording

As soon as a certain volume level is exceeded, the Audio Monitoring feature automatically initiates a call – e.g.: when somebody screams for help in a lift. Via the integrated speech recording a certain time frame before call initiation is recorded and can be played back, therefore the reason for call initiation can be determined and the required measures can be initiated.

Configuration and Remote Maintenance via IP

Configuration and maintenance of the Intercom system are a simple task within the own data network as well as over the internet (password protected). Even updates of the operating system via IP become a reality as well as the unlocking of required functions.

Licensing of Features

If additional features or subscribers are required a Licence key is enough to activate them immediately. No hardware is needed and activation can be carried out locally or via remote maintenance over IP.

GE 800 – IP Intercom Server

SERVER

IP Intercom Server in 19" Technology for up to 25,000 subscribers in a local network. Allows connection of IP, 2-wire, 4-wire and SIP-stations as well as SIP/VoIP telephones. Housed in an elegant industrial design with 3 rack units for mounting in 19" racks. Integrated functions for door and gate control, alarm, video integration, control desk, etc. The manifold networking concepts allow security and communication systems with up to 14,280 networked Intercom Servers. Up to 30,000 subscribers can communicate with each other within these networks. It is also possible to forward calls to the public telephone network e.g. via VoIP.

GE 800

16 kHz 7 kHz

Rack housing in 19" technology with 14 free slots for cards in Euro format. Fix slots for the included G8-GEP processor card, G8-NET networking card and G8-GEN power supply card.

Maximum number of subscribers

IP	896	Subscribers per housing
Digital 2-Wire	56	Subscribers per housing
Analogue 4-Wire	56	Subscribers per housing

One AF-input (for music or alarm), two inputs for floating contacts, two relay outputs, RS232 and IP-interface for (remote) programming or maintenance.

GE 800	Server without transformer
GE 800EU	Server, complete with Transformer power supply PA7-230VEU for Europe
GE 800UK	Server, complete with power supply Transformer PA7-240VUK for UK
GE 800AU	Server, complete with power supply Transformer PA7-230VAU for Australia
GE 800UL	Server with UL-Certification without power supply.

⛭ W 483 mm, H 133 mm, D 229 mm (19", 3U)   ▯ 5,800 g

Server Licences GE 800

L8-PRO4U	Upgrade to PRO 800 Version 4.x (existing installations)
L8-PRO5U	Upgrade to PRO 800 Version 5.x (existing installations)
L8-SUB-28C	Upgrade of 28 subscribers to feature level C
L8-SUB-28D	Upgrade of 28 subscribers to feature level D
L8-ICX	Licence for 1 ICX Interface
L8-NETLAN4	Networking Licence G8-NET with 4 additional LAN-connections
L8-NETLAN8	Networking Licence G8-NET upgrade to 8 LAN-Connections
L8-NETWAN4	Networking Licence G8-NET with 4 additional WAN-Connections
L8-NETWAN8	Networking Licence G8-NET upgrade to 8 WAN-Connections

PLUG-IN SERVER G8-IP-32

Key features:

– Connection of up to 64 IP subscribers per Plug-In Server
– Up to 14 Plug-In Servers per IP Intercom Server GE 800 for connection of a maximum total of 896 fully functional IP subscribers
– Video support and keyboard functionality for all 896 subscribers
– 16 kHz eHD Voice speech quality
– Up to 6,796 inputs and outputs per GE 800
– Plug-In Servers run autarkically (i.e. self-sufficiently)

– Enhanced fail safety and reduced Single Points of Failure (SPOF) thanks to de-centralised intelligence
– Ideally suited for redundancy concepts
– Green IT design for low standby energy consumption

Technical data: Power supply via Intercom Server; IoIP® protocol based on UDP/IP, Ethernet IEEE 802.3, 802.1q, IP (RFC 791), ICMP (RFC 792), UDP (RFC 768), TCP (RFC 793), QoS / Diffserv (RFC 2474); 8 MB data memory for pre-recorded audio messages (up to 128 message files per Plug-In Server G8-IP-32)

G8-IP-32   `16 kHz` `7 kHz` **IoIP**

IP Plug-In Server for connection of up to 64 IP subscribers via Ethernet (LAN/WAN).

Connection via the Ethernet port of the IP Intercom Server.

G8-IP-32	Basic Server card for 32 subscribers – 30 with Feature Level B and 2 with Feature Level D
L8-IP-32-32B	Licence for upgrade to 64 subscribers – 62 with Feature Level B and 2 with Feature Level D
L8-IP-32-32C	Subscriber Licence for upgrade to 32 subscribers with Feature Level C
L8-IP-32-2D	Subscriber Licence for upgrade to 4 subscribers on Feature Level D
L8-IP-32PRO4U	Licence for upgrade to PRO 800 Version 4.x (existing installations)
L8-IP-32PRO5U	Licence for upgrade to PRO 800 Version 5.x (existing installations)

⌖ W 167 mm, H 100 mm, D 20 mm   ⚖ 170 g

SUBSCRIBER CARDS

Subscriber cards are used to process speech communication and subscriber specific controls on an Intercom Server. For connection of IP, digital and analogue subscribers, various cards in 4 feature levels (B, C, D and P) are available. The cards of the higher levels contain all the features of the lower ones plus more. With feature level P individual levels can be allocated to each subscriber.

G8-IP   `16 kHz` `7 kHz` **IoIP**

IP DSP Subscriber card for connection of up to 8 IP-Subscribers via Ethernet (LAN/WAN).
A maximum of 14 G8-IP cards can be used in a GE 800 IP Intercom Server.

Connection via the Ethernet port of the IP Intercom Server.

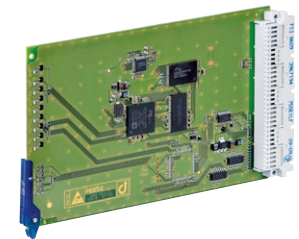|	
G8-IP-4B	Basic card for 4 subscribers, Feature Level B
L8-IP-4C	Licence for feature level C
L8-IP-4D	Licence for feature level D
L8-IP-4P	Licence for feature level P
L8-IP-8B	Licence for 8 subscribers, Feature Level B
L8-IP-8C	Licence for 8 subscribers, Feature Level C
L8-IP-8D	Licence for 8 subscribers, Feature Level D
L8-IP-8P	Licence for 8 subscribers, Feature Level P
L-IP-REC-1	Licence for one IP/RTP Recording Channel

⌖ W 167 mm, H 100 mm, D 20 mm   ⚖ 180 g

G8-GED   `16 kHz` `7 kHz` **Digital**

DSP Subscriber card for connection of up to 4 digital subscribers via 2-wire lines. A maximum of 14 G8-GED cards can be used in a GE 800 IP Intercom Server. One conversation per subscriber is possible simultaneously (non-blocking).

Connection can be carried out via various installation boards – see section: Installation Boards.
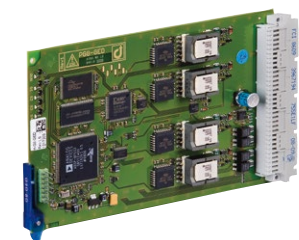

G8-GED-4B	Basic card for 4 subscribers, Feature Level B
L8-GED-4C	Licence for Feature Level C
L8-GED-4D	Licence for Feature Level D
L8-GED-4P	Licence for Feature Level P

⌖ W 167 mm, H 100 mm, D 20 mm   ⚖ 220 g

G8-GET

16 kHz 7 kHz Analogue
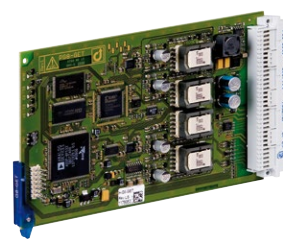
DSP Subscriber card for connection of up to 4 analogue subscribers via 4-wire lines. A maximum of 14 G8-GET cards can be used in a GE 800 IP Intercom Server. Per subscriber one conversation is possible simultaneously (non-blocking). With the Licence L8-GET-DSP DSP-Features (see datasheet) can also be used with analogue stations.

Connection can be carried out via various installation boards – see section: Installation Boards.

G8-GET-4B	Basic card for 4 subscribers, Feature Level B
L8-GET-4C	Licence for Feature Level C
L8-GET-4D	Licence for Feature Level D
L8-GET-4P	Licence for Feature Level P
L8-GET-DSP	Licence for DSP features on G8-GET subscriber cards

⊿ W 167 mm, H 100 mm, D 20 mm 📏 220 g

G8-TEL4

DSP Subscriber card for connection of 4 analogue telephones (DTMF or pulse dialling). As well as a telephone with a full keypad it is also possible to connect telephones without buttons, which automatically dial to a hotline destination, e.g. a control centre. This provides an optimal solution for integration of information and emergency telephones in Intercom systems. By connecting additional loudspeakers to telephones announcements (all calls and group calls) can be heard.

Connection via installation board G8A-I or G8A-K (both are not included in extent of supply).

G8-TEL4C	Card with Feature Level C
G8-TEL4D	Card with Feature Level D

⊿ W 167 mm, H 100 mm, D 20 mm 📏 250 g
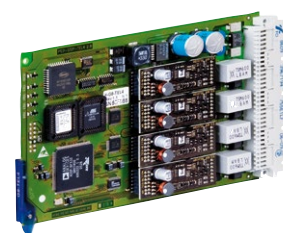
VOIP-CARDS

Due to the support of wide spread standards such as SIP or IAX2 protocol various VoIP telephones or entire VoIP telephone systems can be connected to the Intercom System as subscribers on the following VoIP cards.

G8-IAX

7 kHz

With the VoIP Card G8-IAX up to 8 trunk connections from IP Intercom Servers to VoIP Servers, which support IAX2 protocol, can be established. This interface allows calls between Intercom stations and VoIP phones and vice versa.

Connection via the Ethernet port of the IP Intercom Server.

G8-IAX-4B	Basic card for 4 trunk connections, Feature Level B
L8-IAX-4D	Licence for Feature Level D
L8-IAX-8B	Licence for 8 trunk connections, Feature Level B
L8-IAX-8D	Licence for 8 trunk connections, Feature Level D

⊿ W 167 mm, H 100 mm, D 20 mm 📏 225 g
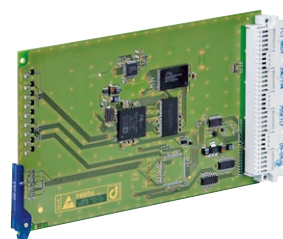
G8-VOIPSERV

7 kHz SIP

With the VoIP card G8-VOIPSERV trunk connections between Intercom Servers and VoIP Servers, which support the SIP Protocol, can be built-up. With this interface, Intercom stations can communicate directly with VoIP telephones. The multifunctional, powerful server card based on Linux and Asterisk® allows direct connection of SIP telephones to an Intercom Server as main or substations. Configuration is carried out via a simple web-interface. With an additional ComWIN Interface to the Intercom Server, complex control and monitoring tasks can be realised. For an audio interface to the Intercom Server an additional G8-IAX VoIP card is required.

Connection via the Ethernet port of the IP Intercom Server.

⊿ W 167 mm, H 100 mm, D 20 mm 📏 250 g

AUDIO RECORDING CARD

Key features:

- Easy-to-install audio recording solution that interfaces smoothly with the Intercom Server
- Recording of conversations, conferences, all calls and group calls (OpenDuplex®, Duplex or Simplex).
- Up to 8 channels per card for simultaneous recording
- Up to 3,500 minutes (7 kHz) recordable on a 2 GB Compact Flash card
- Up to 4 cards per IP Intercom Server GE 800 (up to 32 recording channels per server)

- Up to 2 cards per IP Intercom Server GE 300 (up to 16 recording channels per server)
- Remote access via web-based interface enables playback of the files in the audio database and supports simple file backup with a single mouse click
- Recordings can be exported as .WAV files, deleted, protected against deletion, commented (text and meta-data), and saved automatically to an FTP server/NAS
- Configurable circular buffer

G8-VOIPREC2

`16 kHz` `7 kHz` `IoIP`

The powerful audio recording card supports simultaneous recording of up to eight channels directly at the Intercom Server without any extra hardware. Recordings will be stored on a Compact Flash card and can be saved to an NAS or FTP server without any recording limitations. The integrated web interface provides easy configuration and access to recordings. Various Licence versions are available to suit the required number of audio recording channels (Licences come with feature set D – see data sheet for further information).

The unit connects to the network port of the IP Intercom Server.

G8-VOIPREC2	Recording Card with 2 GB memory for up to 3,500 minutes of audio data
L-AUDREC-1	Licence for one audio recording channel
L-AUDREC-2	Licence for two audio recording channels
L-AUDREC-4	Licence for four audio recording channels

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 250 g

INPUT / OUTPUT CARDS

Input / output cards are used for reading in of floating contacts and / or operating of controls such as door openings or barriers via floating relay contacts (depending on type).

G8-16A

Plug-in card with 16 relay outputs (10 make contacts, 6 as make contacts with common ground).

Connection via installation board G8A-I with 37-way D-Submin plug or G8A-K with screw terminals (neither are included in extent of supply).

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 208 g

G8-16E

Plug-in card with 16 inputs for floating contacts, with or without line monitoring. Read in of 5 line conditions (Idle, Active 1, Active 2, Short, Line break).

Connection via installation board G8A-I with 37-way D-Submin plug or G8A-K with screw terminals (neither are included in extent of supply).

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 161 g
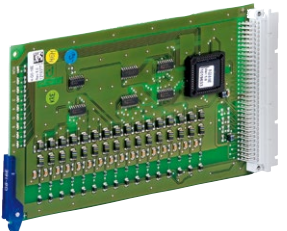
G8-8E8A

Plug-in card with 8 inputs for floating contacts and 8 relay outputs (4 of which are make contacts, 4 as make, open or switch over contacts). Read in of 5 line conditions with inputs (Idle, Active 1, Active 2, Short, Line break).

Connection via installation board G8A-I with 37-way D-Submin plug or G8A-K with screw terminals (neither are included in extent of supply).

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 190 g

INTERFACE CARDS

For integration and connection of external systems such as telephones, PCs, mobile radios, etc.

G8-V24-PRO

Interface card with programmable protocol converter. Used for adapting the standard protocol to those of various external systems. Equipped with two RS 232 interfaces (of which one can be configured as RS 422). With the software developer kit own applications can be programmed (e.g. adaptation to various video switchers).

Connection via installation board G8A-V24 (included in extent of supply) with two serial D-Submin-plugs for RS 232, screw terminals for RS 422.

G8-V24-PRO	Basic card for Feature Level A
SW-G8V24PR-B	Licence for Feature Level B
SW-G8V24PR-C	Licence for Feature Level C
SW-G8V24PR-D	Licence for Feature Level D

⚖ W 167 mm, H 100 mm, D 20 mm 📏 250 g

G8-IF

Powerful IP Interface Card with up to 4 virtual TCP/IP interfaces for using the ICX protocol via IP networks; equipped with two 9-pin D-Submin connectors for output via RS 232 interface port. This allows for integrating third party systems (e.g. video switcher, access control systems or host computers) to IP Intercom Servers via IP networks or RS 232 using the Commend Standard Protocol.

Connection via the Ethernet port of the IP Intercom Server and Installation Board G8A-V24 with two 9-pin D-Submin connectors for output via RS 232 (included).

G8-IF	Basic card with 2 virtual TCP/IP interface ports and 2 RS 232 interface ports
L8-IF-4	Licence Upgrade to 4 virtual TCP/IP and 2 RS 232 interface ports
L8-IF-ICX	Licence for one additional ICX Interface (maximum is 6)

⚖ W 167 mm, H 100 mm, D 20 mm 📏 250 g
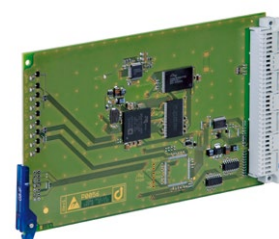
G8-TEL

Telephone DSP Interface for connection of the Intercom system to an analogue subscriber of a telephone system or directly to a standard telephone line. Telephone mode for direct dialling of desired telephone number from an Intercom station; Auto Dialler mode with automatic dialling of freely programmable dialling sequences initiated by calls or call requests. Freely configurable speech storage for acoustic identification and messages (e.g. waiting information) in dialler mode. DTMF-telephones can operate functions in the Intercom system (e.g. after dialling for door opening, etc.).

Connection via installation board G8A TEL (included in extent of supply).

⚖ W 167 mm, H 100 mm, D 20 mm 📏 272 g

G8-AUD

`16 kHz` `7 kHz`

Digital connection and recording card for Intercom Servers with 4 channels for Plug-&-Play connection to Audiocom as well as various PA or radio systems. All audio inputs and outputs have a galvanic separation, electronic level adaptation as well as a graphic equalizer for correction of the sound quality. Besides the ideal coupling capability, the card, in combination with the server software offers comfortable features for conversation recording in combination with the Audiocom-Logger, or with conventional recorders. For 'Start' and 'Stop' of the recording 2 or 4 floating contacts are available. Recording can also be controlled by an optional V24-card. Recording of conversations can be subscriber oriented or channel oriented. Large 8 MB flash memory for speech recordings.

Connection via own installation boards (not included in extent of supply).

G8-AUD-2B	Basic card with 2 channels, Feature Level B
L8-AUD-2D	Licence for upgrade of G8-AUD-2B to Feature Level D
G8-AUD-4B	Basic card with 4 channels, Feature Level B
L8-AUD-4D	Licence for upgrade of G8-AUD-4B to Feature Level D

⚖ W 167 mm, H 100 mm, D 20 mm 📏 243 g (G8-AUD-2), 257 g (G8-AUD-4)

Sepura Interface

The V24PRO interface enables the connection of Sepura radios to the Intercom system. A tone is audible as soon as talking into the TETRA radio network is possible. A menu assisted access to digital radio is not possible. Data and audio cables are included. Each radio channel requires one V24PROSEP plug-in card.

G8-V24PROSEP	Plug-in card for IP Intercom Server GE 800

⚖ W 167 mm, H 100 mm, D 20 mm

NETWORK CARDS

Plug-in cards for networking Intercom Servers via LAN/WAN (TCP/IP) or multiplexers/media converters.

G8-LAN

IP Network card G8-LAN supports direct addressing of up to 16 Intercom Servers. Up to 32 conversations, music programmes or radio channels are supported simultaneously. For more details see datasheet or manual.

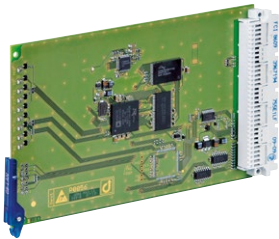Connection via the Ethernet port of the Intercom Server.

G8-LAN-8	Basic card for 8 LAN Connections
L8-LAN-16	Licence for 16 LAN Connections
L8-WAN-8	Licence for 8 WAN Connections
L8-WAN-16	Licence for 16 WAN Connections

⏚ W 167 mm, H 100 mm, D 20 mm   📏 180 g

INSTALLATION BOARDS

G8A-C

Installation board for subscriber cards G8-GED or G8-GET, interface card G8-AUD as well as network card G8-S0 with 4 shielded RJ 45 sockets.

📦 60 g

G8A-CP

Installation Board for Subscriber Card G8-GED-4 with 4 shielded RJ 45 ports, including option for connecting an additional power supply via the subscriber line.

📦 67 g

G8A-I

Installation board for subscriber cards G8-GED, G8-GET and G8-TEL, input / output cards G8-16A, G8-16E, G8-8E8A as well as interface card G8-AUD with 37-way D-Submin plug.

📦 55 g

G8A-K

Installation board with screw terminals for flexible mounting, for subscriber cards G8-GED, G8-GET and G8-TEL4, interface card G8-AUD as well as input / output cards G8-16A, G8-16E and G8-8E8A.

📦 60 g

G8A-T

Installation board for two subscriber cards G8-GED or G8-GET as well as G8-AUD with 37-way D-Submin-plug.

📦 84 g

G8A-GEN2

Installation board with 2 low voltage inputs for two independent power adapters (PA7 power adapter or 24 VDC) for redundant power supply to the Intercom Server.

📦 80 g
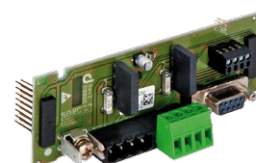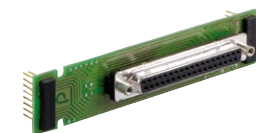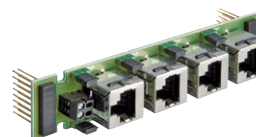
The plug-in cards can be used with the following installation boards:

● included
○ available separately
X via Ethernet port of Intercom Server

	G8A-C	G8A-CP	G8A-I	G8A-K	G8A-T	G8A-V24	G8A-GEN	G8A-GEN2	G8A-NET	G8A-TEL	G8A-PRO
G8-16A	-	-	○	○	-	-	-	-	-	-	-
G8-16E	-	-	○	○	-	-	-	-	-	-	-
G8-8E8A	-	-	○	○	-	-	-	-	-	-	-
G8-LAN	-	-	-	-	-	-	-	-	X	-	-
G8-AUD	○*	-	○	○	○*	-	-	-	-	-	-
G8-IAX	-	-	-	-	-	-	-	-	X	-	-
G8-IF	-	-	-	-	-	●	-	-	X	-	-
G8-IP / G8-IP32	-	-	-	-	-	-	-	-	X	-	-
G8-TEL4	-	-	○	○	-	-	-	-	-	-	-
G8-GED	○	○	○	○	○	-	-	-	-	-	-
G8-GEN	-	-	-	-	-	-	●	○	-	-	-
G8-GEP	-	-	-	-	-	-	-	-	X	-	-
G8-GET	○	-	○	○	○	-	-	-	-	-	-
G8-NET	-	-	-	-	-	-	-	-	●	-	-
G8-SELCALL	-	-	-	●	-	-	-	-	-	-	-
G8-TEL	-	-	-	-	-	-	-	-	-	●	-
G8-V24-PRO	-	-	-	-	-	●	-	-	-	-	-
G8-VOIPSERV	-	-	-	-	-	-	-	-	X	-	○

*   On installation boards G8A-C and G8A-T, the four relay outputs of G8-AUD are not connected.

GE 300 – IP Intercom Server

SERVER

IP Intercom Server GE 300 is ideally suited as a stand-alone server for small and medium-sized Intercom applications or as network node in large Intercom networks. Allows for connecting IP, 2-wire, 4-wire and SIP-stations and SIP/VoIP telephones. The compact housing is suitable for wall mounting. Built-in functions for door and gate control, alarms, CCTV integration, control desks, etc. The diverse networking concepts enable security and communication systems with up to 14,280 networked Intercom Servers. Up to 30,000 subscribers can communicate within these networks.

GE 300

| 16 kHz | 7 kHz |

Basic housing with five plug-in slots.

Maximum number of subscribers

IP	40 Subscribers per housing
	80 Subscribers with expansion housing GEZ 300
2-Wire Digital	20 Subscribers per basic housing
	40 Subscribers with expansion housing GEZ 300
4-Wire Analogue	20 Subscribers per basic housing
	40 Subscribers with expansion housing GEZ 300

One AF-input (for music or alarm), two inputs for floating contacts, two relay outputs, RS 232 and IP interface for (remote) programming or maintenance.

GE 300	Server without transformer
GE 300EU	Server, complete with 230V transformer for Europe (excl. UK)
GE 300CA	Server, complete with 230V transformer for the UK / USA / Australia

⟁ W 310 mm, H 210 mm, D 77.5 mm ⏚ 2,300 g

Server Licences

L3-PRO4U	Upgrade to PRO 800, Version 4.x (existing installations)
L3-PRO5U	Upgrade to PRO 800 Version 5.x (existing installations)
L3-SUB-20C	Subscriber Licence for upgrade of 20 subscribers to Feature Level C
L3-SUB-20D	Subscriber Licence for upgrade of 20 subscribers to Feature Level D
L3-ICX	Licence for 1 ICX Interface (on-board)
L3-LAN-4	Networking Licence for 4 LAN connections (on-board)

GEZ 300

Expansion housing including Power supply with five plug-in slots for subscriber cards and/or interface cards. Connection to the IP Intercom Server via ribbon cable.

GEZ 300	Expansion housing without transformer
GEZ 300EU	Extension housing, complete with 230V transformer for Europe (excl. UK)
GEZ 300UK	Extension housing, complete with 240V transformer for the UK
GEZ 300AU	Extension housing, complete with 230V transformer for Australia

⟁ W 310 mm, H 210 mm, D 77.5 mm ⏚ 2,300 g

GEI 300

Interface housing with two slots for G8-interface cards (application in GEI 300 interface housing is shown on the respective cards – see datasheet). Connection to the IP Intercom Server GE 300 or the expansion housing GEZ 300 via ribbon cable.

⟁ W 310 mm, H 210 mm, D 77.5 mm ⏚ 1,200 g

SUBSCRIBER CARDS

Subscriber cards handle speech communication as well as subscriber specific functions. For connection of IP, digital and analogue subscribers various cards in 4 feature level (B, C, D and P) are available. The cards of the higher levels contain additional features to the lower ones. With feature level P individual feature levels can be allocated to each subscriber. The number of subscribers and the individual feature levels can be unlocked using the Licence key.

G3-IP

`16 kHz` `7 kHz` `IoIP`

IP DSP subscriber card for connection of up to 8 IP subscribers via Ethernet (LAN/WAN). Up to five G3-IP cards can be used with a GE 300 IP Intercom Server, as well as five additional ones in Expansion Central GEZ 300.

Connection via the Ethernet port of the IP Intercom Server.

G3-IP-4B	Basic card for 4 subscribers, Feature Level B
L3-IP-4C	Licence for Feature Level C
L3-IP-4D	Licence for Feature Level D
L3-IP-4P	Licence for Feature Level P
L3-IP-8B	Licence for 8 subscribers, Feature Level B
L3-IP-8C	Licence for 8 subscribers, Feature Level C
L3-IP-8D	Licence for 8 subscribers, Feature Level D
L3-IP-8P	Licence for 8 subscribers, Feature Level P
L-IP-REC-1	Licence for one IP/RTP Recording Channel

⌖ W 60 mm, H 160 mm, D 20 mm 📏 140 g

G3-GED

`16 kHz` `7 kHz` `Digital`

DSP subscriber card for connection of up to four 2-wire digital subscribers. Up to five G3-GED cards can be used with a GE 300 IP Intercom Server, as well as five additional ones in Expansion Central GEZ 300. One call per subscriber is possible at the same time (non-blocking).

Connection via pluggable screw terminals.

G3-GED-4B	Basic card for 4 subscribers, Feature Level B
L3-GED-4C	Licence for Feature Level C
L3-GED-4D	Licence for Feature Level D
L3-GED-4P	Licence for Feature Level P

⌖ W 60 mm, H 160 mm, D 20 mm 📏 188 g

G3-GET

`16 kHz` `7 kHz` `Analogue`

DSP subscriber card for connection of up to four 4-wire analogue subscribers. Up to five G3-GET cards can be used with a GE 300 IP Intercom Server, as well as five additional ones in Expansion Central GEZ 300. The L3-GET-DSP Licence allows use of the DSP features (see datasheet) also with analogue Intercom stations.

Connection via pluggable screw terminals.

|	
G3-GET-4B	Basic card for 4 subscribers, Feature Level B
L3-GET-4C	Licence for Feature Level C
L3-GET-4D	Licence for Feature Level D
L3-GET-4P	Licence for Feature Level P
L3-GET-DSP	Licence for DSP features on G3-GET subscriber cards

⌖ W 60 mm, H 160 mm, D 20 mm 📏 198 g
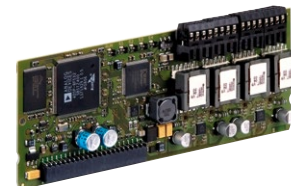
G8-TEL4

DSP subscriber card for connecting up to four analogue telephones (DTMF or pulse dial). In addition to telephones with standard keypad it is also possible to connect keyless telephones capable of auto-dialling a predefined hotline number (e.g. control room). This allows for a smooth integration of info points and emergency call stations into Intercom systems. With additional loudspeakers connected, it is also possible to transmit announcements (all calls and group calls).

Connection via installation board G8A-I or G8A-K (both not included).

G8-TEL4C	Card with Feature Level C
G8-TEL4D	Card with Feature Level D

⌖ W 167 mm, H 100 mm, D 20 mm 📏 250 g
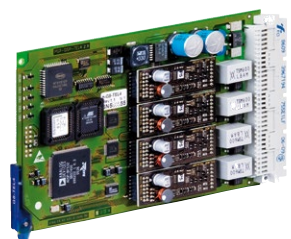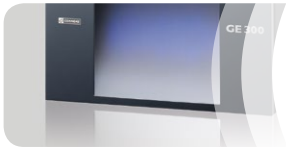
VOIP CARDS

Due to the support of wide spread standards such as SIP or IAX2 protocol various VoIP telephones or entire VoIP telephone systems can be connected to the Intercom System as subscribers on the following VoIP cards.

G3-IAX

`7 kHz`

With the VoIP card G3-IAX up to 4 trunk connections from IP Intercom Servers to VoIP-Servers, which support the IAX2-protocol, can be established. This interface allows calls between Intercom stations and VoIP telephones and vice versa.

G3-IAX-2B	Basic card for 2 trunk connections, Feature Level B
L3-IAX-2D	Licence for Feature Level D
L3-IAX-4B	Licence for 4 trunk connections, Feature Level B
L3-IAX-4D	Licence for 4 trunk connections, Feature Level D

Connection via the Ethernet port of the IP Intercom Server.

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 140 g

G8-VOIPSERV

`7 kHz` `SIP`

With the VoIP card G8-VOIPSERV trunk connections between Intercom Servers and VoIP Servers, which support the SIP Protocol, can be built-up. With this interface Intercom stations can communicate with VoIP telephones. The multifunctional, powerful server card based on Linux and Asterisk® additionally allows direct connection of SIP telephones to an Intercom Server as main or sub stations. Configuration is carried out via a simple web interface. With an additional ComWIN Interface to the Intercom Server complex control and monitoring tasks can be realised. For an audio interface to the IP Intercom Server GE 300 additionally a G3-IAX VoIP card is required.

Connection via the Ethernet port of the IP Intercom Server.

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 250 g

AUDIO RECORDING CARD

Key features:
– Easy-to-install audio recording solution that interfaces smoothly with the Intercom Server
– Recording of conversations, conferences, all calls and group calls (OpenDuplex®, Duplex or Simplex).
– Up to 8 channels per card for simultaneous recording
– Up to 3,500 minutes (7 kHz) recordable on a 2 GB Compact Flash card
– Up to 4 cards per IP Intercom Server GE 800 (up to 32 recording channels per server)
– Up to 2 cards per IP Intercom Server GE 300 (up to 16 recording channels per server)

– Remote access via web-based interface enables playback of the files in the audio database and supports simple file backup with a single mouse click
– Recordings can be exported as .WAV files, deleted, protected against deletion, commented (text and meta-data), and saved automatically to an FTP server/NAS
– Configurable circular buffer

G8-VOIPREC2

`16 kHz` `7 kHz` `IoIP`

The powerful audio recording card supports simultaneous recording of up to eight channels directly at the Intercom Server without any extra hardware. Recordings will be stored on a Compact Flash card and can be saved to an NAS or FTP server without any recording limitations. The integrated web interface provides easy configuration and access to recordings. Various Licence versions are available to suit the required number of audio recording channels (Licences come with feature set D – see data sheet for further information).

The unit connects to the network port of the IP Intercom Server.

G8-VOIPREC2	Recording Card with 2 GB memory for up to 3,500 minutes of audio data
L-AUDREC-1	Licence for one audio recording channel
L-AUDREC-2	Licence for two audio recording channels
L-AUDREC-4	Licence for four audio recording channels

⟁ W 167 mm, H 100 mm, D 20 mm   ▮ 250 g

INPUT / OUTPUT CARDS

Input/output cards are used for reading in of floating contacts and/or operating of controls such as door openers or barriers via floating relay contacts (depending on type).

G3-16A

Plug-in card with 16 relay outputs (4 of which are make, open or switch over contacts, 12 only as make contacts).

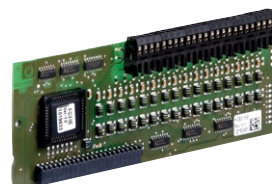Connection via plugable screw terminals.

⌖ W 167 mm, H 100 mm, D 20 mm   ▮ 209 g

G3-16E

Plug-in card with 16 inputs for floating contacts, with or without line monitoring. Read in of 5 operation states (Idle, Active 1, Active 2, Short, Line break).

Connection via plugable screw terminals.

⌖ W 167 mm, H 100 mm, D 20 mm   ▮ 150 g

G3-8E8A

Plug-in card with 8 inputs for floating contacts and 8 relay outputs (make, open or switch over).
Read in of 5 operation states with inputs (Idle, Active 1, Active 2, Short, Line break).

Connection via plugable screw terminals.

⌖ W 167 mm, H 100 mm, D 20 mm   ▮ 185 g
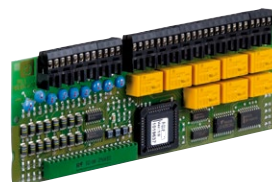
INTERFACE CARDS

For integration and connection of external systems such as telephones, PCs, mobile radios, etc.

G3-IF

Powerful IP Interface Card with up to 2 virtual TCP/IP interfaces for using the ICX protocol via IP networks; equipped with two 9-pin D-Submin connectors for output via RS 232 interface port. This allows for integrating third party systems (e.g. video switcher, access control systems or host computers) to IP Intercom Servers via IP networks or RS 232 using the Commend Standard Protocol.

Connection is via the network link of the IP Intercom Server or via two 9-pin D-Submin connectors for RS 232.

| G3-IF | Basic card with 2 virtual TCP/IP interface ports and 2 RS 232 interface ports |
| L3-IF-ICX | Licence for one additional ICX Interface (maximum is 4) |

⌖ W 60 mm, H 160 mm, D 20 mm   ▮ 150 g

G8-V24-PRO

Interface card with programmable protocol converter. Used for adapting the standard protocol to those of various external systems. Equipped with two RS 232 interfaces (of which one can be configured as RS 422). With the software developer kit own applications can be programmed (e.g. adaptation to various video switchers).

Connection via installation board G8A-V24 (included in extent of supply) with two serial D-Submin-plugs for RS 232, screw terminals for RS 422.

| G8-V24-PRO | Basic card for Feature Level A |
SW-G8V24PR-B	Licence for Feature Level B
SW-G8V24PR-C	Licence for Feature Level C
SW-G8V24PR-D	Licence for Feature Level D

⌖ W 167 mm, H 100 mm, D 20 mm   ▮ 250 g

G3-TEL

Multi-functional telephone interface for connection of the Intercom system to an analogue subscriber of a telephone system or directly to a standard telephone line. Telephone mode for direct dialling of the desired telephone number from an Intercom station, Auto Dialler mode with automatic dialling of freely programmable dialling sequences initiated by calls or call requests. Freely configurable speech storage for acoustic identification and messages (e.g. waiting information) in dialler mode. DTMF-telephones can operate functions in the Intercom system (e.g. once call has been received on a remote telephone all after dialling functions are available).

Connection via RJ11 telephone socket.

⟁ W 60 mm, H 160 mm, D 20 mm ▮ 350 g
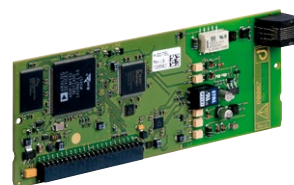
G8-AUD

16 kHz | 7 kHz

Digital connection and recording card for Intercom Servers with four channels for Plug & Play connection to Audiocom as well as various PA or radio systems. All audio inputs and outputs have a galvanic separation, electronic level adaptation as well as a graphic equalizer for correction of the sound quality. Besides the ideal coupling capability, the card, in combination with the server software, offers conversation features for recording in combination with the Audiocom-Logger or with conventional recorders. For 'Start' and 'Stop' of the recording 2 or 4 floating contacts are available. Recording can also be controlled by an optional V24-card. Recording of conversations can be subscriber oriented or channel oriented. Large 8 MB flash memory for speech recordings.

Connection via own installation boards (not included in extent of supply).

G8-AUD-2B	Basic card with 2 channels, Feature Level B
L8-AUD-2D	Licence for upgrade of G8-AUD-2B to Feature Level D
G8-AUD-4B	Basic card with 4 channels, Feature Level B
L8-AUD-4D	Licence for upgrade of G8-AUD-4B to Feature Level D

⟁ W 167 mm, H 100 mm, D 20 mm ▮ 190 g (G8-AUD-2), 200 g (G8-AUD-4)
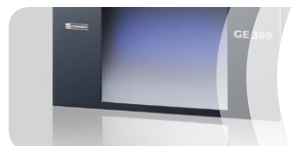
NETWORK CARDS

Plug-in cards for networking Intercom Servers via LAN/WAN (TCP/IP) or media converters.

G3-LAN

The IP network card supports central management of up to 16 Intercom servers. Up to 8 conversations, music programmes or radio channels are supported simultaneously. For more details see datasheet or manual.

Connection is via the network connection port of the IP Intercom Server.

G3-LAN-8	Basic card for 8 LAN Connections
L3-LAN-16	Licence for 16 LAN Connections
L3-WAN-4	Licence for 4 WAN Connections
L3-WAN-8	Licence for 8 WAN Connections
L3-WAN-16	Licence for 16 WAN Connections

⟁ W 167 mm, H 100 mm, D 20 mm ▮ 140 g

IS 300 – IP Intercom Server

Concentrated Power

100% IP

16 kHz Audio quality

99,998% Availability

Green IT

Memory for pre-recorded audio

IS 300

64 Subscribers

Vibration-proof

Non-blocking

Scalable

Compact

Peer-to-Peer Audio

Server IS 300

State of the art compact IP Intercom Server for up to 64 IP based subscribers. Non-blocking for up to 32 conversations (Server internal). Ultimate fail safety under all conditions, thanks to vibration resistance in accordance with IEC Standard 61373. Housed in a stylish, space saving and maintenance free design with 1 rack unit (1U). Three easy installation options: rack, desk, wallmount. Green IT with extra low power consumption (2.2 W). Fully backward compatible to digital (2-wire) and analogue (4-wire) stations via IP converter ET 901. Expandable to a 30,000 subscriber Intercom Server network.

Powerful

IS 300 unites the performance of a fully featured Intercom 2.0 Server with the benefits of a smart, size optimised product design. Whether as a desktop unit, a wallmount device or installed in a 19" rack – IS 300 delivers proven Commend Intercom performance wherever it is needed.

Reliable

Availability and security are non-negotiable when personal wellbeing and lives are at stake. This is why IS 300 is in a wholly new design that eliminates movable and wearing parts as possible failure sources. The result is a significantly higher performance and availability profile of the overall system.

Vibration-proof

Heavy traffic environments or industrial locations: when things get shaking, the vibration proof solid state design of IS 300 in accordance with IEC Standard 61373 ensures unshakable functionality even under the roughest of ambient conditions.

Environmentally friendly

Ecologically focussed engineering on Commend's high quality level was a key driving force in the development of IS 300. The result is a powerful multi-purpose Intercom Server with resource optimised technology that has one of the industry's lowest power consumption profiles. IS 300 is proof of Commend's commitment to the motto that high Intercom performance and sustainability are no contradiction in terms.

Flexible

With the power of Intercom over IP (IoIP®) inside, IS 300 enables implementations from 2-subscriber installations to 30,000 multi-server networks. Combined with support for any Intercom technology and a scalable licensing model, IS 300 provides a solution package for any Intercom need.

SERVER

Key features:

- Up to 64 fully-featured IP-based subscribers (each with video support and standard keypad) per IS 300 Intercom Server
- "Non-Blocking" feature for up to 32 call lines (within Server)
- Ultimate fail safety under all conditions, thanks to vibration resistant standard Solid-State Design
- 16 kHz eHD Voice audio quality and P2P Audio for maximum speech intelligibility (suitable, e.g. for PA systems)
- Speech Memory: e.g. group calls with anti-feedback protection
- No batteries or moving fans = no need for regular maintenance

- Easy to install in any of three ways: in Server rack, on desktop or wall-mounted
- Green IT for extra-low power consumption
- Interfaces: OPC, TETRA, ComWIN, Intercom Client, ComSCHEDULE, ComREPORT, ComVIDEO, ICX Data Interface, e.g. for integrating third-party systems

Technical data: External power supply: 12–24 V DC; Power consumption: 2.2 W; Speech storage memory: 8 MB; 450 seconds in 16 kHz quality; 900 seconds in 7 kHz quality; up to 128 individual audio files per IS 300.

IS 300

`16 kHz` `7 kHz` **IoIP**

IP Intercom Server IS 300 for up to 64 IP based subscribers. Ultimate scalability for up to 64 subscribers (maximum of four subscribers with Feature Level D). Includes four subscriber Licences (2B/2D) and power supply unit PA20W15V for Europe, UK, USA and Australia

⬦ W 201 mm, H 44 mm, D 255 mm (1U) ▮ 1,560 g

IS 300 Server Licences

Licences are for PRO 2.0 and higher.

L-IS3-PRO4U	Upgrade to PRO 800, Version 4.x (existing installations)
L-IS3-PRO5U	Upgrade to PRO 800 Version 5.x (existing installations)
L-IS3-2B	Licence for 2 subscribers, Feature Level B
L-IS3-4B	Licence for 4 subscribers, Feature Level B
L-IS3-8B	Licence for 8 subscribers, Feature Level B
L-IS3-2C	Licence for 2 subscribers, Feature Level C
L-IS3-4C	Licence for 4 subscribers, Feature Level C
L-IS3-8C	Licence for 8 subscribers, Feature Level C
L-IS3-2D	Licence for 2 subscribers, Feature Level D (up to 4 Level D subscribers)
L-IS3-ICX	Single Licence for ICX Interface (on board)
L-IS3-LAN-2	Network Licence for 2 LAN connections (one of them for redundancy purposes)
L-IP-REC-1	Licence for one IP/RTP recording channel

Wallmount and desktop mounting kit PF-WM

Wallmount and desktop mounting kit for Intercom Server IS 300 or amplifier AF 50.

Rackmounting kit PF-RM-1HE

19" rack mounting kit (1U) for one or two Intercom Server IS 300 or amplifier AF 50 side by side.

GE 150 – Compact Intercom Server for Small-Sized Solutions

SERVER

Intercom Server power in a compact format – ideal as a stand-alone solution for small sized applications, including full support of analogue 4-wire Intercom stations and modules. In a design that is compact enough for wall-mounting, the GE150 Server offers proven Commend Intercom functionality, including integrated door/gate control and alarm functions, call forwarding to a telephone network, etc. Both the Server and expansion cards can easily be upgraded to a fully-featured GE 300 Server via Licences. Have a growing business? Your GE 150 will grow with it.

GE 150

`16 kHz` `7 kHz` `Analogue`

Basic housing with five plug-in slots.

Maximum number of subscribers

4-Wire Analogue	20 Subscribers per basic housing

One AF-input (for music or alarm), two inputs for floating contacts, two relay outputs, RS 232 and IP interface for (remote) programming or maintenance.

GE 150	Server without transformer
GE 150EU	Server, complete with 230V transformer for Europe (excl. UK)
GE 150CA	Server, complete with 230V transformer for the UK / USA / Australia

⚖ W 310 mm, H 210 mm, D 77.5 mm   ⚖ 2,300 g
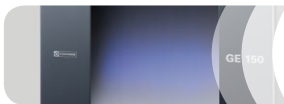
UPGRADE LICENCES

GE 150 offers exactly what you need, either via plug-in expansion cards or by a simple Licence upgrade. This way, you can customise your GE 150 up to the full feature range of a Commend GE 300 Server.

Upgrade Licences

L15-GE300	Upgrade from GE 150 to GE 300
L15-G3-GET	Upgrade from G15-GET-4B to G3-GET-4B
L15-G3-TEL	Upgrade from G15-TEL to G3-TEL
L15-G3-8E8A	Upgrade from G15-8E8A to G3-8E8A
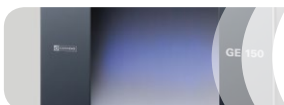
SUBSCRIBER CARDS

Individually configurable voice communication and control for each connected subscriber couldn't be easier, thanks to the flexible G15-GET subscriber card. It provides support of analogue subscribers up to Feature Level B.

G15-GET

`16 kHz` `7 kHz` `Analogue`

DSP subscriber card for connection of up to four 4-wire analogue subscribers. Up to five G15-GET cards can be used with a GE 150 Server.

Connection via pluggable screw terminals.

G15-GET-4B	Basic card for 4 subscribers, Feature Level B

⚖ W 60 mm, H 160 mm, D 20 mm   ⚖ 198 g
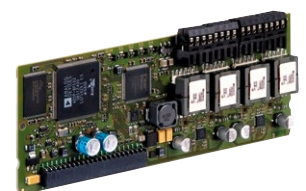
INTERFACE CARDS

The easy-to-install G15-TEL interface card offers an efficient way to integrate third-party telephone systems into the Intercom Server environment. Equipped with this plug-in card, the GE150 Server integrates seamlessly with analogue subscribers on existing telephone systems and even allows for the direct connection of trunk lines. This way, an Intercom station can easily be turned into a telephone ("Telephone Mode") with the Intercom keypad as a dialling pad – all at the simple touch of a button. In "Dial Mode" incoming calls can be set to trigger individual auto-dialling sequences. The card also provides a configurable voice sound memory, which enables the automatic playback of identification messages and automated announcements (e. g., waiting loops, etc.). For extra convenience, users can access to a range of Intercom functions (e. g., for opening doors or gates) simply by dialling a control code.

G15-TEL

Multi-functional telephone interface for connection of the Intercom system to an analogue subscriber of a telephone system or directly to a standard telephone line.

Connection via RJ11 telephone socket.

⚖ W 60 mm, H 160 mm, D 20 mm ▮ 350 g

INPUT/OUTPUT CARDS

This I/O card expands the GE 150 Server's range of functions with the ability to read floating contacts and (depending on the card model) control doors and gates via floating relays. It provides eight additional inputs for floating contacts as well as eight additional relay outputs (make contact, open contact, transfer switch). What is more, it can also read up to five input states: Idle, Active 1, Active 2, Short, and Line Break.

G15-8E8A

Plug-in card with 8 inputs for floating contacts and 8 relay outputs (make, open or switch over).
Read in of 5 operation states with inputs (Idle, Active 1, Active 2, Short, Line break).

Connection via plugable screw terminals.

⚖ W 167 mm, H 100 mm, D 20 mm ▮ 185 g

Server Accessories
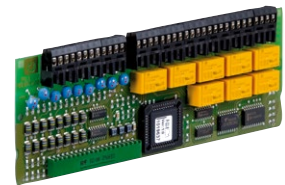
POWER SUPPLIES

PA7

Power supply in country-specific versions 24 VAC / 80 VA for supply of servers, amplifiers and industrial stations, includes mounting kit for 19″ DIN-rail.

PA7-230VEU	Version for Europe
PA7-240VUK	Version for UK
PA7-230VAU	Version for Australia

⚖ L 107.5 mm, W 71.3 mm, D 63 mm   ▮ 1,940 g

CABLES

Connection Cable

Prefabricated 32-way connection cable with D-Submin plug for G8A-I, G8A-T, GEAI, GEAI 700R and GEAT 700R. Twisted pair cable with a lead diameter of 0.5 mm.

ASK 32-5	Length: 5 m
ASK 32-10	Length: 10 m
ASK 32-20	Length: 20 m

Length: 5 m ▮ 640 g / Length: 10 m ▮ 1,240 g / Length: 20 m ▮ 2,500 g

Interfaces and Integration

Video – Audio – Data

Standard interfaces

Customisable interfaces

Integration of external systems

Integration into external systems

Open for any interface
Video – Audio – Data

"Our Team Players"

In security and communication systems, it is essential that different systems work together. Constantly exchanging data, video and audio streams, these systems utilise their full potential in well-coordinated interplay to provide perfectly integrated solutions for operators and users.

Intercom Servers are not just 'audio professionals', they also function as interface managers to integrate seamlessly into the work-flows of security applications.

Standard interfaces

Commend Intercom System supports standards such as OPC, SIP and TETRA, as well as a wide spectrum of existing, well tested interfaces to third-party systems.

	Video
SIP	VoIP/SIP Servers
	VoIP/SIP Telephones Analogue Telephones Mobile Telephones
PSTN	Public Switched Telephone Network
OPC	Building Management support
	Analogue Mobile Radio and TETRA

Customisable interfaces

As a result, Commend Interface Cards provide a convenient way of implementing tailored audio, data and video interfaces that meet any individual requirements. Supported options range from the use of simple signal contacts for control and messaging purposes to the full integration of third-party systems.

	Audio
	Video
	Inputs and Outputs for control and messaging purposes
	Access management for barriers and doors
ICX Protocol	Building Management support
SDK ICX Protocol	System integration

Options for any future interface

The conversion is performed by means of an SDK (Software Development Kit) for the third-party system.
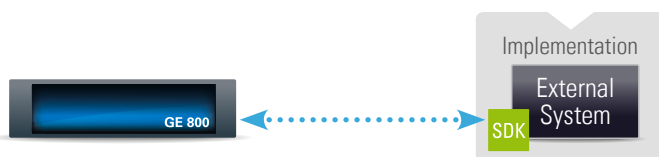
Communication protocols of external systems are implemented directly on the Intercom Server level, where they are converted to Commend's ICX protocol.

ICX Protocol

ICX
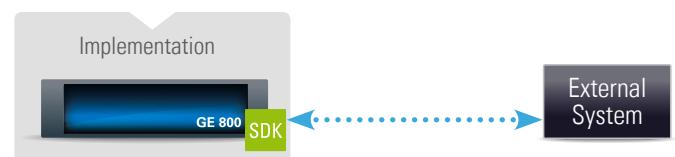
The InterCom eXchange Protocol (ICX) is an open protocol for implementing interfaces between third-party systems and Commend Intercom Systems. This enables the systems to communicate with each other, i.e. exchange data, messages and commands, and control audio and video functions.

Selection of supported interfaces

The following pages provide descriptions of some of our currently supported interfaces. Your local Commend Partner will be happy to provide further details.

Video Interfaces

Gives security systems a voice
Video and Audio in perfect harmony at the Control Desk

The signals from both sources are brought together in an all-in-one security solution that enables staff at the Control Desk to keep their eyes and ears on what is going on in specific areas and locations. Both media streams complement each other perfectly to ensure maximum informational benefit.

From camera to "Talking Camera" with ears and a voice

– There are situations that require a clear, crisp audio connection to be assessed and verified properly.

– Intercom stations carry the voice of security staff to where it is needed, allowing them to be on-site at any time to interfere verbally in ongoing situations.

– Intercom stations also have sensitive 'open ears' for suspicious sounds – a feature known as 'Audio Monitoring'. It allows the terminals to detect characteristic noises, such as a cry for help, and automatically establish an instant audio and video connection.

Intercom stations learn to see

– Intercom stations and cameras work hand in hand: voice calls and conversations are accompanied by the appropriate video stream.

– Cameras and Video Management Systems put a face to the voice, thus adding an even more personal touch to Inter-communication.

Synchronous audio & video recording

– Where documentation and evidence keeping are concerned, the ability to record audio and video signals is essential – take e.g. lip-synchronous audio/video recording with SENSE.

Video

Audio by Commend

Video by Commend

Audio by Commend
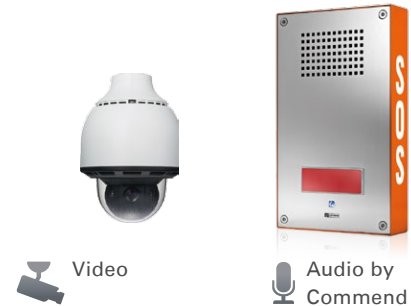
Milestone XProtect® Interface

milestone

The Open Platform Company

Licence

Functions

Integration of camera equipped Intercom stations

– All of Commend's **camera equipped Intercom stations and add-on camera modules** integrate smoothly with the Milestone XProtect video management software (VMS).

– Milestone XProtect software acts as a central video viewer that accesses and displays the video streams of camera-equipped Intercom stations and add-on camera modules.

ComWIN

– **Automatic video display within ComWIN** – Preview monitor for call requests; main monitor for active calls; additional observation monitors

– **Pre-set camera positions** – PTZ cameras can be set to pre-programmed pan/tilt/zoom positions at a single mouse click within the ComWIN software

– **ComVIDEO as video viewing application** with access to the Milestone XProtect VMS.

Sense – Video Management Integration

Sense   **VDG**

Lip synchronous audio and video recording

In cooperation with VDG Security, Commend has developed the world's first manufacturer independent solution for lip synchronous audio/video recording. Where documentation and evidence keeping are concerned, the ability to make lip synchronous audio/video recordings is crucial. It is only with this function that situations can be reviewed and assessed accurately later on.

Application environments

Access solutions, Car parks (gates, ticket machines, doors and shutters), Correctional facilities, police stations, Information and Help Points

Licence

L-IP-REC-1	Licence for one IP/RTP recording channel (ICX-licence will be required – please see Intercom Server)

Functions

– Interface to SENSE Video Management Software (VMS)
– **Lip synchronous audio/video recording** for documentation and evidence keeping purposes
– 100% IP-based – no need for extra cabling
– **Easy to install** – automatic server discovery, automatic station and camera discovery, automatic recording channel discovery
– **Recording of conversations, conferences, All Calls and Group Calls** (OpenDuplex®, Duplex, Simplex).
– Audio recording for IP-based, digital, analogue and SIP stations (Control Desk station is IP-based)
– Integration of call stations in combination with separate video cameras (Commend call stations stream the **audio data** via RTP to SENSE)
– Integration of Intercom stations and modules with video camera (the Commend Intercom stations transmit **audio and video** streams to SENSE)
– Recording in excellent 7 kHz quality
– Tamper-proof recording mechanism
– **Event-based recording** based on audio monitoring (e.g. triggered by screams in a car park)

Geutebrück GeCIS Interface

GEUTEBRÜCK
Competence in Video Security

CCTV integration for security and communication purposes

GeCIS brings together the strengths of Commend and GEUTEBRÜCK for even more powerful solutions. The innovative combination of Intercom and video opens up a wide range of possible solutions. Automated video activation, PTZ (Pan-Tilt-Zoom), automated control of video parameters, motion detection, number plate recognition, face recognition, and lots of other options can be combined as needed. Many functions can also be controlled via the Commend Intercom system.

Licences

L-UG-GB16	Geutebrück Camera Licence for up 16 cameras
L-UG-GB32	Geutebrück Camera Licence for 32 cameras
L-UG-GB	Geutebrück Camera Licence for an unlimited number of cameras

Functions

– Scene switching via signal contacts
– Evaluation of motion detection signal
– Activation/deactivation of motion detection
– Manual starting/stopping of video recording
– Control of customisable video system parameters based on type of Intercom call received (in addition to automatic video activation): e.g. video recording at 1 fps (frame per second) for normal calls and 25 fps for emergency calls
– Free interactive positioning and switching of any cameras to any monitors during calls
– Switching of relays or triggering of input contacts via Intercom terminals within the Video System
– Triggering of alarms or call connections within the Intercom system via contacts within the Video system
– PTZ (Pan-Tilt-Zoom) control and automated shifting to pre-programmed camera positions via Intercom Control Desk
– Diaplay of camera on-screen texts

PELCO Endura Interface

by Schneider Electric

Licence

L-IF-PELCO   Licence for PELCO Endura-Interface

Functions

– **Pelco Endura** Server interface with Commend Intercom Systems
– **Automatic video display** of the appropriate video camera image for call requests and conversations
– **Event-based video activation**, e.g. as a response to audio-monitoring events caused by a cry for help in a parking garage
– **PTZ (Pan-Tilt-Zoom) control** and automated shifting to pre-programmed camera positions via Intercom Control Desk

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LENEL OnGuard Interface

Combined features for enhanced control

"Standing guard" to lend help and assistance when it's needed is the essential purpose of every Commend Intercom solution. Now, following certification through Lenel's OpenAccess Alliance Program (OAAP), Commend's Intercom servers also have the ability to interface with Lenel's acclaimed OnGuard security system, which has more than 65,000 installations worldwide.

The Commend and Lenel solutions complement each other, not just in terms of security, but also where integration with third-party solutions is concerned. Since Commend's PRO 800 system is fully certified with the current version of OnGuard, it supports the entire range of extended security features.

Licence

L-IF-LENEL1   Licence for LENEL OnGuard-Interface

Functions

– Incoming Intercom calls are shown **directly within** the OnGuard Alarm Monitoring window – no additional GUI is required.
– Calls and conversation are shown as **stateful events**; these require less space in the Alarm Monitoring window.
– Through the **smart connection**, the signal of multiple observation cameras can be displayed each time an Intercom call is triggered.
– A high degree of **reliability** is created by the permanent monitoring of the logical connection between the OnGuard and the Commend servers.
– The **operation steadiness** of the Intercom stations is assured due to the continuous monitoring of the line status.
– Even more **convenience** is created through the bidirectional interface which offers a convenient way of placing calls to Intercom stations with just a single mouse-click.

ComVIDEO

Video integration in ComWIN

ComWIN module ComVIDEO enables the integration of live Video-over-IP sources into the security and communication solution. The video images are arranged on-screen in a clearly structured grid for easy viewing.

Licence

L-WINVC   ComVIDEO Licence for ComWIN
L-WINAMST   Licence for integration of Milestone systems
L-WINASEE   Licence for integration of Seetec systems
L-WINAVDG   Licence for integration of VDG systems

Functions

– Main monitor, preview monitors, and surveillance monitors (Video Sequencing function)
– Automatic video display on preview monitor for incoming calls
– Automatic additional video display on master monitor for conversations
– Integration support for many common Video-over-IP solutions (e.g. Axis, Bosch, Mobotix, etc.) – see ComWIN Manual for details
– Integration of many different camera models of various manufacturers – see ComWIN Manual for details
– More functions see ComWIN (p.84)

ComOPC Interfaces

Connections between the Building Management System and Intercom System

In Building Automation, equipment such as fire detection systems, intruder alarms, ventilation controls and many others are connected to a Building Management System via an interface based on the OPC (Open Connectivity) standard. Almost every Building Management System on the market today supports OPC. The Commend ComOPC_server provides the central connection point between the Intercom System and the OPC

clients and manages the controlling communication between them. The ComOPC_server interprets ICX messages of the Intercom System and translates them into data points for the OPC clients.

The ComOPC_server is also listed on the official website of the OPC foundation at **www.opcfoundation.org.**

ComOPC Licences

Licences for use with IP Intercom Servers GE 800, GE 300, IS 300 and VirtuoSIS.

L-COMOPC1	100 Intercom Objects
L-COMOPC10	1,000 Intercom Objects
LCOMOPC100	10,000 Intercom Objects

System Architecture

1. **Intercom Server** GE 800/GE 300/IS 300/VirtuoSIS.
2. **ComOPC_server** processes the message coming from the Intercom system and forwards the OPC client's commands to the Intercom system.
3. **OPC-Client** – OPC-Client (may be multiple clients) active within BMS
4. **BMS** – Building Management Systems, such as Bosch, OnGuard, SiPass, Siemens, etc.
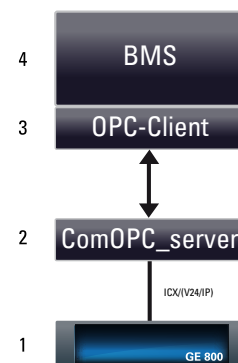
OPC Specifications (Compatibility)

– **Data Access (DA)** is compatible with v2.05 and v3.0
– **Alarms and Events (AE)** are compatible with v1.1

Event Procedure OPC-DA

OPC-DA allows a Building Management Systems (BMS) e.g. to display and control the status of an Intercom system.

Event Procedure OPC-AE

OPC-AE is designed for the reception of alarms and event signals in order to enable e.g. event-driven workflows, operation and logging.

GLOSSARY
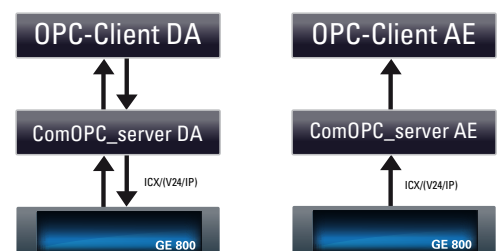
Analogue/4-wire Technology – The transmission of the audio signal between intercom server and intercom stations is analogue over 4 wires (2 wires for the microphone signal, 2 wires for the loudspeaker signal). It is possible to superpose digital data, e.g. display information, dialling information, etc. Subject to disturbances when long cables are used and costly for cabling.

Asterisk® – Asterisk® is the world's leading open source telephony engine and tool kit. Offering flexibility unheard of in the world of proprietary communications, Asterisk® empowers developers and integrators to create advanced communication solutions… for free.

ATA – An Analogue Telephone Adapter (ATA) is a device used to connect common analogue telephones to a digital telephone system like VoIP.

Bus-Cabling – Topology in which all systems are supplied with data from a bus. Offers easy cabling, however problems with the bus can cause all connected units to fail. See → star-cabling.

Call-Request – Request for a conversation where the conversation is only established when the call-request was accepted by the called station. A → control desk station can accept and handle several call-requests at a time.

Client Software – as opposed to server software, refers to software applications that are typically installed on a local workstation, control desk or office PC to provide on-screen intercom control and management functions. A "mobile intercom client", for example, is an app that runs on a mobile device (i. e., the "client") and provides the functions of an intercom station, control desk, etc. in the shape of a graphical user interface.

Close-up Microphone – Microphone that records sound from close-up (ideal distance 5 cm) and neglects noise from greater distances (e.g. ambient noise). Ideal for noisy environments.

Codec – A codec is a software part which compresses or decompresses digitalised voice (or video) so it can fit through a limited communication channel such as a dial-up Internet connection.

Command Stations – Master station with gooseneck microphone, frequently used in control rooms.

Communication Server → Intercom server

Connection – Linking of Intercom Servers, e.g. via a tieline (line-connection over 2 or 4 wires), where not all functionalities of the intercom servers connected are available. Programming and/or maintenance for each Intercom Server connected can take place separately and locally.

Control Desk – Command station that also integrates various control functionalities. E.g. display of messages, switching of outputs, etc. Control desks are usually used in control rooms, often together with a visualisation software on a control desk PC (GUI – graphic user interface).

Control Desk Visualisation – Special visualisation software for a control desk PC which shows all functionalities of the control desk in a very clear manner on plans and where the functionalities can be controlled using a mouse. Additional functionalities can include: action plans, help text, etc.

Control Desk Station – Intercom station in a control desk. Typically part of the control desk system, when using a control desk software (GUI) it is a simple master station next to the PC.

Control Desk System – Modular control desk, where all control and reporting functionalities are done with individual displays and function buttons. Control desk systems allow easy display and control on a uniform user interface.

Conversations – Speech communication between two Intercom stations.

Digital / 2-wire technology – The transmission of the audio signal between Intercom Server and Intercom stations is digital, the A/D resp. D/A converter is in the Intercom station. Digital audio transmission is the basic requirement for networking Intercom Systems. When using analogue Intercom stations a channel card is needed to digitise the analogue signal.

DNS – The Domain Name System (DNS) translates between host names (e.g. www.commend.com) and their corresponding IP addresses and vice versa.

Door Call – Call request coming from a door station.

DSP – Digital Signal Processor: a micro-processor treating audio data in a digital manner. In Intercom Systems a DSP can be used for new functionalities like Audio Monitoring or loudspeaker microphone surveillance and it enables OpenDuplex®.

Duplex – Communication where the duplex-controller automatically switches the speech direction from the speaker to the listener (from the

louder to the softer side). Loud background noise influences this speech control so that the speech direction must be controlled manually (PTT – push to talk, see → Simplex). A perfect solution is → OpenDuplex®.

Duplex Controller – Circuit used in duplex mode to switch the speech direction from the speaker to the listener (from the louder to the softer side).

E1-Standard – Standardised interface for data and audio, frequently used for → multiplexers or → media converters.

eHD Voice – Enhanced HD Voice by Commend transfers the audio signal at a bandwidth of 16,000 Hz, thus capturing the entire frequency spectrum of the human voice.

Electret Microphone – Microphone using a semiconductor as sound converter (capacitive process).This technology makes very tiny microphones possible.

Emergency Call – Call request with high priority (will be prioritised ahead of other calls), typically coming from a Help Point.

ENUM – ENUM refers to a set of standards and protocols which are used to translate the international dial plan (E.164) between a VoIP network and the → PSTN network. ENUM heavily relies on → DNS.

ESXi – Basic hypervisor by VMware (used by vSphere).

Fault Tolerance (FT) – The capability of a system to cope with potential failure (e. g., due to a power outage or server failure). In virtual systems, the term refers to a particular patented technology to ensure this with extreme reliability on a very high level. In effect, it allows for a complete virtual server to fail and another one to kick in instantly without a noticeable disruption of service.

Firewall – A firewall is a dedicated appliance, or software running on another computer, which inspects network traffic passing through it and denies or permits passage based on a set of rules.

H.323 – H.323 is a VoIP protocol used mainly by → PSTN providers for audio communication around the globe.

HD Voice – Transmits voice communication at an audio bandwidth of 7,000 Hz.

HDSL – High Data Rate Digital Subscriber Line: a powerful and cost effective means of transmitting digital data over copper wires.

Hypervisor – This is a computer program that accommodates a virtual machine. The virtualised operating system instances are called „guest systems".

IAX – The open Inter-Asterisk eXchange protocol (IAX) is used primarily by Asterisk® → VoIP Servers to communicate with each other.

Intercom over IP (IoIP®) – ntercom over IP is a real-time protocol using IP-networks for networking Intercom Servers and connecting Intercom Terminals. It features much better speech transmission than VoIP thanks to a higher audio bandwidth of 7 kHz.

Intercom Central → Intercom Server

Intercom Server – The heart of an Intercom System: switches conversations between subscribers and transmits data to and from auxiliary systems with the help of interface cards. Built in a modular way, so for the functionalities required subscriber cards and interface cards are used. The functionalities of the whole Intercom System are programmed individually.

Intercom Station – The operator terminals of an Intercom System. Displays show the conversation partner, alarms or status information of integrated auxiliary systems, the keypad allows to dial-up a conversation partner or to control auxiliary systems.

Intercom Terminals → Intercom Stations

Interface – Link to other systems (both to other Intercom Servers as well as from Intercom Servers to auxiliary systems).

IoIP®– Intercom over IP – Intercom over IP: use of IP-networks for networking intercom servers. Compared to VoIP (Voice over IP), a standard for telephones, the advantage of much better speech transmission as using a higher bandwidth of 7 kHz stands out.

IP – Internet Protocol: asynchronous protocol for the packet transmission of information through a common network, e.g. the Internet (www – world wide web).

IP-Rating – Protection of a housing according to EN 60529: two figures indicate the protection against the intrusion of particles (mainly dust) and water. E.g. IP 54 is a usual requirement for door stations, IP 65 is a standard for heavy industrial stations.

ISDN – Integrated Services Digital Network: Internationally standardised system for digital telephones which defines both transmission and signalling.

LAN – Local Area Network: network limited to a small and closed environment, typically within a building, e.g. a company network. Usually a LAN is designed as an IP-network.

Master Station – Intercom station from which other subscribers can be dialled freely. Master stations have a full keypad.

Media Converter– Device that converts signals between two transmission means using different technologies, e.g. from E1 standard to fibre optic.

Multiplexer – Device that switches several inputs to one output, the data from several inputs are interlocked using various methods.

NAT – Network Address Translation (NAT) is a widely used technique used in routers which translates between an internal network (LAN) and an external network (WAN). A router using NAT is usually open for outgoing traffic but a barrier for incoming traffic.

Networking – Connection of Intercom Servers and /or Intercom Systems where the whole Intercom System behaves as one single system, i.e. all functionalities are available throughout the whole system. Programming and maintenance of the whole system can take place from one location and one intercom server. Technologies used include: copper wires, fibre optic, S0 (ISDN) lines or IP-networks.

Noise-cancelling Microphone – Microphone built in a special manner so that sounds from a greater distance (e.g. background noise) are cancelled and sounds from shorter distances are transmitted much clearer. Ideal for noisy environments.

OpenDuplex® – Technological intercom innovation by Commend. Due to this special technology both sides of a communication can talk at high volume and listen simultaneously, hands-free in crystal-clear speech quality. Thus Intercom Systems by Commend offer perfect natural communication without the feeling of being limited by a technical device. Communication becomes independent of acoustic condition, like lo ud or sudden background noise.

OVA – Open Virtualization Archive – OVA is a manufacturer independent, open standard for providing images of virtual machine for various platforms. This standard is also used for the Software Intercom Server (SIS) by Commend.

Package Transmission – Asynchronous method for the transmission of data, mainly in networks. Datastreams are divided into packages, which are re-assembled in the correct order at the receiving end. Varying delays in the network must be respected.

PSTN – The Public Switched Telephone Network (PSTN) consists of all of the world's public telephone networks including landline and mobile phone networks.

QUALITY OF SERVICE (QoS) – Procedure in IP networks that prioritises certain connections and / or data packets by granting a defined delay and bandwidth. QoS is also used for the prioritisation of audio data in shared IP networks.

RTP – The Real-time Transport Protocol (RTP) is used in → SIP phones and describes how digitalised and → encoded audio data is transmitted over the internet.

S0 – Network access interface for → ISDN

SCCP – The Skinny Client Control Protocol (SCCP) is a proprietary protocol used by Cisco Systems for their telephony solutions.

SDP – The Session Description Protocol (SDP) is used in → SIP phones for the initialization or termination of phone calls.

SIP – A communications protocol commonly used for making voice and video calls over IP (Internet Protocol) networks. Special SIP-capable intercom stations enhance basic SIP functions (e. g. call initiation and switching) with more powerful intercom functions (conditional routing, directories, high-definition audio, etc.).

Simplex – Conversation possible only in one direction and where the speech direction must be switched manually, e.g. by pressing the T-button (PTT – press to talk).

SMD – Surface Mounted Devices: very small electronic components mounted on the surface, makes high integration of electronic circuits possible.

Soft Client – A Soft Client is a program, running on a personal computer which replaces a common telephone by using software and a headset.

Speech Channel – Speech path, corresponding to one conversation, in an Intercom System. In analogue Intercom Systems the number of speech channels simultaneously available is often limited.

Star-Cabling – Typical cabling for Intercom Systems: all intercom stations are cabled directly to the Intercom Server in a star-like topology. Offers high operational security as the failure of one Intercom station or one line does not affect the rest of the system.

Subscriber – Interface of the Intercom Server where an Intercom station is connected.

Sub-Station – Intercom stations which can only call predefined subscribers on an Intercom System, often only as call-request. Sub stations usually have only a single call button or a restricted keypad.

Synchonous Data Transmission – All procedures where datastreams are transmitted continuously without interruptions.

TCP/IP – Transmission Control Protocol: protocol for secure data transmission using IP, e.g. for downloads from the Internet or for e-mails. Handshake adapts automatically to the available transmission rate.

UDP – Universal Datagram Protocol: protocol for data transmission without handshake, e.g. used for speech transmission or streaming in networks.

VoIP – Voice over IP – VoIP is the overall term for telephony solutions via IP networks.

VoIP Server – A VoIP Server is a dedicated computer which acts as a private branch exchange providing connections between VoIP and ordinary telephones, the → PSTN and other VoIP servers, networks and Asterisk®.

VirtuoSIS – Software Intercom Server

Visualisation – A software capable of providing a visual overview of an installed system to enable fast and easy user interaction. In car park intercom systems, for example, visualisation software runs on control desks and provides a graphical overlay of the individual intercom stations at gates, pay points, etc. This gives operators gives operators easy point-and-click access to all components to configure and control intercom-based audio and video communication, even across multiple sites.

vMotion – Special term used by VMware for migrating (moving) a virtual machine from one physical server (host) to another while it is running.

VPN – A Virtual Private Network (VPN) is a secured, private link though another network. It is commonly used to connect two remote locations over the Internet.

vSphere – Hypervisor based solution by VMware.

WAN – Wide Area Network: network limited to a defined environment, which can include several locations of a company, e.g. several LANs form a WAN.

XenMotion – A term used by Citrix for migrating (moving) a virtual machine from one physical server (host) to another while it is running.

XenServer – Hypervisor bases solution by Citrix.

PRODUCT CODES

COMMEND
A Strong Network | Worldwide

When every second counts, people need a technology that does not just work, but is one hundred per cent reliable – anywhere, anytime around the clock. At Commend, we are aware of our responsibility. That is because millions of people put their trust in us and our products every day. Whether at a London tube station, a car park in France or a hospital in the United States; because every word counts, everything speaks in favour of solutions by Commend.

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Commend Security for the World of SIP
SIP stations with Intercom power

Staying connected in all important areas
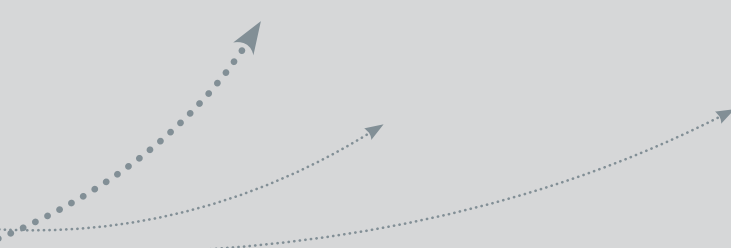
Connect – configure – communicate.

## Making use of existing IP infrastructures.

SIP Intercom Stations by Commend maintain connections to important areas, from entrances, to vehicle gates, warehouses and adjoining buildings. Their durable, stylish design makes them suitable for any application environment. To get the stations up and running, simply connect them to the existing IP network, configure the remote stations (i.e. call destinations), and you are ready to go, without the need for a server. In more complex installations, the terminals integrate easily into existing telephone systems as sub-stations.

NEW: Now with even more versatile possibilities.

We are constantly enhancing our SIP stations through further development and the addition of new, powerful functions. As a result, you can load local telephone directories, set up call chains, implement server redundancy and take advantage of lots of other useful features. We are also constantly expanding the various control options that can be carried out during calls.

However, it is still the acoustic dimension where the Commend SIP Intercom Station really comes into its own. In addition to its high audio quality, the station features a built-in memory for up to 60 seconds of pre-recorded messages. This can be used e.g. to provide reassurance or information messages at the local call point, supply automated acoustic location details to a receiving station, or simply to play custom ring tone.
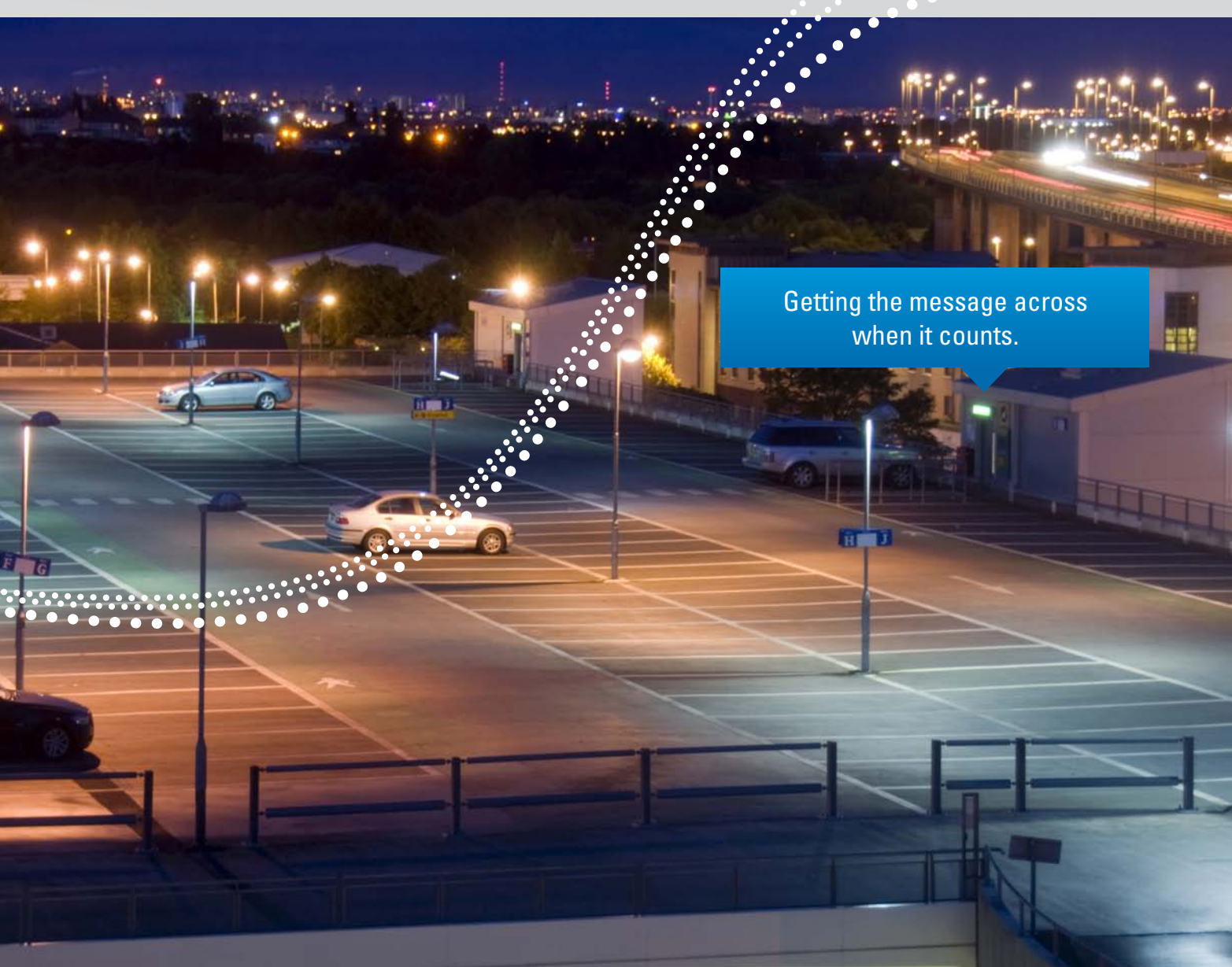
Simplicity with style.

Loud, clear voice connections.

A clear - quite literally crystal clear - distinguishing feature of the SIP Series by Commend is its outstanding audio quality. It makes not only for a pleasant listening experience, but also ensures precisely the superior audibility that are crucial when fast, targeted action is called for.

- Higher sound volume than common SIP stations, thanks to Class 'D' amplifier and two built-in special loudspeakers per device
- Active suppression of background noise ensures ultimate audibility
- Microphone and loudspeakers are individually adjustable at each call station

Economical and secure.

Audio quality, reliable function monitoring, and the mechanical and manufacturing quality are essential elements of Commend's product development policy. During the development of the SIP Series, operational economy was given a particular focus. As a result, the call stations require only half the power of comparable devices on the market. With call stations that are required to be available around the clock every day, the benefits are substantial, both economically and ecologically.

GREEN INTERCOM
by COMMEND

SIP Stations from the Intercom professionals

Commend remains true to its policy of providing the best communication channels for challenging requirements and situations. This includes use of the open standard of SIP (Session Initiation Protocol). In addition to regular SIP telephone, these solutions include stations that are required to meet special demands and standards that only

Intercom systems can satisfy: hands-free talking, extra high volume levels, function monitoring, wall mounting, and reliable protection against bad weather, vandalism and sabotage, to name but a few. **Keep your options open and get the best of both worlds: The SIP Series, powered by Commend.**

SIP Series by Commend: simply powerful,

– Full Duplex capable SIP stations
– Display support NEW!
– Full keypad support NEW!
– Handset support NEW!
– Local directory support NEW!
– Custom programmable buttons for direct calling
– Chain call support (e.g. automatic processing of call sequences) NEW!
– Extended memory for audio files:
  – Automated playback at call initiation (e.g. reassurance messages)
  – Automated playback at call receiption (e.g. individual ring tone)
  – Playback in case of errors (e.g. special error warning sound)
– Two relays for control functions or for use as attendant contacts (e.g. control of warning lights)
– Three inputs for connecting add-on call button modules NEW!
– Line-Out ports on SIP stations NEW!
– Line-In ports on SIP modules NEW!
– Energy-saving operation, thanks to low power consumption
– SNMP for call station monitoring
– STUN support NEW!
– Communication via IP data networks
– Connects directly to compatible SIP servers
– Server redundancy NEW!
– Can also be operated without a server
– Built-in switch with downlink function for direct connection of IP-based add-on devices (e.g. IP camera)
– Robust enclosures with IP 65 rating
– Vandal-resistant stations with IK 07, IK 08 or IK 09 rating as per EN 62262
– Power supply either external or via PoE (Power over Ethernet)
– Remote controllable via HTTP NEW!

Technical Specifications

Call stations with electret microphone, LED, 2 x 8 ohm loudspeakers, IP 65 rating, protection class IK 07/09 (see back side) and IK 08 (SIP WS VE); 2.5 Watt amplifier; 2 relay outputs for connection as make or open contact; 3 inputs for add-on call buttons; power supply: 24 VDC ± 2 V, 500 mA (power consumption 1.4 Watts in stand-by mode) or PoE (Power over Ethernet) as per IEEE 802.3af standard (Power Consumption Rating 0).

Growing versatility

SIP Series M: SIP modules suitable for installation in existing housings and panels for building customised SIP Intercom stations.

SIP Series P: Master stations and sub-stations with polycarbonate housing, suitable for indoor and outdoor installation NEW!

SIP Series F: Master stations and sub-stations with polycarbonate housing and closed-sealed membrane surface; suitable for indoor and outdoor installation NEW!

SIP Series V: Vandalresistant master stations and sub-stations with durable high-grade steel front panels, poke protection and special screws. NEW!

SIP Series VE: Vandal-resistant Emergency Call Stations (same features as SIP Series V) with additional extra-large emergency call button for easy visibility even over larger distances and easy instant activation.

SIP extension modules: Modules for adding direct dialling buttons, handsets and loudspeakers NEW!
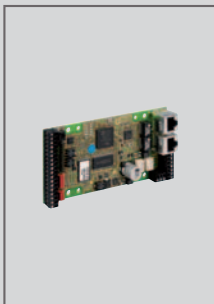
SIP-Serie M   SIP-Serie P   SIP-Serie F   SIP-Serie V   SIP-Serie VE

Loud and clear

Special algorithms allow SIP series to achieve a significantly higher volume level than other SIP call stations on the market. Echo effects and interfering background sounds such as traffic noise are suppressed in real time by additional filters. The microphone and volume levels can be adjusted for each individual call station.

Plug and talk

100% IP-based technology and a web interface for intuitive operating ease enable a fast, cost efficient installation, configuration and maintenance of the call stations. A wide range of accessories helps to ensure a perfect installation and startup.

More than just voice communication

In addition to their voice communication capabilities, the Intercom stations come fully equipped with outputs for the control of add-on devices, such as door activators or call indicators. What is more, each call station comes equipped with its own buffer memory for pre-recorded messages (e.g. reassurance announcements).

Well tested

To ensure full, reliable functionality of SIP Series stations in different system environments, the devices are constantly subjected to extensive tests in combination with SIP Servers of the followinfg manufacturers[1]:

- Digium Asterisk-Server
- Cisco Call Manager and Cisco UnifiedCommunication Manager
- Avaya Business Communications Manager
- Innovaphone Virtual Appliance (IPVA)
- Alcatel OmniPCX Entreprise (OXE)
- Siemens Hipath 4000
- 3CX for Windows
- Aastra MX-ONE (formerly Ericsson MX-ONE)

1) The listed products and company names are brand names or registered trademarks of their respctive owners.

Intercom 2.0 ready

In cases where customer requirements for interfaces and security exceed the possibilities of the open SIP protocol, the systems can easily be integrated into the product world of Commend's Intercom 2.0 range.

SIP Modules

## For building your customised call station

Features

– Modules for integration in custom-built call stations
– Optional connection of up to six individual buttons, a loudspeaker, microphone and LED for call status indication
– Line-Out port for handset connection
– Custom programmable call buttons for direct dialling
– Integrated switch with downlink functionality

Example for application:

– Particularly well suited for integration into design enclosures of Commend WS Series Alarm Point SOS Station
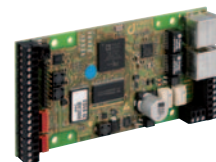
Extra High Volume
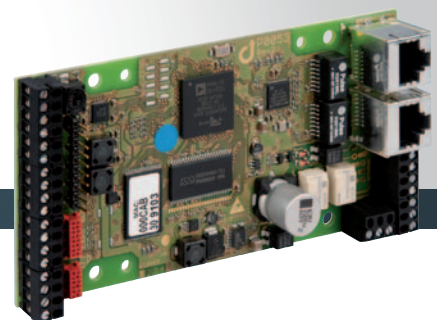
SIP-SERIES M

Full Duplex   SIP

SIP-ET 908A

SIP Module with switch and horizontally installed RJ 45 ports
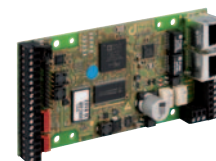
⏚ W 65 mm, H 130 mm, D 18 mm   220 g

SIP-ET 908A-1

SIP Module with switch and vertically installed RJ 45 ports

⏚ W 65 mm, H 130 mm, D 21 mm   220 g

SIP Stations

Multi-functional wall-mounted stations for indoor and outdoor use

Features

– Master stations with full keypad (with or without display) and sub-stations with custom programmable direct dialling buttons
– Call stations with closed-sealed membrane surface (optionally with antiseptic effect)
– Full Duplex capable
– High-quality polycarbonate and membrane material
– Button labels
– Integrated switch with downlink functionality
– IP 65 rating

Accessories

– Flush-Mounting and Surface-Mounting Kits

Extra High Volume

SIP-SERIES P

Full Duplex   IP 65   SIP

SIP Series P Master Stations

SIP Stations with full keypad;
SIP-WS 800 P   with display;
SIP-WS 500 P   without display;

W 165 mm, H 280 mm
  Installation height:
  with flush mount kit: 13 mm
  with surface mount kit: 51 mm
750 g

SIP Series P Sub-Stations

SIP Stations with programmable direct dialling buttons
SIP-WS 201 P   with one direct dialling button;
SIP-WS 202 P   with two direct dialling buttons;
SIP-WS 203 P   with three direct dialling buttons;

W 165 mm, H 280 mm
  Installation height:
  with flush mount kit: 13 mm
  with surface mount kit: 51 mm
750 g

SIP Series F Master Stations

SIP Stations with full keyboard and closed-sealed membrane surface
SIP-WS 800 F   with display;
SIP-WS 500 F   without display;
SIP-WS 800 FMD   with display and antiseptic membrane;

W 165 mm, H 280 mm
  Installation height:
  with flush mount kit: 13 mm
  with surface mount kit: 51 mm
750 g

Vandal-Resistant SIP Stations
Wall-mounted stations designed specifically for outdoor use

Features

– Master station with full keypad and display, and sub-stations with fully custom programmable direct dialling buttons
– Full Duplex capable
– Material: V-2A steel
– Button labels
– Integrated switch with downlink functionality
– IP 65 rating

Accessories

– Flush-Mount and Surface Mount Kits, Rain Protection Roof

Extra High Volume

Full Duplex   IP 65   SIP

SIP Series V Master Station

SIP Station SIP-WS 800 V with full keypad and display; IK 07 protection rating

W 164 mm, H 279 mm
Installation height:
with flush mount box WSFB 50V SS FL: flush with plaster
with flush mount box WSFB 50V: 14 mm
with surface mount box WSSH 50V: 50 mm

1.5 kg

SIP Series V Sub-Stations

SIP Stations with programmable direct dialling buttons; IK 09 protection rating
SIP-WS 201 V   with one direct dialling button
SIP-WS 202 V   with two direct dialling buttons
SIP-WS 203 V   with three direct dialling buttons

W 164 mm, H 279 mm
Installation height:
with flush mount box WSFB 50V SS FL: flush with plaster
with flush mount box WSFB 50V: 14 mm
with surface mount box WSSH 50V: 50 mm

1.5 kg

SIP Emergency Call Stations
The obvious helpers

Features

– Call stations with large buttons for emergency calls and direct dialling
– Full Duplex capable
– Material: V-2A steel
– Button labels
– Integrated switch with downlink functionality
– Custom programmable call buttons for direct dialling
– IP 65 rating

Accessories

– Flush-Mount and Surface Mount Kits, Rain Protection Roof

Extra High Volume

SIP-SERIES VE

Full Duplex   IP 65   SIP

SIP-WS 211V

SIP Emergency Call Station with one programmable emergency call button; IK 08 protection rating

W 164 mm, H 279 mm
Installation height:
with flush mount box WSFB 50V SS FL: flush with plaster
with flush mount box WSFB 50V: 14 mm
with surface mount box WSSH 50V: 50 mm

1.5 kg

SIP-WS 212V

SIP Emergency Call Station with one programmable emergency call button and one programmable direct dialling button; IK 08 protection rating

W 164 mm, H 279 mm
Installation height:
with flush mount box WSFB 50V SS FL: flush with plaster
with flush mount box WSFB 50V: 14 mm
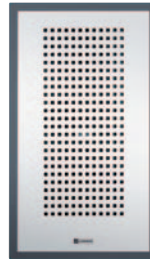with surface mount box WSSH 50V: 50 mm

1.5 kg

SIP Series Accessories
for easy system expansion and perfect installation

Direct Dialling Modules

Vandal-resistant direct dialling modules with three or nine programmable call buttons.

| WSDD 53V | Three call buttons |
| WSDD 59V | Nine call buttons |

Loudspeaker Modules

6-way add-on loudspeakers

Non-Vandal-Resistant Version

| WSLM 56P | Polycarbonate |
| WSLM 56F | Membrane |

Vandal-Resistant Version

| WSLM 56V | V-2A steel |

Handset Module

Handset Module, suitable for SIP Series P stations.

| WSHS 50P | Polycarbonate |

Loudspeaker Modules

2-way add-on loudspeakers

Non-Vandal-Resistant Version

| WSLM 52P | Polycarbonate |
| WSLM 52F | Membrane |

Vandal-Resistant Version

| WSLM 52V | V-2A steel |

Surface-Mount Kits

Surface-mountable installation frames for call stations

Non-Vandal-Resistant Version

| WSSH 50P | Polycarbonate |

Vandal-Resistant Version

WSSH 50V SS	High-grade steel
WSSH 50V WH	White
WSSH 50V WA	White Aluminium (RAL 9006)
WSSH 50V RE	Signal Red (RAL 3001)
WSSH 50V OR	Pure Orange (RAL 2004)
WSSH 50V OR EM	Pure Orange (RAL 2004) with "SOS" labelling
WSSH 50V YL EM	Sulfur Yellow (RAL 1016) with "HELP" labelling

Flush-Mount Kits

Flush-mountable installation frame for call stations (13mm elevation)

Non-Vandal-Resistant Version

| WSFB 50P | Polycarbonate |

Vandal-Resistant Version

WSFB 50V SS	High-grade steel
WSFB 50V WH	White
WSFB 50V WA	White Aluminium (RAL 9006)
WSFB 50V RE	Signal Red (RAL 3001)
WSFB 50V OR	Pure Orange (RAL 2004)

Flush-Mount Kit

Installation kit for flush-mounting, includes a plastic flush-mount box and flush-mount metal frame (no elevation)

Vandal-Resistant Version

| WSFB 50V SS FL | High-grade steel |

Rain Protection Roof

This optional rain protection roof provides additional protection in adverse weather conditions.

| WSRR 50V | High-grade steel |

Desktop Kit

This kit allows for using a SIP station in a surface-mount box a desktop unit.

| WSDK 50P | Powder coated steel |

Powerfully reliable
## Commend – because every word counts

A suitable connection for every need

From simple interfacing of individual sub-stations with a SIP-capable telephone to an extensive integration of SIP Server functionalities into Intercom 2.0 networks - when it comes to SIP solutions, Commend covers all application requirements.

Serverless operation: One SIP telephone, multiple sub-stations

Simple, cost-efficient solutions:

– Operating sub-stations via a SIP-capable telephone

– SIP addresses of the sub-stations can be programmed as direct dial codes into the device's memory (up to 12 addresses, depending on the manufacturer)

– Calls can be made in both directions

– Suffix dialling can be used e.g. for opening doors, shutters or gates conveniently via remote control

– Support of individual ring tones for each sub-station via pre-recorded audio
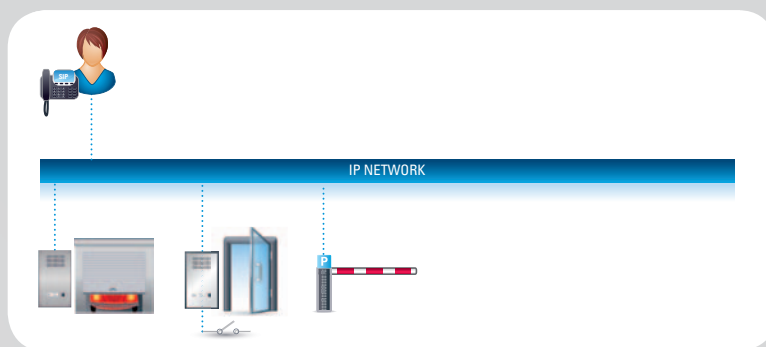
Operation via SIP server using server-side functions

Extended functionalities via SIP-based telephone systems:

– Sending of call signals to multiple sub-stations

– Support of Call Queueing (as with Control Desks)

– Call Forwarding to public telephone networks or mobile devices

– Interfaces to third-party systems and other subsections

– Visual call indication systems

– Group Calls (if supported by telephone system)
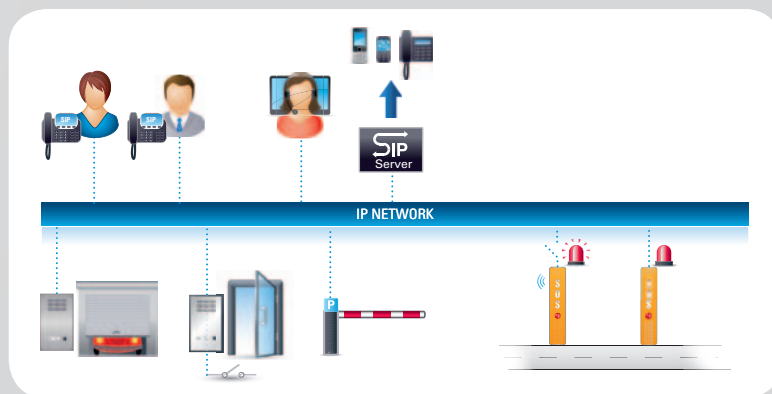
Intercom Server Exchange: Commend VOIPSERV card as SIP-Server

Full SIP integration into IP-based Intercom Servers:

– Up to 50 SIP call stations per card

– Line monitoring

– Display of SIP call stations at Intercom control desks

– Operator workstations based on graphic user interface of ComWIN software

– Wide Area Networks

– Full integration of security systems, including e.g.: video/CCTV, RF communication, alarm systems, facility management equipment

– Wide range of IoIP-based terminals with high-quality Intercom functionalities and DSP features

COMMEND
A Strong Network | Worldwide

When every second counts, people need a technology that does not just work, but is one hundred per cent reliable – anywhere, anytime around the clock. At Commend, we are aware of our responsibility. That is because millions of people put their trust in us and our products every day. Whether at a London tube station, a car park in France or a hospital in the United States; because every word counts, everything speaks in favour of solutions by Commend.

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