

Application Partner Catalogue

November 2018

Hytera's growing compilation of 3rd party applications to get the most out of your products.



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BIBO

- » **Voice communication PABX (SIP)**
- » **Voice communication Radio**
- » **Fleet management**

mocotec GmbH

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25881 Tating
Germany

www.mocotec.de

Applicable Technology: TETRA/DMR

Applicable Products: Hytera DMR radios



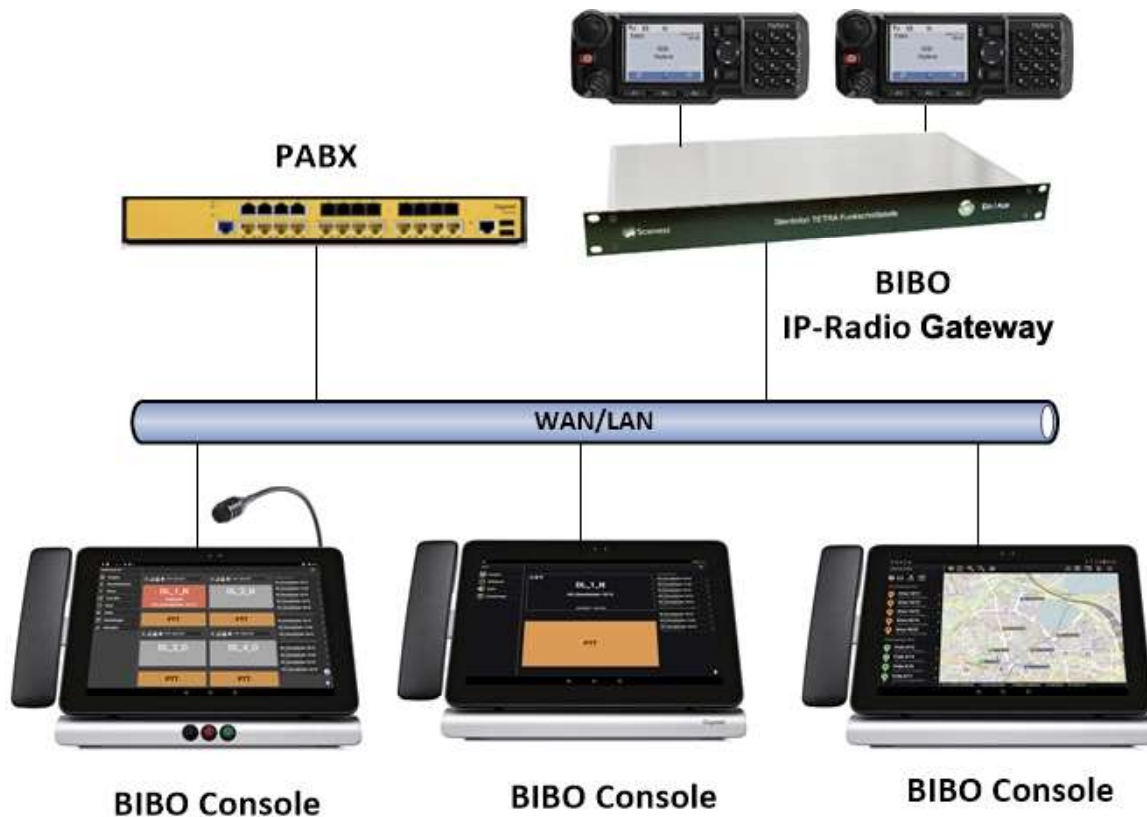
The BIBO Desktop Dispatch Console with 10.1" colour touch display serves as a multi-function control unit for voice communication with radio and PABX equipment. Additional for administration of all data related to the use of mobile devices in digital radio networks.

The application allows the representation of states and positions in a geographic map on the screen equipped with a Hytera TETRA or DMR terminal with integrated GPS receiver.



Features

- 10.1" high definition colour touchscreen with full multi-touch capability.
- Up to 12 SIP accounts.
- HD audio via handset, connected headset or hands-free with visual ringing indicator via screen.
- 1Gb network switch, LAN, WiFi, Bluetooth and DECT, 2x USB, micro HDMI, micro SD-card, EHS, handset and optional headset.
- 3 Speaker System (2 speaker + subwoofer).
- Integrated microphone on front side.
- Android operating system including apps for telephony, radio communication and fleet management.
- Group and Individual calls (DMR / TETRA).
- Status and text messaging (DMR / TETRA).
- Display of operating states, text messages, channels, call groups.
- Display of positions incl. states in a list and on the map
- Local vectorized maps (OpenStreetMap®).
- Activate, deactivate and change the cyclically transmitted position data (time and distance)



BIRCS

- » **Radio Remote Controlling**
- » **Voice Dispatching**
- » **Text Messaging** (with optional Mailbox and Alarm Handling System), **SMS Gateway**
- » **Location Tracking with Map Display**
- » **Telemetry Services**

Burri Informatik

Amselweg 10
CH-3110 Münsingen
Switzerland

www.burri-informatik.ch

Applicable Technology: DMR

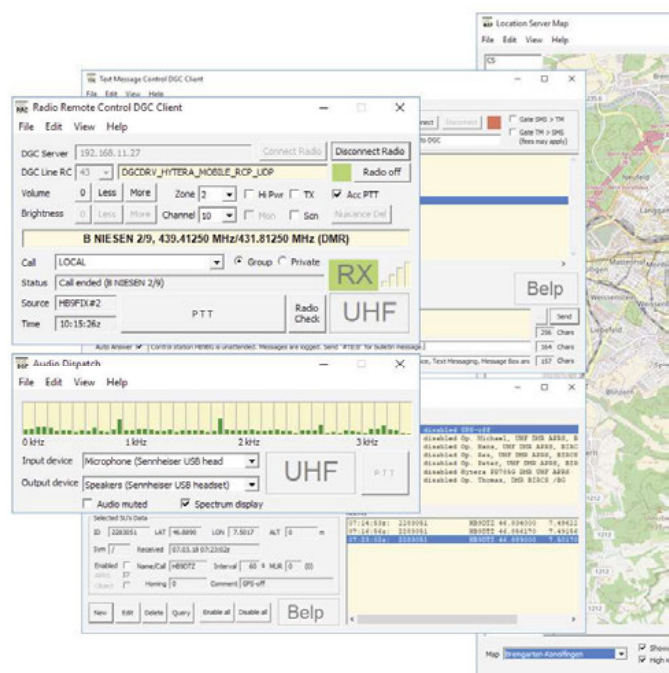
Applicable Products: DMR repeaters, Hytera DMR mobile radios, Hytera DMR portable radios

BURRI INFORMATIK

BIRCS (Burri Informatik Radio Control System) is an easy to operate suite of PC programs designed as a modular concept. With its functions the software makes the special features of modern digital radio communication equipment accessible.

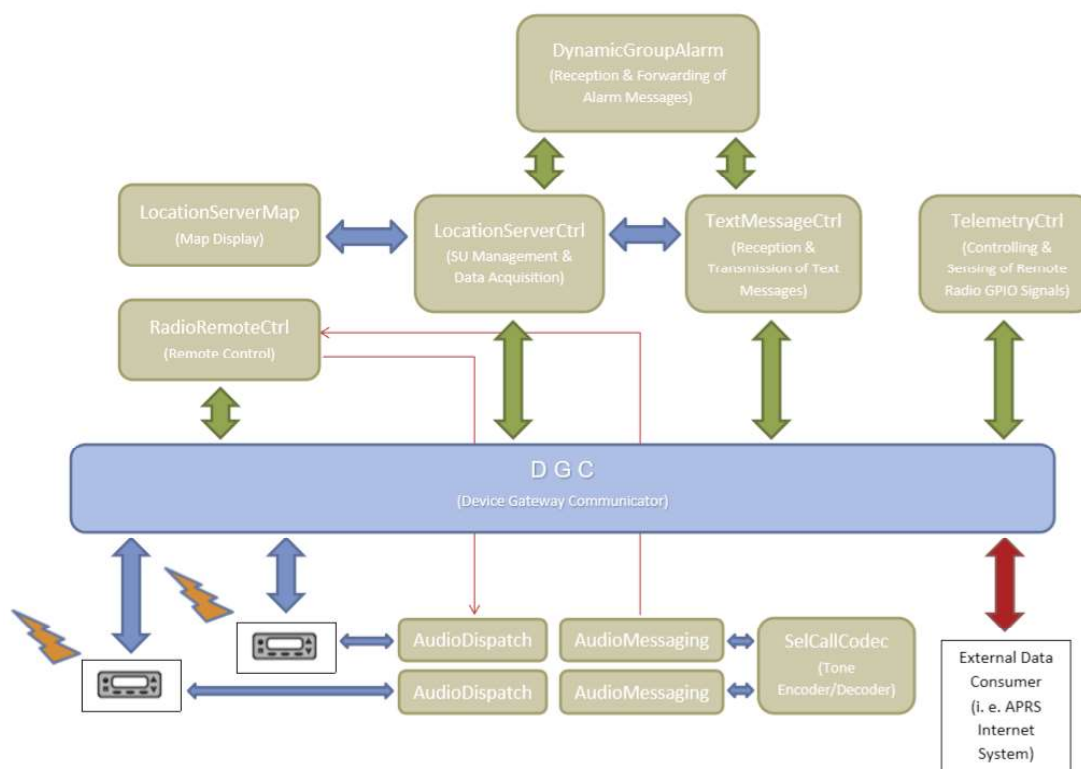
The BIRCS suite of programs is executable under Microsoft® Windows® operating systems (Windows® 7 or later). During the development of the software care has been taken to ensure that the system remains internet independent. There is no utilization of any third-party online internet components so the programs are also suited in an offline environment for emergency services and similar organizations.

BIRCS supports Hytera branded professional two-way radios and repeaters. The modular concept of the application suite is layer-based. Therefore the system is able to adopt different radio technology simply by replacing some device drivers without the need to modify the application layers of the software. New radio technology or models may easily be supported in the future.



Features

- Radio Remote Controlling (Zone/Channel Selection, Power Level, Call Address, PTT and more).
- Voice Dispatching across the TCP/IP Network, Spectrum Display, Voice Recording, Sound Device Selection (Application Modules Available for Mobile Radios or Repeaters).
- Direct Repeater Access using RTP Audio Protocol for Excellent Audio Quality or Mobile Radio Access via External Audio Interface.
- Text Messaging to Private or Group Contacts with or without Acknowledgement, Beaconing, Automatic Answer (AA), SMS Gateway to/from Mobile Phone Network, Remote Messaging Interface (UDP) providing Messaging Services for Third Party Applications, Message Templates, Text Messaging Mailbox accessible to Control Station Operator and Field Radios.
- Location Tracking of Radios with Map Display (Offline Maps based on Map or Satellite Bitmap Imagery), Tracking Parameter Control using Text Messaging, Replay of Archived Tracking Data, Network-based Interface supplying Tracking Data to Third Party Applications.
- Telemetry Module with Telemetry Job Definition (GPIO Controlling and Sensing) and Execution.
- Selective Call Audio Processor for Analog Applications.
- Configurable Name Resolution for DMR IDs.
- Fast and Sleek Application Modules (C/C++).



COM Mobile Console

- » **Console on Android OS**
- » **RoIP communication**
- » **Voice and signaling**

Applicable Technology: DMR, TETRA, Analog

Applicable Products: All Hytera products

BPG Radiocomunicazioni

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(+39) 0121 - 800669
commerciale@bpg.it
www.bpg.it



The COM Mobile Console is an Android-based console which allows managing DMR, TETRA or analog radio. The connection to the radio network is achieved by IP connection to a COM dispatcher environment or in IP connection to a standalone IP3001 RoIP gateway.

It allows to manage voice calls (group calls, private calls, all call, emergency calls), call signaling (caller ID, destination group ID, operative channel) and data services (text messages and GPS/Indoor location).

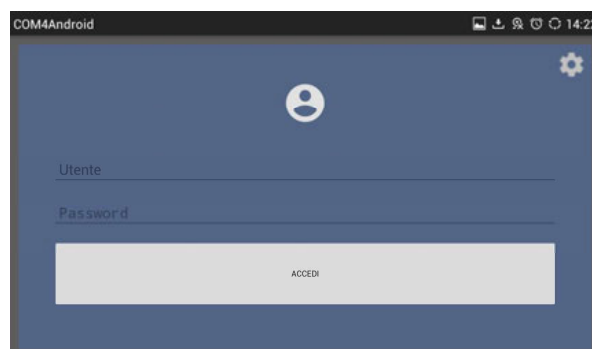
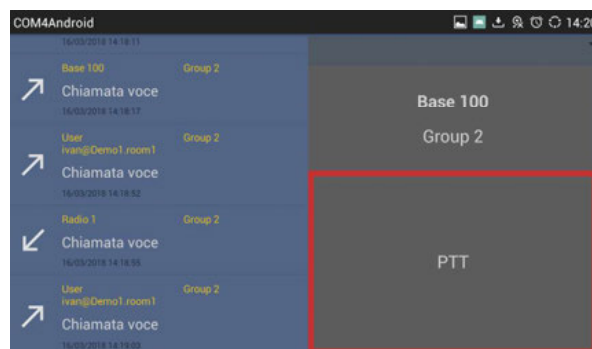
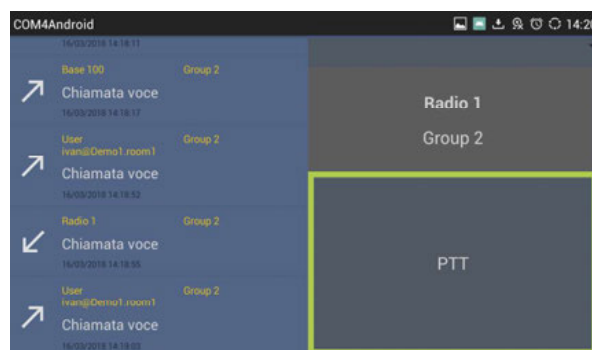
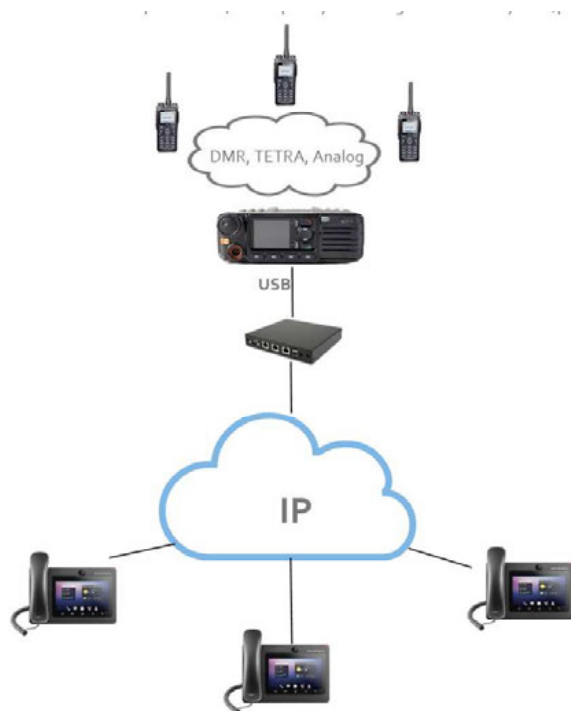
The layout is specifically designed for smartphones, tablets or desktop phones with Android OS.

It includes a user-defined phonebook, a temporary event log and access by user/password credential.



Features

- Android-based console.
- Simple and intuitive GUI.
- RoIP solution, easy to deploy and scalable.
- Stand-alone, multi-console or integrated-in-COM-dispatcher solutions.
- Voice calls, call signaling and data services.
- Login required to prevent unwanted users.
- User-defined phonebook.
- temporary event log.



DORAprus

- » **Remote desktop terminal**
- » **Connection for optional accessories**
- » **Direct connection to Hytera repeaters**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

Meretec Technologies GmbH

Max-Planck-Straße 62-64
32107 Bad Salzufflen -
Germany

www.meretec.de
www.orit.de



A remote desktop terminal is indispensable for many radio users. On the one hand the place of installation of the radios is often not possible at the workplace and on the other hand an operator should not be able to access any setting possibilities of the radios. Especially in very voice-active radio

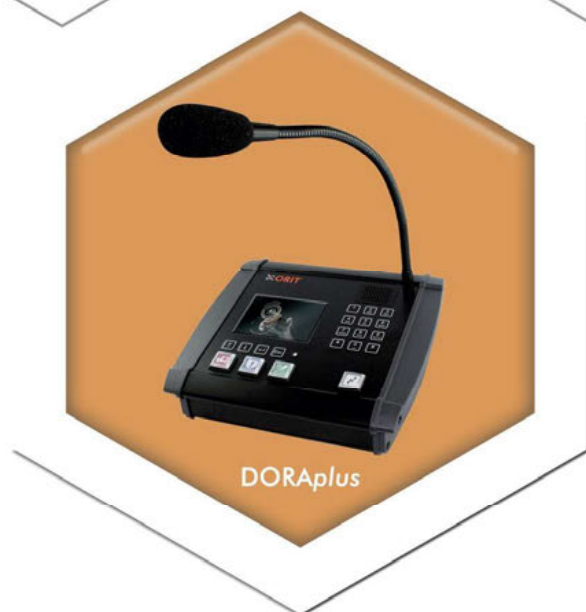
environments (for example at events), there are additional demands to the system which cannot be satisfied with a conventional radio. A combination or networking of DORAprus with our telemetry products enables revolutionary solutions in DMR radio.



Features

The special feature of DORApplus is the innovative menu structure and intuitive usability via the touchscreen display in combination with the keypad and the multi-PTT buttons. Especially the multi-PTT buttons allow extremely fast switching between different call destinations and working groups. These are displayed with freely definable colours in the display. All incoming and outgoing calls are visualized with logical icons including the call subscriber / destinations (radio ID and radio alias), so that the handling of DORApplus becomes child-friendly.

- Address book import from Hytera CPS.
- Displays radio ID and alias.
- Multi PTT defined by address book.
- Supports group-, individual-, alert- and all call.
- Function buttons defined by Hytera CPS .
- Keypad to enter e.g. the radio ID or individual calls.
- Connector for foot switches PTT and headset.
- Automatic detection which Hytera radio is connected.
- DORApplus encrypts the participant's name if it is stored in the address book.



HYDI

- » **IP-based DMR dispatcher & control station**
- » **Any number of HYDI clients per HYDI server possible**
- » **Voice messages will be recorded and saved on the HYDI server**
- » **Configurable GUI**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

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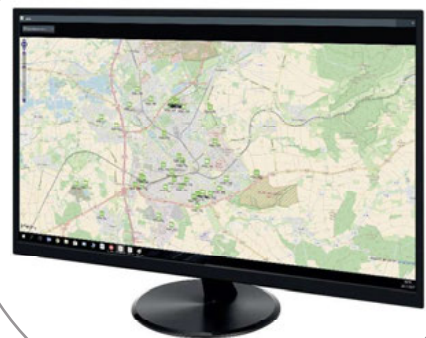
HYDI is not only a dispatcher in the Hytera IP network. HYDI also operates as a control station for radio network participants with an own radio ID & group assignment, distinguished because of its intuitive handling.

With this tool employees can continue to participate in communication from their workplace even without a radio device. Depending on the client application it can as well be used as an alternative for a complex in-house supply.

Also, new opportunities for the emergency service come along: With existing IP-connection to the Hytera repeater network, the group (e.g. winter road maintenance) can be controlled from any location.

Features

- Sending and receiving voice messages (e.g. single or group calls).
- Sending and receiving text messages.
- Individual and pre-stored messages can be sent.
- Participants can be added & unknown new participants will automatically be compiled as "unknown".
- Symbol and radio alias can be adjusted.
- Possibility to display participants in OpenStreetMaps.
- GPS positions of all participants, or positions of those that are online, are displayed.
- All positions will be saved in the database.
- Manual feed of a GPS position (e.g. in a building) is possible.
- Inquiry of current GPS positions of participants is possible.
- Complex data recording for the administrator, with export function.
- Radio recording of all events and voice recording of all conversations.
- GPS position profiles of all network participants including display in the map.
- Text messages of all participants.
- List of favorites is adjustable for the user.
- Online/ offline list.
- Ordered according to online status and ID.
- Display of new messages.
- Sorting of messages according to type of call (private call/ group call), date or participant.
- Creating own groups is possible without Hytera CPS.



KOLIBRI

- » **Voice communication**
- » **Track & trace (AVL)**
- » **Extensive SIP telephony and call center integration**
- » **Seamless integrated communication**
- » **IP based / open architecture**
- » **Real time network monitoring**
- » **Audio and data logging**
- » **From standard COTS to fully custom solutions**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

Kolibri Systems bv

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The Netherlands

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info@kolibri-systems.com
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Kolibri, Integrated Command & Control solutions that go beyond dispatching.

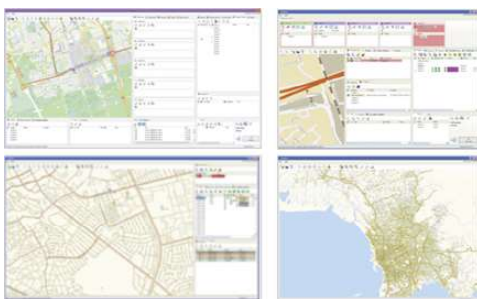
Our goal is to deliver the best and most comprehensive command & control solution to organizations to empower their operations, work more efficient and provide a safer work environment for their employees.

Our solutions are based on our extensive experience in implementing control room solutions. With the modular architecture, seamless integrated communication and comprehensive customization options, the versatile Kolibri Command & Control applications are the backbone of many control rooms operated around the world.

Examples of this are the Kolibri solutions that are used in around by different types of customer ranging from customers in Oil&Gas, Airports, Industry, superyachts and Public Safety.

Our operator-friendly interfaces support a user's intuition, empowering them to act quickly on events. The extensive possibilities to implement customer workflows make it possible to further streamline your communication operations. The scalable architecture allows solutions from a single console to a geographically dispersed redundant multi console solution.

Moreover, our applications unearth the full, rich functionality of communication platforms, helping boost control room capabilities and efficiency.





Features

- **Key Benefits**
Management of resources through dispatch and tracking is an essential requirement for an efficient command & control solution. Utilizing the rich functionality of different communication platforms, Kolibri features a dispatch and track application to manage all communications and provide instant situational awareness of the workforce.
- **Radio Handling**
Kolibri connects easily with radio systems. All types of radio calls are supported. With the possibility to implement workflows, Kolibri enables customers to have their own call handling and call routing. And with callback requests, handling radio calls is made even more efficient.
- **Telephony integration**
Kolibri features a comprehensive SIP gateway which can connect to all known telephone platforms, making telephony integration easy. Beside standard telephony functionality, call center functions can be implemented.
- **Map-based functionalities**
Kolibri has extensive map-based functionalities. With a map situational awareness is improved. Multiple maps and map layers add even more means of oversight. Map features include track & trace of radio locations, locations of video cameras, gates, points of interests, dynamic incident locations and geofencing.
- **Emergency handling**
When there is an emergency, someone wants to act quickly. By combining divergent dispatch and control room systems into one unified central interface, Kolibri provides a direct situational awareness for the operators and boosts communication and coordination among emergency services for instant response. The system is set up to efficiently process emergency calls and alarm signaling.
- **Adaptation to business procedures and workflows**
Kolibri can be configured to adapt to customer working procedures such as routing, automatic filtering of calls, lone working and different callback-request processing. Scripts can be installed to automatically change talk groups, set patches or send SDS's, based on received SDS info or other triggers.
- **Geo-redundancy options**
Kolibri is a client-server solution. The Kolibri application server can be equipped with redundant servers for extra resilience. In Kolibri's redundant solution both servers are always 'active', meaning that there is minimal downtime when a server becomes unavailable.

O.D.I.N.O

- » **Immediate access to a variety of databases (both national and international)**
- » **Video/audio streaming** in near real time both from the camera device and from external cameras connected. Action can start manually or via automatic triggers
- » **IoT Integration** with accessories allowing O.D.I.N.O. to perform a wide range of functions and activities
- » **Extensive workflow integration**
- » **Configurable GUI**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

Intellitronika

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www.bpg.it



O.D.I.N.O., acronym for “Operational Device for Information, Networking and Observation”, is a suite of applications for territory control and for managing men and vehicles on the field, realized in cooperation with the Carabinieri, and represents the excellence for the operators' safety.

O.D.I.N.O. allows carrying out all the activities performed by the operators for the territory control: in only 5 seconds it can access to several databases (both national and international) and can provide an aggregated report of the query.

The core of the application suite is the ability to connect and stream in real time from the device itself or from the BWC connected via Wi-Fi to the radio. O.D.I.N.O. video/audio streaming capability may be activated from the operator on the street and from the control room application. Automatic triggers have been applied so to enhance the operative functionality of the solution such as a panic button or the smart holster solution.

Another key element of the system is the near-real-time video/audio streaming which can be activated both by the operator and via the Intellikore Operating Centre, heart of the system, to which O.D.I.N.O. is always connected (via 4G/LTE, Wi-Fi, Bluetooth, Tetra, DMR).

The solution uses a back end in order to have a turn-key solution called Intellikore enabling task commanders to have an “on-scene eye” to constantly monitor the situation and

receive real-time information: geolocation, management of all devices, sending/receiving multimedia contents (photos, videos, audio and video streaming), management of the alarms sent by the patrols, bi-directional instant messaging, chat service.

At the same time O.D.I.N.O. can be integrated on existing back-end granting total flexibility and ease of use for the end user.

O.D.I.N.O. is a full IoT integrated solution. Intellitronika has created different sensors which are constantly connected to the device so to send vital information as the gun status (Smart Holster), the physical document reader (G-Code) and the sensors in the garments (D-Code). O.D.I.N.O. is able to receive and send in real time all the different parameters creating alarm signals in the control room for immediate assistance.





Features

- In only 5 seconds, the operator can access to several databases (both national and international) through the platform. Databases are accessible with just one login. Intellitronika gateway manages the credential as a single sign on.
- Video/audio streaming capability in near real-time. Activation may be started from the operator on foot or from the control room operator. In addition, the capability may be started via automatic triggers such as sensors in holster to monitor the pistol status or the sensors in the garments.
- The operator can constantly monitor the situation and both receive and send real-time information (photos, videos, audio/ video streaming).
- The solution as constant on geolocation, based on AGPS technology.
- In case of missing reception and/or connection, the system will submit the data again until the operation is successful.
- Management of the multimedia contents stored inside the device with the possibility of sending the geo-referenced photos or videos completed with support information to the operations centre by only clicking on "send".
- Two-way messaging function with the operations center. The text message can be typed on a video keyboard or chosen from a list of pre-loaded messages.
- Real-time alarm to the operations centre. Automatic activation of the integrated microphone and webcam; the operations centre receives the audio and video from the device.
- Module for managing infringements, which allows printing the record and sending photos for fine intimation.
- Module allowing the operator to display the video feeds coming both from fixed cameras in a certain area and from other operators' devices.
- Cartographic navigation software with routing engine and dynamic update.
- Module allowing the automatic dispatching of the daily operator's activities and send them to the operator device, including any real time operational emergency. The operator carries out its routine activities and these are loaded inside the form and sent to the operations centre via the network. Information is categorized by type, geolocation and time, so that the module can be uploaded within the integrated reporting system and digitally signed.
- Application allowing the automatic detection of number plates and the real time access to data bases in order to check any irregularity.
- Application allowing to send geo-localized and classified information about specific illicit activities through the interaction among operators and citizens in order to generate (a server-based) map of geo-referenced events.
- Monitoring and managing of mobile device from the on-field solution exchanging messages and starting the audio/video streaming from the other devices connected.
- Creation and storage of photos and movies inside the local memory.
- The O.D.I.N.O. platform can be customized upon request. The solution is tailored according to customers' specific needs.

ORTAS

- » **Radio communication**
- » **Order management**
- » **Premium navigation**
- » **Dashcam**

Applicable Technology: DMR, TETRA and LTE

Applicable Products: Mobile terminals

mocotec GmbH

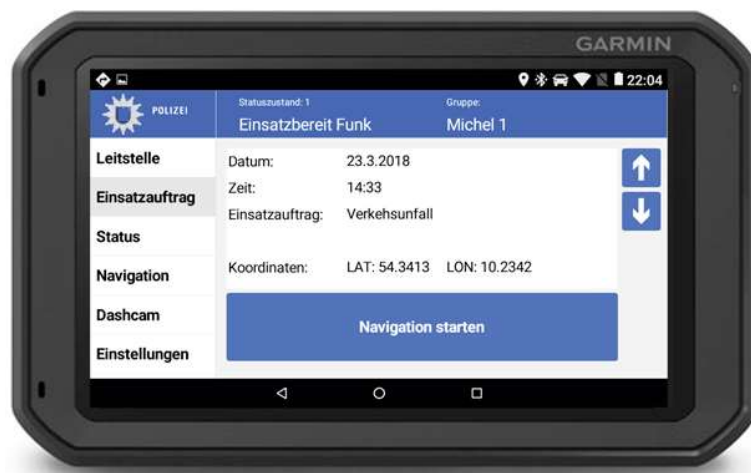
Koogstr. 22
25881 Tating
Germany

www.mocotec.de



The ORTAS car console with 7 „colour touch display serves as a multi-function control unit for controlling voice communication, order and driver management, GARMIN Premium Navigation and professional dashcam in a simple and easy to use GUI, based on Android OS.

The unit can be controlled by any command and control center over a provided API or by an ORTAS desktop client / ORTAS desktop console. Many different IoT sensors and units can be connected via the integrated WLAN and Bluetooth connectivity and the data can be sent over the direct connected Hytera mobile radio to the command and control center.



Features

- 7" capacitive multitouch WSVGA display (1024 x 600 pixels).
- built-in dual-purpose camera.
- Powered magnetic mount with mini USB and USB Type A.
- GARMIN Premium navigation.
- Lifetime onboard maps of Europe with free updates.
- Wi-Fi® and Bluetooth® connectivity .
- Direct USB or RS232 connection to Hytera mobile (DMR or TETRA).
- Simple and easy to use user interface.
- Control Group- and individual calls, status and text messaging.
- Order management with coordinates for takeover for navigation.
- Driver management.
- Dashcam management.
- Sending GPS information and estimated arrival time to CCC.
- IoT sensors and units can be connected via the integrated WLAN and Bluetooth connectivity.
- Provided API for integration command and control centers.
- Individual custom design and software feature development.



**Direct Connetion
(without an extra Box)**



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SEB VoIP-Fire

- » **Full remote control of the radios (TETRA)**
- » **Easy handling**
- » **High scalability**

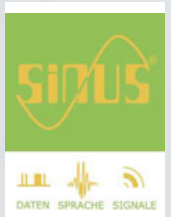
Applicable Technology: TETRA, DMR and/or Analog

Applicable Products: Hytera MT680 and Sepura SRG3900

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Multi-radio multi-operator system for TETRA – SEB VoIP-Fire

SEB VoIP Fire offers the parallel and shared use of radio sets with several operator terminals. These are usually analog radio set/TETRA digital radios, PA-Systems, home automation systems and various other voice communication devices. Two additional devices can be connected directly to the operator terminal as local lines, for example a telephone next to the operator terminal. In addition, the internal communication is also possible with other operator terminals in the same network (intercom functionality).

In the minimum configuration, the VoIP-Fire system consists of at least one operator terminal and one remote interface with an integrated network switch 10/100 MBit.

The communication between the devices is based on the TCP/IP network protocol. Network cable Cat 5 or better as well as commercially available network components (such as network switches, patch panels and gigabit fiber links) can be used to setup the interconnection between the system components.

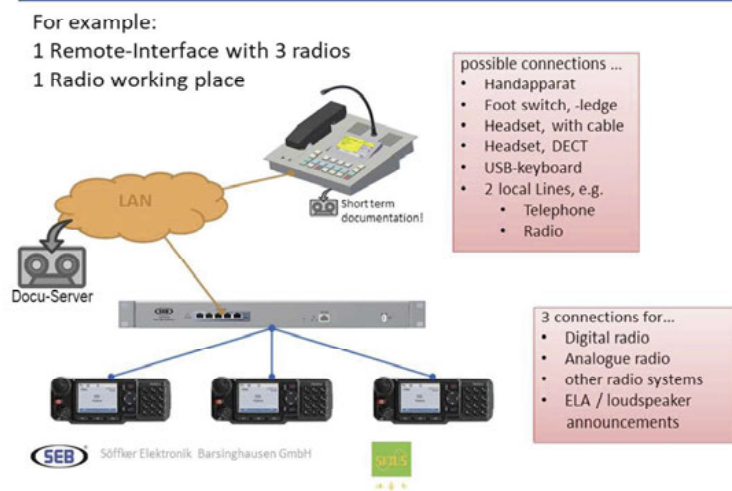
The scalability is given due to the advantageous, modular design, which makes the system easy to plan from the first operator terminal and easy to extend at any time. Even growing structures can be realized up to a size of 128 operator terminals and up to 64 radios.



Features

- Multi-radio multi-operator system up to 128 operator terminals on 64 radios.
- spatial separation of radio operator terminal and remote interface via standard network technology and one line .
- all network connections via RJ45 standard („Plug & Play“, use of existing network structures).
- decentralized system without server.
- Linux-based system software (royalty fee).
- configuration and updates easily by remote access (with standard browser via web interface).
- manufacturer independent due to PEI connection.
- versatile configuration options.
- robust industrial construction for public safety and police authorities.
- Operator terminals available in desk or table cases as well as for installation in mobil commands units and guard and control desks.
- individually configurable names (e.g. guard, side room, etc.) and priorities for each terminal and each radio line.
- monitoring feature.
- Extensive remote control for TETRA radios (e.g. group, folder, mode change, write / receive SDS, display ISSIs & OPTAs, etc.).
- integrated status transmitter.
- integrated short-term voice recorder approx. 20 minutes.
- expandable with an external USB memory stick up to 32 GB, which - depending on the amount of traffic - extends the recording time to 6 - 14 weeks.
- „operator call“- function (internal communication with other operator terminals).
- „Emergency call“ – function for triggering internal and external emergency calls.
- optional telephone interface connection to use the headset also for the telephone (the telephone itself is still present) with optical and acoustic call signaling (adjustable), call acceptance, call hold, toggling and hangup).
- optional long-term voice recorder and meta data server with versatile search and sort -function.

Multiple radio system „VoIP-Fire“



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TERRA 4D

- » **3D GIS layer-based**
- » **Geo-referenced**
- » **Superior situational awareness**
- » **Open and scalable system**
- » **Flexible / customized GUI**
- » **Solutions for PSIM and ISTAR**

FAST Protect AG

Alte Steinhäuserstr. 1
CH-6330 Cham
Switzerland

www.fastprotect.net

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

Protect
FAST



Command and Control



Integration Platform



Stand-Alone Subsystems

TERRA 4D – The platform that makes you aware of all risks.

The protection of people, property and critical infrastructure assets is crucial. TERRA 4D addresses these requirements providing its clients with an integrated geospatial command and control center solution which offers:

- » Comprehensive protection
- » Improved situation response times
- » Correlation of all subsystem data
- » Superior situational awareness
- » No disruption of economic activities
- » Increased operational efficiency

TERRA 4D provides Physical Security Information Management (PSIM) as well as Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) solutions to facilitate incident detection, security and safety related incidents, presenting complex information in a simplified geographical 3D context, thus offering operators superior situational awareness.



Features

- **Multi-site control**
Significant cost reductions as all buildings and locations can be controlled by fewer locations.
- **Workflow and incident reporting**
The intuitive workflow removes operator randomness, reduces stress for the user during an incident and enforces compliance of company guidelines.
- **Easily scalable**
TERRA 4D solution can be scaled from a compact version on a single computer to a complex, worldwide distributed solution on multiple computers.
- **Enhanced CCTV Support**
Existing or new CCTV cameras will become more powerful using TERRA 4D. The system geo-references each camera and thus adds latency compensated PTZ control, PTZ auto presets, augmented reality video overlay, measuring distances in video, multiple camera object tracking and more features.
- **Tracking and Dispatching**
Thanks to the superior situational awareness TERRA 4D enables operators to understand the position of own units in the field by a glance at the screen. The dispatch function enables efficient management of own resources and keeps track of all activities.
- **Indoor and Outdoor**
The 3D GIS model not only represents outdoor areas utilizing ortho imagery, maps and other GIS layers but also the 3D structure of buildings. TERRA 4D imports existing building plans, generates 3D inner structures and places sensors within the building.
- **Mobile application for iOS and Android**
GPS tracking and target interception app. Target way-point is received and independent target interception based on bearing and distance is possible. Exchange of text and image information is supported.
- **Geofencing**
Defines geographical alarm or warning zones to receive alarms when tracked objects enter or leave such zones.
- **Our innovative solutions protect nations, borders, cities, infrastructure and private properties.** We enable our customers to manage complex challenges intuitively and efficiently. TERRA 4D does more than just accumulating data – it helps operators to manage incidents from start to end. The flexible platform can be adapted to many vertical market segments.
- **Creation and storage of photos and movies inside the local memory.**
- **The O.D.I.N.O. platform can be customized upon request.** The solution is tailored according to customers' specific needs.

ALARM CONTROL SYSTEM

- » Alarm filtering & escalation
- » Automatic alarm dispatch
- » Alarm system integration
- » Lone worker protection

- » Group/Individual messaging
- » Remote alarm management

Zonith A/S

Gammel Kongevej 39 E
1610 Copenhagen V. -
Denmark

www.zonith.com
sales@zonith.com

Applicable Technology: DMR, TETRA, smartphone and E-mail

Applicable Products: TETRA radio solutions & DMR radio solutions

ZONITH

The ZONITH Alarm Control System (ACS) dispatches alarms from any alarm source to your digital radio, mobile phone, smartphone, monitors and E-mail account.

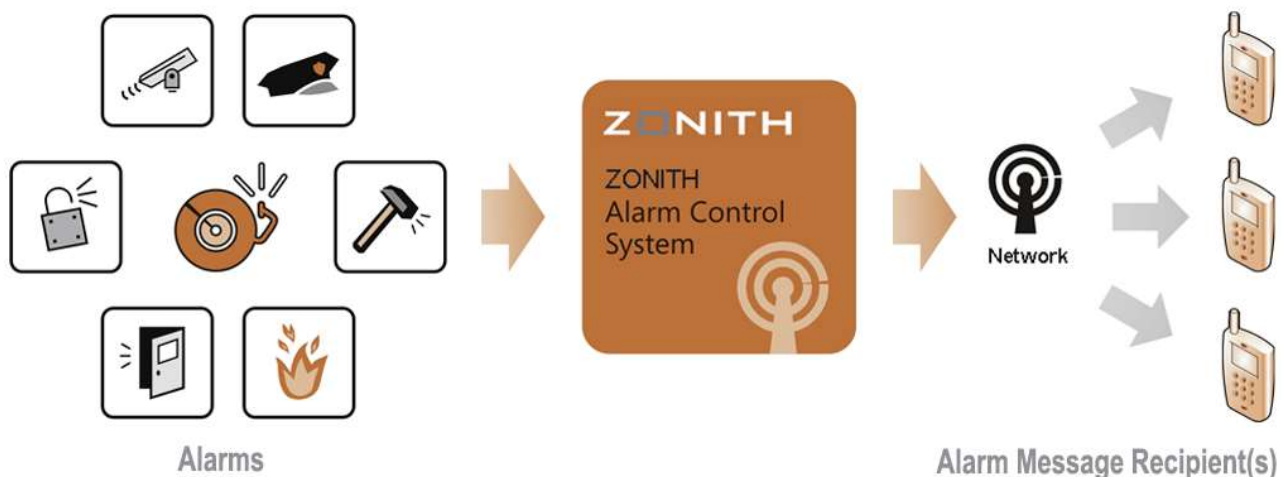
Highlights

- Listens to all alarm systems (fire, SCADA, BMS, security, access control, etc.).
- Dispatches alarms based on user competencies and work schedules.
- Dispatches alarms via text to TETRA/DMR radios, E-mail, smartphones, GSM and monitors.
- Escalates alarms if no one answers.
- Future-proof solution that can be built on over time.

ZONITH software translates the alarm system output and converts them to DMR or TETRA messaging formats. It also has a number of features to filter and schedule alarms, as well as enabling radio users to remotely accept, decline and automatically escalate alarms using the radio user interface. It also has a number of features to filter and schedule alarms, as well as enabling radio users to remotely accept, decline and automatically escalate alarms using the radio user interface.

Whether you are simply replacing a paging system or designing a complex alarm dispatching solution, ZONITH gives you the flexibility and scalability you need.

ZONITH provides marketing tools, demonstration software and product training to enable Hytera resellers to successfully sell value-add applications.

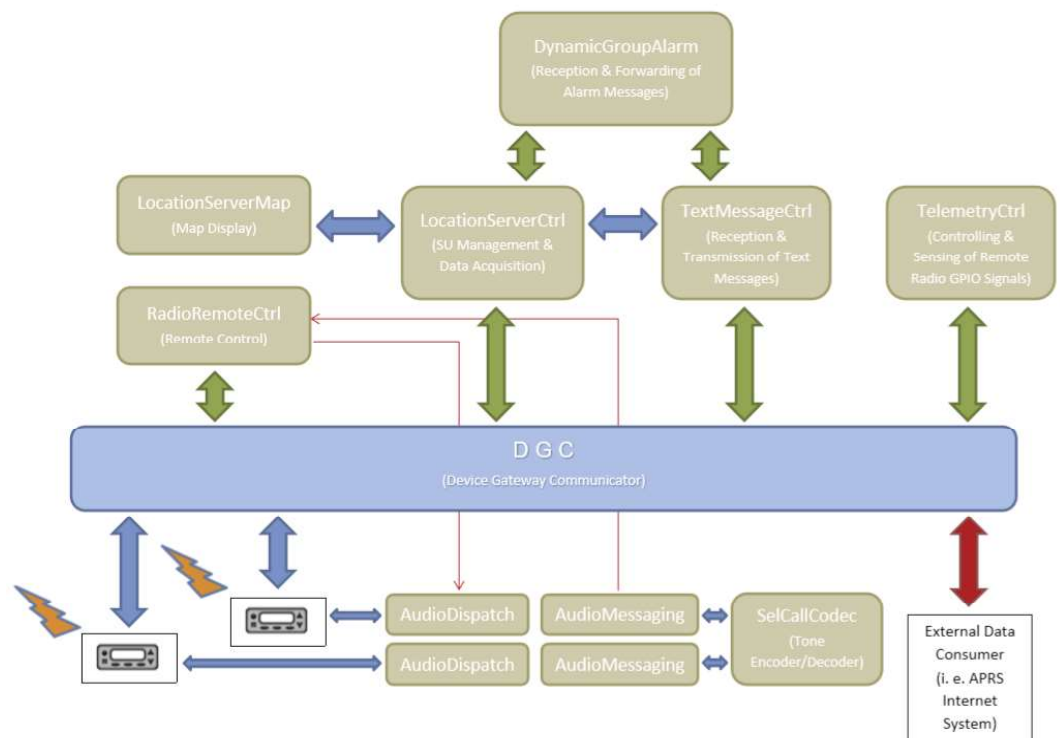


Features

- **Alarm Handling**
The ACS takes in any alarm source or type, translates it into a language it understands and dispatches this alarm to a variety of medias. The watch scheduler ensures the alarm is dispatched to the right person (competencies) at the right time (on shift) and escalates, should that person be busy or not respond.
- **World-Wide Access and Cooperation**
As the ZONITH Alarm Control System is browser-based, all you need is internet access and you can edit schedules, check on indoor positions and follow alarms. Through some of our installations, Zonith has been a major contributing factor in creating some of Europe's largest DMR networks.
- **Lone-Worker Protection**
ZONITH's Lone-Worker safety (L-W) application sends regular 'alive check' messages to employees operating in a pre-defined danger zone. If the employee does not respond, an alarm will be raised and the location of the radio will be sent to management and security.

Architecture

- ZONITH Alarm Control System software is installed on a Windows PC. The alarms can be shown on an alarm display screen over LAN, presenting positioning information and alarm status.
- A dispatch radio is connected to the Windows PC via a data cable or via direct repeater IP access.



CAVE-SYS

- » Voice communication
- » Video transmission
- » Compact design
- » Portability

» Lightweight

TranzTel sp. z o.o.

37 Centralna St
43-210 Kobiór,
Poland

www.cave-sys.com
lesiaks@tranztel.com.pl

Applicable Technology: Search-And-Rescue Communications

Applicable Products: Hytera Range of DMR Radios

TranzTel

CAVE-SYS is a solution designed to provide voice communication in confined space environments. Communication takes place between a base station and portable radios in the range of the leaky feeder antenna.

The system is designed to give you more possibilities when it comes to underground radio communications.

The system also allows video transmission. Video is transmitted from a camera within Wi-Fi range of the terminal station (Wi-Fi Box) and displayed on a portable device near the base station.

CAVE-SYS is a great tool augmenting underground rescue operations and work that takes place in areas of confined space.

CAVE-SYS is a fully mobile and autonomous system. It allows configuration adjusted to the user's preferences. Its ruggedized construction provides for use in tough environments.

Highlights

- Mountain rescue – caves.
- Deep mine rescue.
- Technical rescue (Urban Search and Rescue) – building collapse, wells, adits.
- Industrial rescue – tunnels, metro/subway/underground
- Maintaining buildings, construction and installations underground.

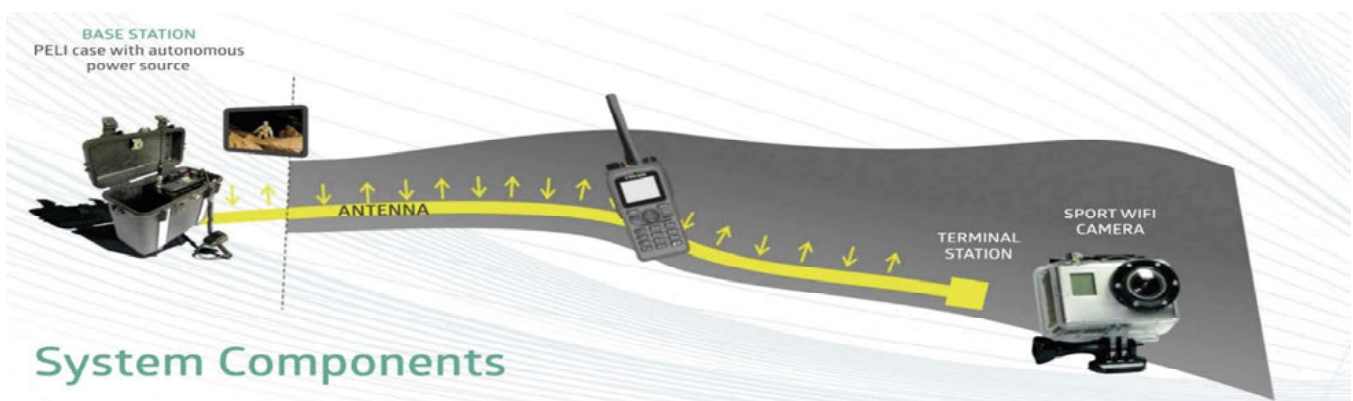


Features

- Voice communication
 - Over Leaky Feeder Cable.
 - Hytera PD785 Hand-Held Radio.
 - Hytera MD785/785G Mobile Radio.
- Video transmission
 - WIFI Camera.
 - Tablet or Notebook.
- Underground environment, the shape and size of underground areas as well as their geological features cause that environment to have very high attenuation which means that different technology specifically made for these environments must be deployed.
- Leaky feeder cable works as a distributed antenna.
- Surface (base) station for the supervisor of the operation provides communication between surface and radios being in the range of the leaky feeder. Outside of the range of the leaky feeder the radios can communicate with each other within their respective ranges. The base station is also an interface allowing displaying video from the underground camera.
- The surface station also powers all elements of the system. The power source can be an internal battery, additional external battery, car 12V DC connection, or 230V AC power source.

Architecture

- System structure
 - Base station - PELI case with autonomous power source.
 - Leaky feeder acting as a distributed antenna.
 - DMR VHF radios.
 - Terminal station.
 - Sport Wi-Fi Camera.
- Utilized devices
 - Base station: DMR VHF radio, power source (battery), Ethernet transceiver, Wi-Fi access point, diagnostic module.
 - Leaky feeder antenna - highly flexible and low weight, can be delivered in drums of 75m, sections can be interconnected.
 - DMR VHF radios - types depend on the user's needs, rugged and waterproof, additional features available with DMR.
 - Terminal station - Wi-Fi access point, Wi-Fi camera, 7" or 10" tablet to view the camera image.



Armtel DMR API

- » **Intelligent algorithms for alerting radio subscribers**
- » **Algorithms for notifying responsible services / dispatchers**
- » **Integration with SCADA**
- » **Individual call**
- » **Group call**
- » **All call**
- » **Mobile station status**
- » **Single / multi-site architecture**
- » **Data services**

Applicable Technology: DMR Tier II

Applicable Products: RD985 / RD985S, DS6310 / DS6210 / DS6211

ARMTEL LLC

Armtel Russia Headquarters,
33-A, Smolenskaya St.,
St. Petersburg, 196084,
Russia

info@armtel.com
www.armtel.com



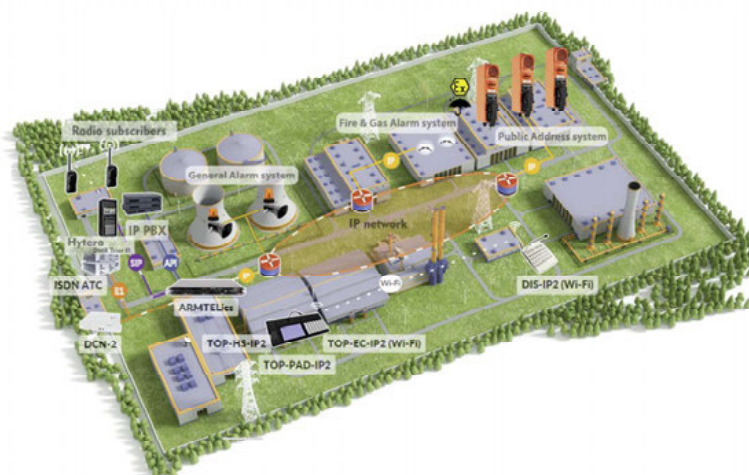
Armtel DMR API is our solution for seamless integration between Hytera radio systems and Armtel Industrial Communication systems (Intercom and Pa/Ga systems).

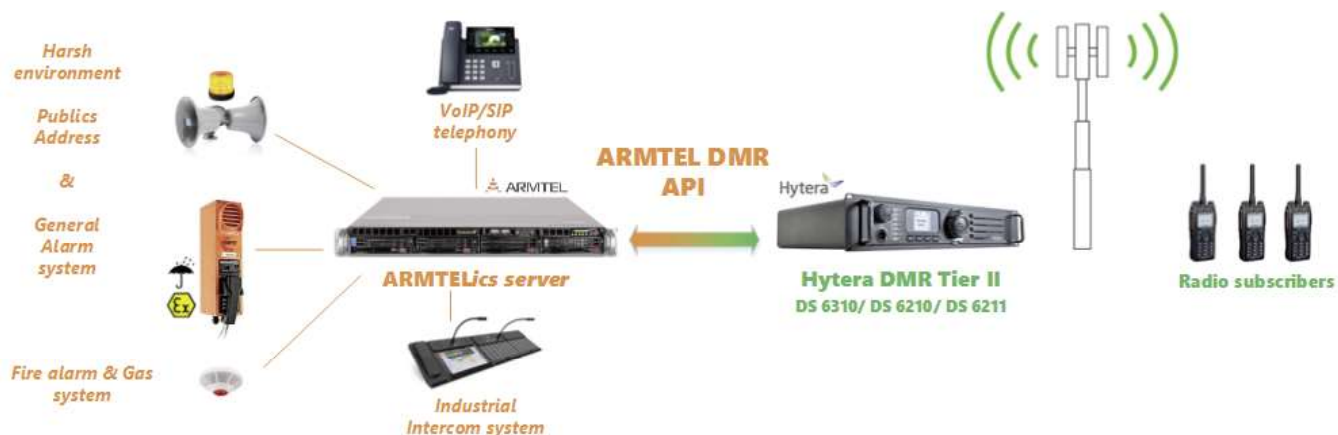
It is common industry practice to implement two kinds of communication network – mobile radio and wired industrial intercom systems. However, today's market faces lack of integration capabilities between two system domains.

communication is crucial for safety enhancement in complex production environments and efficiency of production processes. Therefore, it is important to provide an interoperability solution that fits all-range needs of modern, large-scale and complex industrial enterprises.

Armtel DMR API solution allows industries to gain benefits from both technologies, eliminating difficult choices between two different systems.

Armtel DMR API provides a unified industrial communication platform for personnel collaboration and safety enhancement.





Features

- Intelligent algorithms for alerting radio subscribers about emergency situations in locations.
- Algorithms for notifying responsible services / dispatchers based on alarm messages Lone Worker, ManDown.
- Integration with SCADA to improve the safety of production processes.
- Individual / group call / all call.
- Mobile station status control / radio check.
- Single-site/ multi-site architecture.
- Call scenario management.
- Audio logs and recording .
- Remote monitor.
- Call alert.
- Location data and telemetry .
- Radio check.

ESPA 4.4.4. Converter

- » **Converts ESPA to DMR**
- » **Send messages to specific groups**
- » **Easy connect via MD785**

Selcom B.V.

Hanzeplein 11-27
8017 JD Zwolle
The Netherlands

www.selcom.nl

Applicable Technology: PMR, DMR, NEXEDGE

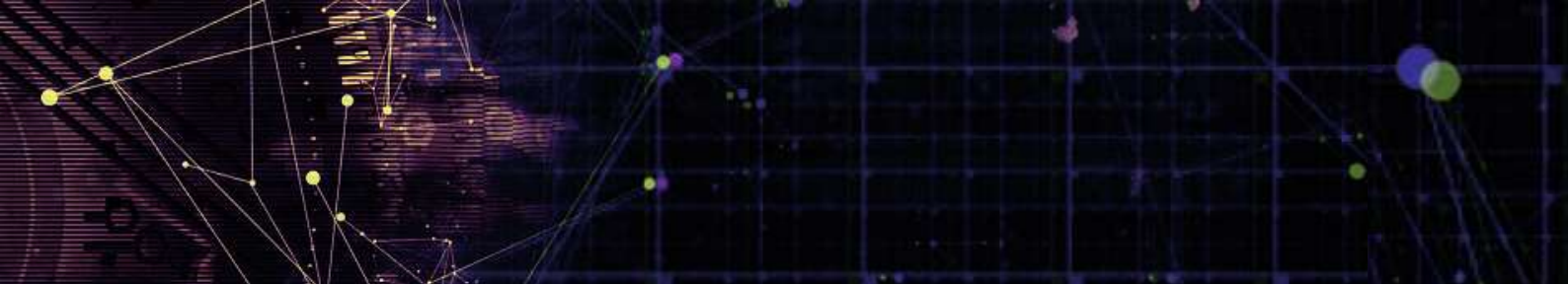
Applicable Products: MD785



The ESPA 4.4.4. converter is a solid, proven product that can forward alarms from fire-panels into your (existing) Hytera DMR network. It will receive messages from the fire-panel and convert into the DMR protocol. Via a mobile radio (MD785) it will transmit the messages from the fire-panel into your network. It is possible to set the parameters so you can determine which call groups need to receive which message.

The converter is equipped with multiple ESPA 4.4.4. ports and a fail-safe rely to forward errors, detected by the converter to other systems.





Features

The Available settings are:

- Setup the ESPA ports:
 - Interface: RS232 or RS422.
 - Number of interfaces: 1 can be extended to 4.
 - Baud rate: 300, 1200, 2400, 4800, 9600 baud.
 - Parity: None, Even or Odd.
 - Bits: 7 or 8.
 - Stop bits: 1 or 2.
 - Status reply for ESPA:
 - Normal reply, according to ESPA standard.
 - Always paged reply.
 - Only reply when asked (non ESPA standard).
- Setup the group of radios alerted at an incoming (alarm) message.
- Backup and restore the settings.
- Read and download the logfile that the converter generates of each event. The logfiles are stored for 3 months. After that period they are automatically deleted.

All settings and logfiles are protected via a username and a password. To prevent unauthorized access.

The available connections are:

- Power supply, 12v to 35v DC 5W max.
- 4 ESPA 4.4.4. input ports. Can be RS232 or RS422. Indicate which interface is needed when ordering the converter.
- USB output for Hytera Radio.
- TCP/IP network interface for IP V4 settings. The IP settings can be indicated on the LCD display.

NIKOS (audio)²

- » **Wide area wireless announcement**
- » **IP67 ruggedized design**
- » **Integrated backup battery**

Applicable Technology: DMR & analog radio, Digital & analog PA systems, GPIO compatible sensors and actors.

Applicable Products: All Hytera DMR products

RADACOM GmbH

Waldenserstr. 2-4
10551 Berlin -
Germany

Tel.: +49 / 30 / 58 58 3 29-0

info@radacom.de

www.radacom.de

RADACOM
Sicherheitssysteme für Veranstaltungen

Emergency information & communication system NIKOS

In recent years, the demand for mobile security and communication technology has grown strongly. Against the background of various attacks and disasters at major events, RADACOM has developed the digital radio-based emergency information and communication system NIKOS. It facilitates public safety and simplifies the crowd management at city feasts, fairs, music festivals and other major events without the need for complex installations. Also the remote control and monitoring functions of NIKOS can help to establish new utility and municipal services fast and at low cost.

Announcement & alarm unit NIKOS [audio]²

The announcement & alarm unit NIKOS [audio]² is part of our product line NIKOS. It enables central announcements using the existing audio systems (PA) of different stages, parade cars, information towers, bus stations, or similar independent venues within a radius of several kilometers without any additional cable laying. NIKOS [audio]² can be used for visitor guidance, as a paging system for evacuations, as an alarm system and for the remote control of third party devices.

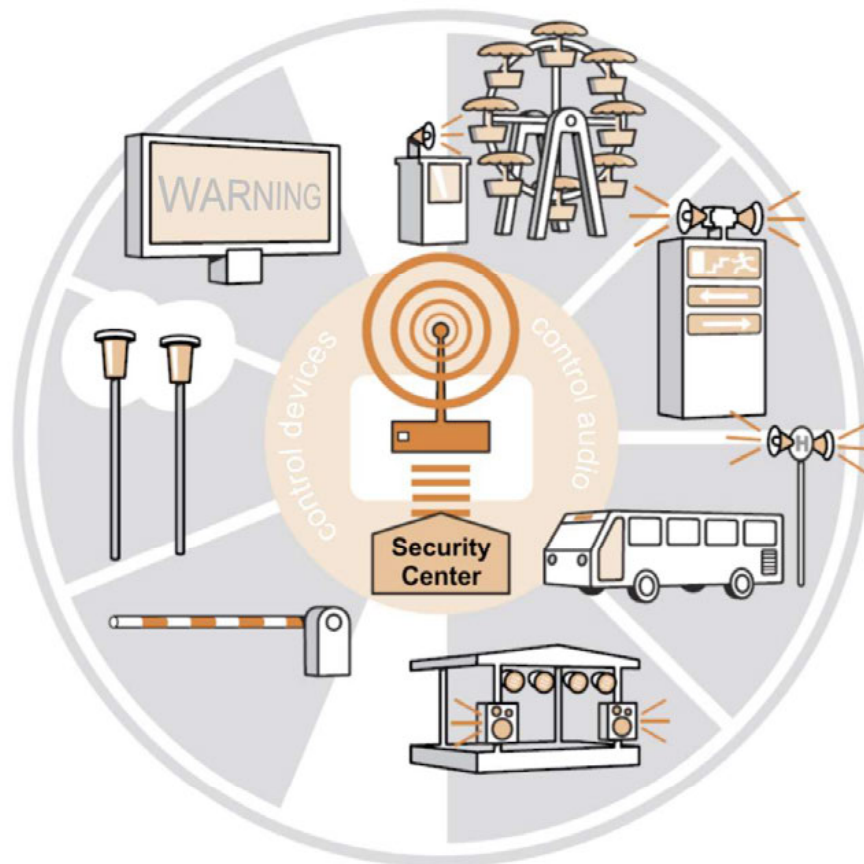
Using NIKOS [audio]² is very easy. The system is set between the normal sound source (mixer, player, etc.) and the am-

plifier via XLR cables or connected to a digital mixer as an analog input with ducking function. The insertion of NIKOS [audio]² will not affect the normal audio signal in means of quality or sound level. The direct speaker output for active or passive horn loudspeakers allows NIKOS [audio]² to reach a large audience without the need for any external amplifiers. The battery buffered 12V power output can also feed external devices as sensors, signals, cameras or even wan emergency light in case of power outage.

While using digital call groups, it is possible to address individual, multiple or all units and make specific announcements to the target areas. Every NIKOS [audio]² can be part of several predefined and even on-demand groups to allow maximum flexibility. In order to avoid misuse and maloperation several security mechanisms are integrated. Most parameters can be adjusted over the air or locally via a PC programming tool very easily.

The security center or mobile technicians are always informed about changes in the operating status of every NIKOS [audio]² unit, e.g. main current failed, unit switched off, or low battery voltage.





Features

- Digital radio transmitter & receiver.
- Encrypted voice connection.
- Flexible call group assignment for local announcements.
- Suitable for analogue and digital sound systems.
- 2 analog audio inputs and outputs (stereo).
- Active or passive speaker output.
- 12V power output.
- 2 programmable GPIOs.
- 90-240V power input, cable with standard connector.
- Emergency battery for at least 2 hours standby or 30 min. active operation.
- Tamper-resistant (actual operating status is reported to control units).
- IP67 ruggedized design.

RADio Alarm Manager

- » Remote switching
- » Warning device
- » Status signal via DMR

Meretec Technologies GmbH

Max-Planck-Straße 62-64
32107 Bad Salzungen - Germany

www.meretec.de
www.orit.de

Applicable Technology: DMR

Applicable Products: DMR Tier II technology



DMR is mostly used by the clients for emergency operations or pure voice radio. But at the same time DMR offers something special, which can be used for both: the existing infrastructure and a saving potential accomplished by solutions, which normally are achievable only with enormous investments when using conventional technology.

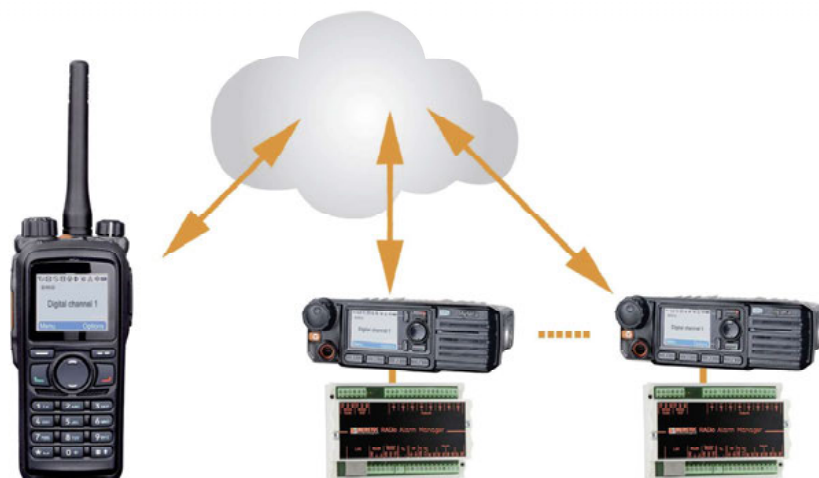
All 30ms speech and data are alternately transferred at the same frequency. This means, while using the voice radio on the first time slot the data transmission can be taking place on the second time slot without any interference regarding the communication on the first time slot. In comparison to other solutions the specific advantage is obvious as many applications of GPRS, UMTS or LTE connections and also the monthly fees which accrue become superfluous. Therefore the operating costs can be reduced at the locations of the company.

Furthermore many locations often cannot be incorporated as they are located outside of the operating range of all

network providers so from the economic point of view a dedicated lane specially installed no longer can be argued, but often this is the only solution.

Network providers focus on high data traffic available in real time and also on sophisticated visualizations to retain customers to the provider's infrastructure and rates. But what kind of informations are required: We do not observe production lines or big power stations but a range of photovoltaics, water-level reporters, pumping plants, small blocktype thermal power stations, wind power plants, fault indicators - a few of deterministic data points which need to be transmitted.





Features

Remote Switching

Defined short messages enable direct switching by a Hytera portable radio. Pre-defined "text messages" switching commands can be realized by using a portable/mobile radio.

Because of so many possible applications more than one application can be realized in every radio environment.

- Barrier and gate controls.
- Switching of floodlighting and street lighting.
- Acoustic & optical alarm.
- Control pumping and lifting stations Connection and disconnection of PV systems.

Warning device and status signal

Via the RADio alarm manager a defined short message will be sent to groups or single participants of mobile radio in case of a changing status of an input.

Monitoring emergency calls or lone worker offers new possibilities in your DMR network:

In case of emergency the RADio Alarm Manager is able to switch up to 8 independent outputs – no matter if permanently or for a defined time. The connection to alarm or intercom systems enables the implementation of various emergency plans.

- Monitoring of lone worker and emergency calls Transmit alarms and fault messages.
- Intercom with defined text messages (e.g. facility management).
- Monitoring of stream stage or flood basins Forwarding of door contacts or bells.

TELESTECH® DMR

- » Indoor localization
- » Lone worker protection
- » RFID Tag reading
- » GPS localization

Applicable Technology: DMR

Applicable Products: DMR radio solutions

Schmidt Funktechnik GmbH

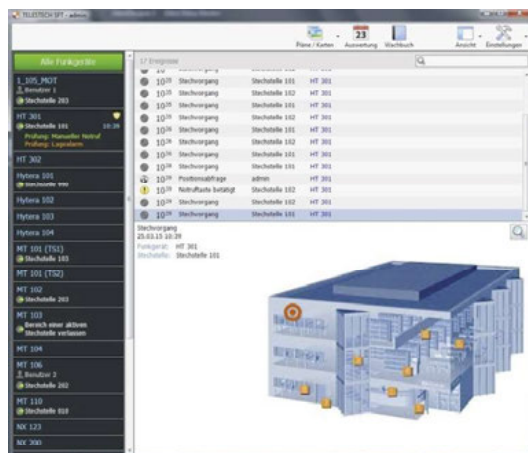
Heilbronnerstr. 25
73037 Goeppingen -
Germany

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info@s-ft.de

SCHMIDT
Funktechnik GmbH

Lone worker and guard tour protection system

The option board module SG-Hytera offers comprehensive protection in lone worker applications and guard tour protection systems, by watching over movements of the radio and positional data, including the ability to locate radio user in-house. The module can be integrated into the PD785/G and PD705/G and MD785/G radios. If an alarm is triggered the radio will emit an audible pre-alarm. If no response is received during a preset time the module will then send an emergency call to the central management system, which can trigger a number of emergency procedures. The radio user is also able to trigger an emergency alarm manually at any time. Localization of the radio is possible via an optionally available transponder reader, active beacon receiver or the GPS function of the radio.



Highlights

- Integrated man-down alarm unit. Able to program response time and pre-alarm time, reacts on movement from vertical orientation into any direction.
- Integrated sensor technology to trigger non-movement and panic alarm (freely configurable).
- Emergency call button to trigger an alarm manually.
- Automatic acknowledgement for a technical alarm.
- Intermediate storage of up to 50 checkpoints in case of busy radio links.
- Customizable alarms and functions (over-the-air programming).
- Optical and acoustical notifications during reading/transmitting data operate.
- Optional: contact-free identification of active or RFID checkpoints.

Features

- Option board SG-Hytera-R
Sensoric for lone worker protection
Active beacon receiver.
- Option board SG-Hytera-T
Sensoric for lone worker protection
Transponder RFID reading unit.
- Active checkpoint beacon
Range 1-20m
- Passive checkpoint RFID
- TELESTECH® software
The TELESTECH® DMR system ensures that alarm management and notification is automatic, efficient and reliable. It automatically dispatches safety and business critical alarms to and from DMR radios.
The TELESTECH® Software is based on actual Windows operating systems. The Software is created as a server-client-concept with a central database. For this reason, it has complete network abilities and can be used as a multi-user system with individual logins and graphical user interfaces. The software can track and manage up to 500 radios.

Architecture

- DMR Radios with option boards
(for indoor tracking or RFID reading).
- DMR Tier II / DMR Tier III infrastructure
(SDS data services).
- Management software connected to an MD785 data-terminal.



DRT+

- » **Integration of multiple communication system:** LTE MCPTT / TETRA / DMR / PMR / PSTN / PABX
- » **Connection LTE MCPTT and ACCESSNET-T IP through the node**

- » **All functions of TETRA dispatcher**
- » **Integration with multiple radio networks**
- » **Use of multiple telephone interfaces**

Applicable Technology: DMR

Applicable Products: Hytera DMR Radios

South Midlands Communications Ltd

SM House, School Close,
Chandler's Ford Industrial Estate,
Eastleigh, Hampshire,
SO53 4BY, UK

www.smc-comms.com

Dispatcher Radio-Telephony Plus (DRT+) is a unified communications manager developed by Algoritmos Proceso S.A. (APD), which allows an integrated management of all critical communications, achieving successful emergency response.

The application is a full IP solution enabling the coordination of the various emergency teams through interconnecting radio communication systems (analog and digital) and telephony networks (traditional and IP).

DRT+ allows the interconnection between TETRA/DMR/PMR networks and LTE MCPTT users. The application enables establishing voice communication between radio networks users and LTE users. Any group call in radio networks can be extended with APD solution.

Integration is performed natively via the Common Application Programming Interface (A-CAPI) interface with the TETRA ACCESSNET®-T IP radio system from Hytera Mobilfunk GmbH.

DRT+ can be installed alone or together with some of the other four modules that make up the SiCom Suite, providing all features and capabilities needed to manage any emergency to the Emergency Management Organizations.

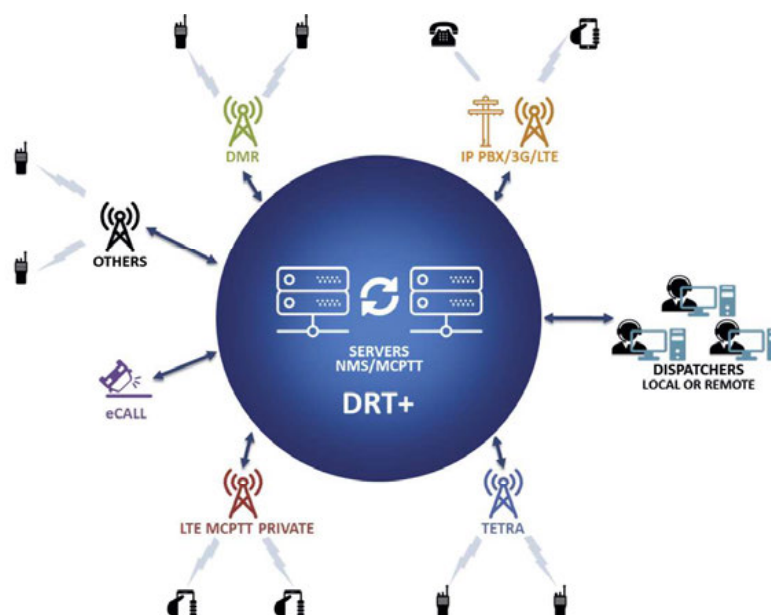


Applications

- Available semi-duplex, duplex, group calls or emergency calls.
- Caller and terminals ID.
- Transfer and holding calls.
- Dispatcher intercom.
- Monitoring the status of communication lines.
- Support of text messages, status messages and SMS.
- Dynamic group number assignment (DGNA).
- Configurable screen layout.
- Multi language.
- Recording and replaying all communications with watermark.
- History of all communication.
- Multi server redundancy and load balancing.
- Possibility of centralized or distributed installation.
- SNMP.

MCPPT Broadband Features

- File Transfer
- Messaging
- Advanced Location
- Video
- 3GPP Standard



Multikom IP

- » **Voice communication system designed for mission-critical environment**
- » **integration of many radio and telephone networks**
- » **fully-integrated dispatch consoles**
- » **custom-designed radio controller**

Applicable Technology: DMR, TETRA, LTE and/or Analog

Elvys Ltd.

Polska 9, Kosice
Slovakia

www.elvys.sk



Multikom IP is a digital communication system designed for mission-critical applications. Its extremely high reliability is obtained by custom-made hardware and software. The core of the system operates on an in-house designed real-time operating system which runs critical system functions.

The new control unit released in 2016 has a modern logical architecture and significantly greater commutation capabilities. It is a so-called "soft-switch" and is based on the latest generation of signal processors, running natively in the IP protocol.

In one 1U housing, it is possible to install a dual central unit and two additional expansion cards. If system expansion is needed, further slots for additional cards are installed and connected on top of each other. All peripherals communicate with the Multikom IP system using the IP protocol, i.e. digital dispatch consoles, local and remote radio-controllers, VoIP telephony network and the networks of digital radio systems (DMR, TETRA, NEXEDGE and others).

If special codec or increased capacity is required, an additional expansion card is used. The entire voice commutation and control takes place at the central unit level.

Multikom IP is also equipped with PCM and CAN bus connectors, which enables us to integrate non-IP interfaces (analog telephone lines, ISDN or QSIG)..



Features

- Group connections – Active audio communication within a selected group of radio network subscribers.
- Individual connections – Possibility to set up individual calls.
- DS messages – Sending and receiving (individual or group) short text messages.
- Emergency calls – Handling high priority calls with instant locating and audio monitoring of the radiotelephone surroundings.
- Remote kill / stun – Possibility to remotely disable a lost or stolen radiotelephone.
- Prioritization – The function allows a dispatcher to interrupt communication with a lower priority caller.
- Silent check - Discreet activity monitoring of a radiotelephone.
- Conventional systems of radio signalling – Minikom IP radio controllers are embedded with radio signal codecs, allowing them to be applied independently of the base 2-way radio used: CTCSS, DCS and 5-tone selective calling.
- GPS – Determination of active subscriber's coordinates and visually displaying his location on a map shown on Unikom 8 console.
- Voting – Radio network mode operating on a single, common frequency with automatic selection of the base station receiving the strongest signal.
- Patch / Interconnect – Set of direct connections between heterogeneous communication channels: radio-radio, radio-telephone, analogue radio-digital radio.
- Sharing resources – The possibility to share remote base stations within neighbouring systems.
- Queuing – This function allows the dispatcher to have an overview of all pending calls received by the system.
- Conferences – Multikom makes it possible to organize conference calls in which both tele- phone subscribers and users of radio networks are able to participate.
- Call transfer – Forwarding telephone calls to other subscribers of the local Multikom system or its parent PBX or SIP server.



SMC Gateway

South Midlands Communications Ltd

SM House, School Close,
Chandler's Ford Industrial Estate,
Eastleigh, Hampshire,
SO53 4BY, UK

www.smc-comms.com

» **Wide area wireless announcement**

» **IP67 ruggedized design**

» **Integrated backup battery**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios



The award-winning SMC Gateway is an adaptable appliance that offers advanced options for the functionality of your radio system and other communication devices. It connects your digital networks and devices to many other systems and creates solutions to meet the individual needs of each customer.

Our team is constantly developing the SMC Gateway to ensure that each customer receives a tailored product that suits their requirements. Our combination of innovative technology and technical support means: the possibilities are endless.

Advanced application builder

The advanced application builder is a software that enables you to connect multiple systems together to maximize your investment in your digital radio network. It provides you with a set of powerful tools to create and edit workflows, allowing you to convert your requirements into the perfectly working solution.



Applications

Teleconnect

- Connects your digital radio system to any available telephone connection.
- User-configurable interactive voice menu.
- Pre-recorded messages can be sent out via telephone.

Alarm handler

- Connects to any alarm system via hard-wired input, serial and IP, enabling communication to digital radio networks, SMS messaging and email.
- Intelligent interpretation of alarm output allows only the required data to be communicated, i.e. alarm type, time, room number.
- Uses include false alarm prevention, remote monitoring of unstaffed buildings and replacement for legacy pager systems via DMR.

Lone worker monitoring

- A customizable application that will automatically check the wellbeing of lone radio users.
- The SMC Gateway will automatically send 'alive check' messages and if no response is received, escalate accordingly.
- Numerous other useful options available on this application, including hazardous environment checks and location activation prompts.

Livetrack

- A versatile, stand-alone solution, allowing DMR-based mobile, portable and fixed terminals to be tracked and controlled.
- Unlimited operators via standard web browser.
- Platform-agnostic client, works with Windows, OSX, Android.

These are just some of the many interconnected applications common to the SMC Gateway, which work together to provide flexible custom solutions.

C.O.M.

- » Control room dispatcher
- » Voice Call management
- » Text message management
- » GPS localization
- » Indoor localization
- » Voice recording
- » VoIP

Applicable Technology: All Hytera products

Applicable Products: DMR, TETRA, Analog

BPG Radiocomunicazioni

Via Nazionale, 13
10060 – Pinasca – TO – Italy
(+39) 0121 - 800669
commerciale@bpg.it



COM dispatcher allows the central management of verbal communication, selective calls, exchange of text messages and location of a fleet of vehicles, equipped with analog radios, digital DMR or TETRA or GSM / GPRS.

The gateway to the radio network can be achieved in three ways: USB connection to mobile radio, IP connection to repeater network or IP connection to mobile radio through RoIP Gateway IP3001.

The software allows a simple and intelligent management of the radio communication in form of a computerized central console. The user interface is fully configurable and adaptable according to the requirements and the device in use; approach „touch oriented“, by managing the „gesture“, which allows an easy and intuitive use of the application on platforms like PC all-in-one or tablet.

Access to the software is managed by using different credentials for users and administrators.

COM consists of three main modules that can be purchased separately:

Talk Manager, Talk Finder, Talk Recorder and plugins for the realization of customized functions.



Features

- **TALK MANAGER:** the module allows the simultaneous handling of multi-radio lines with different technologies (Analog, DMR, TETRA, GSM / GPRS). The radio fleet is included in an address book that allows a dynamic management of both individual radios and groups. Dynamic groups can also be created by Dynamic Group Assignment (DGNA). Filtered view allows quick access to different elements.
- **VOICE calls:** ability to send and receive voice calls or call alerts in a simple and intuitive way. Multiple line selection as well as automatic crosspatches are also managed.
- **Text messages and status:** ability to send and receive any kind of text messages or pre-coded status messages (depends on the radio and on options).
- **Radio calls log:** the traffic of the radio channel is displayed in a log window and can be saved on the hard disk for post verifications or statistical surveys. The query of the log is facilitated using combined filters.
- **Emergency calls:** an incoming emergency call is clearly displayed on the GUI with dedicated audio alarms. It can be configured to automatically forward a telephone call or a GSM SMS according to specific events.
- **TALK RECORDER:** this module records all the radio voice calls with associated caller ID. Recorded traces can be reloaded and played by a web-based searching engine, matching date, call type, caller ID, radio line.
- **TALK FINDER:** the module allows to locate simultaneously on one or more of your fleet maps, of radios and GPS-GPRS modules. GPS reporting can be immediate or triggered, configurable for each device. Indoor localization can be achieved by means of Bluetooth iBeacons.

The Talk Finder module can integrate Open Street Map, Teleatlas, Navteq and interact with Google Earth. Also, user raster and vector maps (shp, tiff, geotiff, ecw, jpg, etc...) can be managed in a multilayers view. Standard functions like pan, zoom, waypoint insertion, spatial query and geocoding can be done with the intuitive user-friendly interface. Different maps can be displayed at different zoom levels, to provide tracking at different levels of details.

RoIP Gateway IP3001

IP-3001 is an IP radio gateway to be integrated with dispatcher software. Based upon the Linux operating system, the IP-3001 provides an extremely reliable means of remote controlling radio devices.

IP-3001 can control analog radios, digital radios or standard 4 Wire + E&M.



HYTERAplus

- » **Integration of multiple communication system**
- » **Connection LTE MCPTT and ACCESS-NET-T IP through the node**
- » **All functions of TETRA dispatcher**
- » **Integration with multiple radio networks**
- » **Use of multiple telephone interfaces**
- » **Support calls of eCall Systems**
- » **Redundancy options**

Applicable Technology: DMR & analog

Applicable Products: Portable PD7, PD9 and Mobile MD7

BPG Radiocomunicazioni

Via Nazionale, 13
10060 – Pinasca – TO – Italy
(+39) 0121 - 800669
commerciale@bpg.it



HYTERAplus is a set of applications designed for the Hytera generic option board for Hytera 7xx radios, portable or mobile, and for PD9 radios, with the aim of extending the standard radio functions.

HYTERAplus adds one of all the following functionalities to PD7xx, MD7xx and PD9xx radios:

- ETS 300-230 FFSK based signaling (encode and decode FFSK signaling) in analogue mode.
- GPS Datalogger stores GPS positions in the GOB internal flash memory.
- RSSI Datalogger stores RSSI measurements with GPS position in the GOB internal flash memory.
- Triage allows up to 4 configurable steps with 10 possible selections/step coded with GPS position and sent over the air.



Applications

- » ETS 300-230: adds the 1200bps FFSK signaling system in analogue mode. It allows also to send and receive text messages and GPS localization in analogue channels.
- » GPS datalogger: allows to store GPS traces and waypoints in the GOB internal flash memory. Stored data can be exported in GPX, KMZ, and CSV format.
- » RSSI datalogger: it is a flexible and useful tool to verify and measure the signal coverage of professional radio networks. The measurements are done automatically and stored in an internal flash memory with associated GPS position. Stored data can be exported in GPX or KMZ format for following analysis. HYTERAPlus RSSI Logger works both in digital and analog mode. RSSI measurements can be configured in three modes:
 - » Timed passive: measurements are done cyclically by a programmable timer.
 - » Timed active: measurements are done cyclically by a programmable timer and network is automatically awakened before measurements.
 - » RX triggered: measurements are done every time radio receives a valid signal.

RSSI Datalogger measurement procedure

STEP 1 - Take your 785 portable radios with you and go into the area of interest. RSSI measurements are done automatically and stored in an internal flash memory with associated GPS position.

STEP 2 - After your measurement campaign connect the radio to pc and download the stored data. By using a standard 785 USB cable and the software tool provided with the board, you can export your data in Google Earth or other 3rd party map format and analyze your network coverage.

HYTERAPlus RSSI data logger is a flexible and useful tool for your technical department and network administrators.

- » Triage: a quick and easy to use radio survey can be manage up to 4 configurable steps with 10 possible selections/step. Survey data together with GPS position can be sent over the air in a text message.



Remote Terminal Unit

- » Low bandwidth utilization
- » Data sending on change of state
- » Industrial Linux OS processor

Expert System Solutions cc

PO Box 7, Derdepoortpark
0035 South Africa

info@e-s-s.co.za

www.e-s-s.co.za

Applicable Technology: DMR, TETRA, LTE and/or Analog

Applicable Products: TETRA, DMR, MPT, LTE



Reliable wireless equipment management (monitoring & control) is essential for process operators to detect any equipment conditions and failures in order to perform corrective measures. Typical problems facing process operators are often the difficult access to the sensors, cable breakage, cable theft and the time to repair the cable.

ESS has designed a Wireless Management System called the ESS-TETRA-RTU (Remote Terminal Unit) that will allow operators to receive instant notification of any sensor or equipment events. Control of maintenance personnel can automatically be informed about the problem and plan effectively for the corrective task. Various remote analog and digital sensors can be used with a choice of different communication technologies such as MPT1327, DMR, TETRA, LAN and LTE.

The ESS TETRA-RTU allows for exceptional flexibility and modularity with the ability to provide 100% redundancy for critical management. Connectivity to any OPC (Ole Processing Control) based SCADA is easy to implement. The

ESS-RTU has a powerful processor, clever algorithms are implemented by ESS to remove unnecessary data overheads without changing the bus protocols.

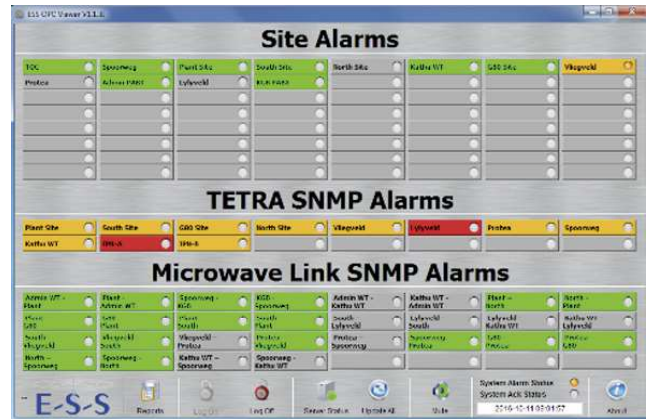
The ESS-RTU can be connected to an external TETRA/MPT/DMR/LTE radio's. Various RTU configurations are possible and additional extender interfaces can be connected to the ESS-RTU, allowing for flexible expandability.



Features

- » Industrial microprocessor, operating system Linux.
- » Low data bandwidth utilization due to optimized application layer protocol.
- » 2 x RS232 ports, 1 x RS485 port, 1 x diagnostic RS232 port.
- » Ethernet port 10/100 Mbps.
- » 2 USB ports.
- » Compact DIN rail design with plug-in IO connectors.
- » Audio connector for external speaker microphone.
- » On board SD card enabling the user download of configuration files.
- » DC Voltage inputs from 8 V to 48 VDC.
- » Operational Temperature -20° to +60°C.
- » Logic Control via user friendly interface (optional).
- » 4 Digital optically isolated inputs, 4 Digital open collector Outputs.
- » 20 Digital optically isolated inputs, 8 Digital open collector Outputs.
- » 4 analogue inputs 0/4 – 20 mA, instrumentation 12-bit A/D.
- » Efficient LED display of IO's including analogue values.
- » The ESS-RTU has been certified by Hytera Mobilfunk GmbH for radio to radio communication and radio the ACAPI gateway connectivity.
- » SNMP connection for the Accessnet TETRA system.
- » OPC Interface for connection to SCADA systems.

- » Gateway connection to GSM.



Hytera Mobilfunk GmbH

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SiteSurveyIP 4Hytera

- » **Create a radio coverage anytime without usage of measurement trips**
- » **Quality documentation solely by active DMR network participants**

Applicable Technology: DMR

Applicable Products: Hytera DMR radios

Meretec Technologies GmbH

Max-Planck-Straße 62-64
32107 Bad Salzufflen -
Germany

www.meretec.de
www.orit.de



Investigate the quality of your infrastructure radio coverage without costly measurement trips. The SiteSurveyIP 4Hytera software communicates with a Hytera repeater and can thereby analyse data from all active radio participants almost simultaneously. The existing network participants transmit RSSI data with GPS reference to the application. Remote activation is available via the software, thereby enabling to activate radio devices via the air interface

instead of parameterizing every single radio on its own.

The analysis allows various possibilities for its representation. Two-colour or multi-colour display is possible.



Data bank

The application will be installed on a computer that is integrated in the IP network of the repeater. All incoming messages will be written into the database. By means of continuously recording movement data the graphic quality evaluation is made. All participants in the DMR repeater network can transmit data, provided they are enabled for this purpose. Likewise, it is possible to analyse data selectively, e.g. it is indicated if one participant consistently provides poorer reception values – thereby simplifying an error analysis.

- » No costly measurement trips necessary for quality evaluation.
- » No manual parameterizing of radio devices necessary.

- » Activation of GPS & RSSI data via the radio interface.
- » Logging data of all participants in the IP network.
- » Analysis of selected or all network participants.
- » Graphic and coloured evaluation in Google Maps.

#	Time	Date	Radio ID	Latitude	Longitude	Speed	RSSI (dB)
96	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-102
97	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-94
98	072314	260617	8004	52.095191955...	8.7540121078...	9.6	-107
99	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-102
100	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-94
101	072314	260617	8004	52.095191955...	8.7540121078...	9.6	-107
102	072417	260617	8004	52.094402313...	8.7536258697...	1.0	-108
103	072448	260617	8004	52.094684600...	8.7534122467...	1.7	-111
104	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-102
105	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-94
106	072314	260617	8004	52.095191955...	8.7540121078...	9.6	-107
107	072417	260617	8004	52.094402313...	8.7536258697...	1.0	-108
108	072448	260617	8004	52.094684600...	8.7534122467...	1.7	-111
109	072551	260617	8008	52.094760894...	8.7531461715...	3.8	-91
110	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-102
111	072312	260617	8008	52.0952377731...	8.7539005279...	8.2	-94
112	072314	260617	8004	52.095191955...	8.7540121078...	9.6	-107



Total Recall VR

- » **Professional, secure radio logging and recording.**
- » **Advanced software capabilities for call monitoring, replay, event reconstruction and more.**
- » **Reliable On-board HDD storage and archive options to DVD, Blu-ray, USB, or network.**

Total Recall VR (Prolancer)

2/34a Olive Street
Kingsgrove 2208, NSW,
Australia

Applicable Technology: DMR & analog

Applicable Products: all DMR products (via Hytera HDAP), all analog products

Total Recall VR

In an increasingly security conscious, litigious and results-driven world, call recording and monitoring is vital to meeting your safety, duty of care and management needs. Total Recall VR is the fully featured, dedicated and professional voice logging system to match your requirements. Uncompromisingly reliable, and with flexible hybrid recording options, Total Recall VR is perfect for recording, archiving, searching and replaying your critical radio, telephone, ATC and console communications.

Total Recall VR is custom engineered for voice logging, offering superior reliability compared to PC based systems. We combine numerous on-board hard drive storage options (including AV-GP, RAID-1, High-Capacity or SSD storage), together with the security, speed and reliability of an enterprise-grade UNIX operating system. Store up to

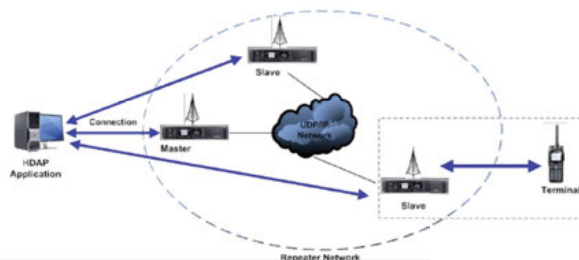
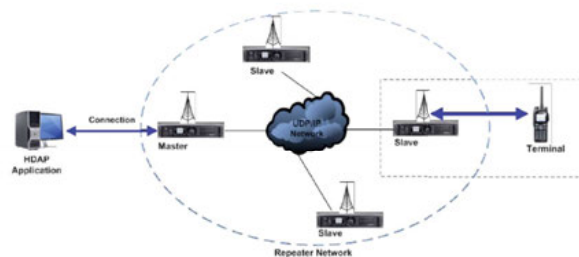
380,000 hours (or 600,000 records) of call recordings on board, and archive calls automatically or on-demand to inexpensive CD, DVD or Blu-ray media, network-attached storage or USB device.

Three installation licenses for our PC applications are included with every Total Recall VR system. These can be used to provide basic configuration, live monitoring, search and replay functions from the convenience of your Windows PC, via a TCP/IP network. Alternatively you can take advantage of our more advanced software functions – highly configurable search & replay on TRVR systems and archives, multi-track waveform replay of calls, centralised continuous network archiving from one or multiple TRVR systems and/or simplified archive integrity checks & repair.



Features

- » Convenient 19" rack mountable enclosures, stand-alone desktop units or ultra-portable micro enclosures.
- » Intel and Linux based platform for outstanding reliability and performance.
- » Selected models with built-in control panel featuring a colour LCD display and easy access keys.
- » Ideal for hybrid analogue source (telephone, microphone, audio output...), VoIP and ISDN PRI call recording.
- » Fault resilient audio storage & power supply.
- » Tamper proof audio media and file format.
- » Multi-level user access control.
- » User-configurable voice logging and call recording with functions like start/stop recording and record-on-demand.
- » Non-intrusive, live and real-time monitoring of recordings in progress.
- » Playback of completed recordings while recording in progress.
- » Start, stop, pause, fast-forward and fast-reverse player controls.
- » Comprehensive search options including time, date, call numbers, extension, agent name, key words in notes and much more.
- » On-board audio storage and archive up to 380,000 hours of audio at 8Kbps and/or 60,000 hours at 64Kbps.
- » On-demand and automatic archiving at predefined intervals to CD, DVD or Blu-Ray media.
- » Network archiving to archive unlimited number of recordings to a network drive.
- » USB key and disk drive archiving.
- » SNMP alarm integration.
- » Station Messaging Detail Record (SMDR) integration for many popular PaBX systems.
- » 3 Activation Licenses for PC Applications, for remote configuration, monitoring, search, replay, event recreation and more.
- » 2 years warranty (that can be extended to 3, 4 or 5 years).



TRS2090 Train Radio

- » **Voice and data communication**
- » **PA- & Intercom interface (RS485 & VOIP-SIP)**
- » **Digital I/O's for train control function**

Applicable Technology: DMR, TETRA, LTE and/or Analog

Applicable Products: Mobile Radio MT680 (TETRA), Mobile Radio MD785 (Analog, DMR)

ErvoCom International AGk

Firststrasse 29
8835 Feusisberg - Switzerland

www.ervocom.ch



The TRS2090 is a specialized radio communication system for locomotives, metro trains and light rail. It has been designed according to the specifications for railway environmental requirements as defined in the European standards EN50155, EN50121-3-2, EN 50121-4 and EN45545-2 and provides the complete set of 3rd party certifications. As a result, it is a very durable and rugged train radio system with minimal space requirements.

The Train Radio System TRS2090 with its sub-components ZSE2130 as the central control unit and COCO2137 as the HMI is available in both, IP20 and IP65 ingress protection and can be mounted into space limited locations within

the rolling stock as well as in standard 19" (3HU) racks. The system uses an embedded Hytera mobile radio (TETRA or DMR) in either VHF or UHF as RF front end. A configuration with one or even two COCO2137 connected to the central control unit for double-headed trains is possible.

In railway networks the needs for equipment lifetime are much higher than for other markets. ErvoCom guarantees spare part support on PCB level for a minimum of 10 years after the system delivery.



Central Control Unit – ZSE2130 IP65 (compact)



Central Control Unit – ZSE2130 IP20

Applications

Train Radio System TRS2090

- » Voice communication in point to point, group call and emergency mode.
- » Hardware expandability for direct implementation of on-board computer applications.
- » Transparent data traffic from/to on-board computer systems.
- » Digital I/O's for train control functions.
- » Train-Line interface to on-board PA (Public Address) systems.
- » Train-Line interface from/to INTERCOM and passenger emergency terminals.
- » Short message exchange (SDS).
- » Train running number based call (functional addressing).
- » Possibility of high degree of customization.
- » Easy software update via USB stick.

HMI CoCo2137

- » Railway proven HMI.
- » Excellent tactile button feedback.
- » Simple operation and menu navigation through Scroll & Select.
- » Separate emergency call button.
- » Display with automatic brightness sensor.
- » Keypad illumination.
- » Connectors for speaker, microphone and handset.
- » High-resolution TFT color display.

