# RADIODATA

Established in 1981, **RADIODATA**, as a privately owned company, has a proven and successful record in the design and reliable implementation of Professional Mobile Radio (PMR) equipment and systems for voice and data communications. **RADIODATA's** customers stem from all important PMR market segments, public safety and security, utilities and industry, public transport, airport operators, the oil and gas industry and mining companies.
A variety of analog and digital PMR networks from **RADIODATA** is operated by utility companies, several of them covering the area of a German federal state. Many public and private buildings in Germany, like court houses, jails, conference centers, shopping malls, etc., are furnished with special certified radio equipment from **RADIODATA** for in-building radio coverage built for first responders.
Customers can trust in **RADIODATA's** willingness and capability to custom-tailor PMR systems and equipment to achieve cost-effective solutions which perfectly will suit their needs.
A motivated, innovative and experienced R&D team of experts in Radio Frequency (RF), Field Programmable Gate Arrays (FPGA), Digital Signal Processing (DSP) and embedded hardware and software solutions provide design and development results which are state-of-the-art. Among those you will find components with outstanding features, e.g. Software Defined Radio (SDR) based DMR receiver modules operating several radio channels concurrently at a time, high efficiency power amplifiers, or the Audio Processing Gateway (APG) as a device to convert between TDMA-based telecommunication lines (E1, ISDN), Voice-over-IP (VoIP) and analog lines.
In particular, **RADIODATA** has developed its new **DIPRA®** - Digital Professional Radio system - based on the ETSI Specification of Digital Mobile Radio (DMR), with all subsystems as components available to deploy a PMR network, i.e. base stations, switch, voice transcoder, network management and mobile radio.

## PMR Equipment and Systems for Professional Users


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## RADIODATA Analog Radio System SAFIR+ (low and high VHF)

to provide communication for public safety and security and other users (certified according to German TR-BOS Parts B, C and D) for in-building and outdoor radio coverage being deployable as

- repeater or single-channel basestation,
- simulcast basestation with automatic adjustment and correction of modulation signal,
- pair of redundant basestation to drive a ring of leaky-feeder cable.

## RADIODATA Digital Radio System SAFIR-T (UHF)

to provide communication for public safety and security and other users for TETRA in-building radio coverage being deployable as

- repeater for Direct Mode Operation (DMO)
- repeater for Trunked Mode Operation (TMO)
- hybrid repeater assembly combining SAFIR+ and SAFIR-T

## RADIODATA DIPRA® Scalable DMR Tier III Radio Networks

**for Public Safety, Utilities, Public Transport and Industry**

The **DIPRA®** switch SW2400 represents the central control and intelligence of the entire DMR radio network. As such it facilitates the integration of mobile users into the voice and data communication of an organization. Interfacing to PABX and PSTN offers a variety of options including conversion of voice coding schemes, ISDN $S_0$ and $S_{2m}$ and Voice-over-IP (VoIP).

The **DIPRA®** network management as a major function of the SW2400 provides tools for

- configuration management - configuring all subsystems and components of the DMR radio network
- network monitoring - monitoring and supervising the DMR radio network during operation
- fault management - managing faults of the DMR radio network
- subscriber management - administering mobile terminals, mobile users and talk groups

A Simple Network Management Protocol (SNMP) interface may interconnect to an external network management system.

The **DIPRA®** basestation BS2400 is available as standard or simulcast basestation, either as single or multi-carrier subsystem. Its implementation is based on the concept of Software Defined Radio (SDR) which aims at RF receivers and transmitters to be configured by software. In case of a link failure to the switch the BS2400 enters fall-back mode operating as a single-site DMR radio system.

**DIPRA®** mobile radios and data modems are available in low and high VHF. Mobile radios may operate in full duplex mode for voice operation. The display of the handset with its multiple lines and the alpha numeric keypad supports reading and typing of text messages. An optional GPS receiver interlinked to a Graphical Information System (GSI) application contributes to improved safety of the mobile workforce and their efficient management.

Ethernet and optional RS232 interfaces and various data communication types enable the radios to be used for SCADA, telemetry and telecontrol applications.

## RADIODATA Audio Processing Gateway APG

to utilize inexpensive digital lines for transmission of analog audio and signaling:

- substituting discontinued analog tie-lines,
- in-built DSP facilitates evaluation and generation of signaling
- interfaces are four analog E&M, E1 PCM and Ethernet
- delay equalizing for E1 and IP connections
- local generation of acknowledgments to compensate for latency in IP networks