



simocoXd

CONNECTIONS THAT COUNT

The complete end-to-end
DMR solution supporting
both Tier II and Tier III



Simoco Xd

Professional Digital Mobile Radio System

// Simoco Xd

Simoco Xd combines extensive experience of delivering radio systems with leading edge digital technology to connect people when it matters.

Future proof and resilient, Simoco Xd is a complete end to end system consisting of mobiles, portables and base stations with integrated IP dispatching. Simoco Xd hardware is upgradable from Tier II to Tier III with software only and completely scalable from a single base station to large networks.

As a leading member of the DMR Association, Simoco is 100% committed to open standards and is fully compliant with the ETSI DMR Tier II and Tier III standards.



// Why Simoco Xd?

For 60 years our radio systems have enabled you to do what you do better. Simoco Xd brings the benefits of the DMR digital radio standard, reliability and resilience, integrated all IP communications, digital voice quality, ease of deployment and scalability.

- Reliable and resilient – with resilience built-in to the base stations, and tough portables and mobiles, Simoco Xd provides a robust platform for always-available communications.
- Open marketplace – Simoco’s truly interoperable digital products protect the purchaser by supporting a mixture of manufacturers’ equipment through open interfaces.
- Integrated communications – extending the radio communications system to talk with local or worldwide telephony is embedded across the radio system to give natural calls beyond the reach of radio.
- Natural conversations – with full duplex¹ speech it’s possible to get the message across more clearly and succinctly. Simoco Xd provides full duplex speech for conversations from radio to radio and from radio to PABX or dispatcher. Full duplex calls are available on all Simoco Xd portables as a software upgrade.
- Safeguarding employees – Simoco Xd protects your workforce with GPS-based tracking, lone-worker protection and integrated intelligent man down, alerting you in the critical early moments of an incident.
- Ease of deployment – uses IP technology for base station backbone connectivity, a flexible mobile radio and highly integrated portable for simple set-up of advanced features.
- Expandability – open interfaces are available for dispatch and other applications, plus multiple digital inputs and outputs are available on portables, mobiles and base stations allowing for the creation of a system tailored to specific needs.
- Integrated data applications – DMR brings greater capacity for messaging and data applications, enabling alerting, tracking, telemetry, monitoring and many more applications natively within the radio system.

Open Standards Based

Simoco Xd utilises the DMR (Digital Mobile Radio) standard, which was created to bring digital benefits to business- and mission-critical communications systems. DMR is an open standard developed by ETSI with ongoing improvement managed by the DMR Association. The Association has a number of member manufacturers each producing a full suite of equipment that ensures security of supply for customers.

Simoco is working hard to ensure that our DMR implementation makes full use of the DMR standard and where necessary seeking improvements to the standard. We will always be clear with our customers so that they understand the benefits and limits of interoperability and standardisation.

Benefits of Digital

Simoco Xd builds on our previous generations of radio systems adding the benefits of the digital air interface provided by the DMR standard:

- Increased call capacity – DMR uses 2-slot TDMA (Time Division Multiple Access) to double the number of calls supported on each radio channel, giving you twice the calling capacity as an analogue system in available spectrum, without the need for combining.
- Clearer audio – DMR provides clear speech right to the boundaries of reception even in environments with high background noise.
- Lower power consumption – DMR terminals only transmit for half of the time, which gives an increased battery life, providing significant power savings and longer work shifts.



// End-to-End Systems

Simoco Xd provides integrated digital voice and data communications for the needs of commercial, industrial and public organisations. With mobile, portable, infrastructure, dispatcher and accessories, Simoco Xd is a complete deployable package, which scales from simple push to talk radio to a highly integrated wide-area voice and data network.



- Digital conventional and trunked radio systems in a single hardware platform
- Designed to DMR Tier II (Conventional) and DMR Tier III (Trunking) standards with common hardware platform for software only upgrade
- Integrated telephony and applications with support for third party application interfacing
- Open interfaces and clear interoperability
- Integral options for migration from analogue to digital

1. The Simoco Xd **Digital Portable** is available in two variants to support different users and includes options for internal GPS, Man Down and lone worker. These intuitive handheld radios in a robust chassis are designed to put digital features into the hands of the mobile workforce.

2. The Simoco Xd **Digital Mobile** brings the same intuitive interface to the vehicle and packages this for a range of flexible installations.

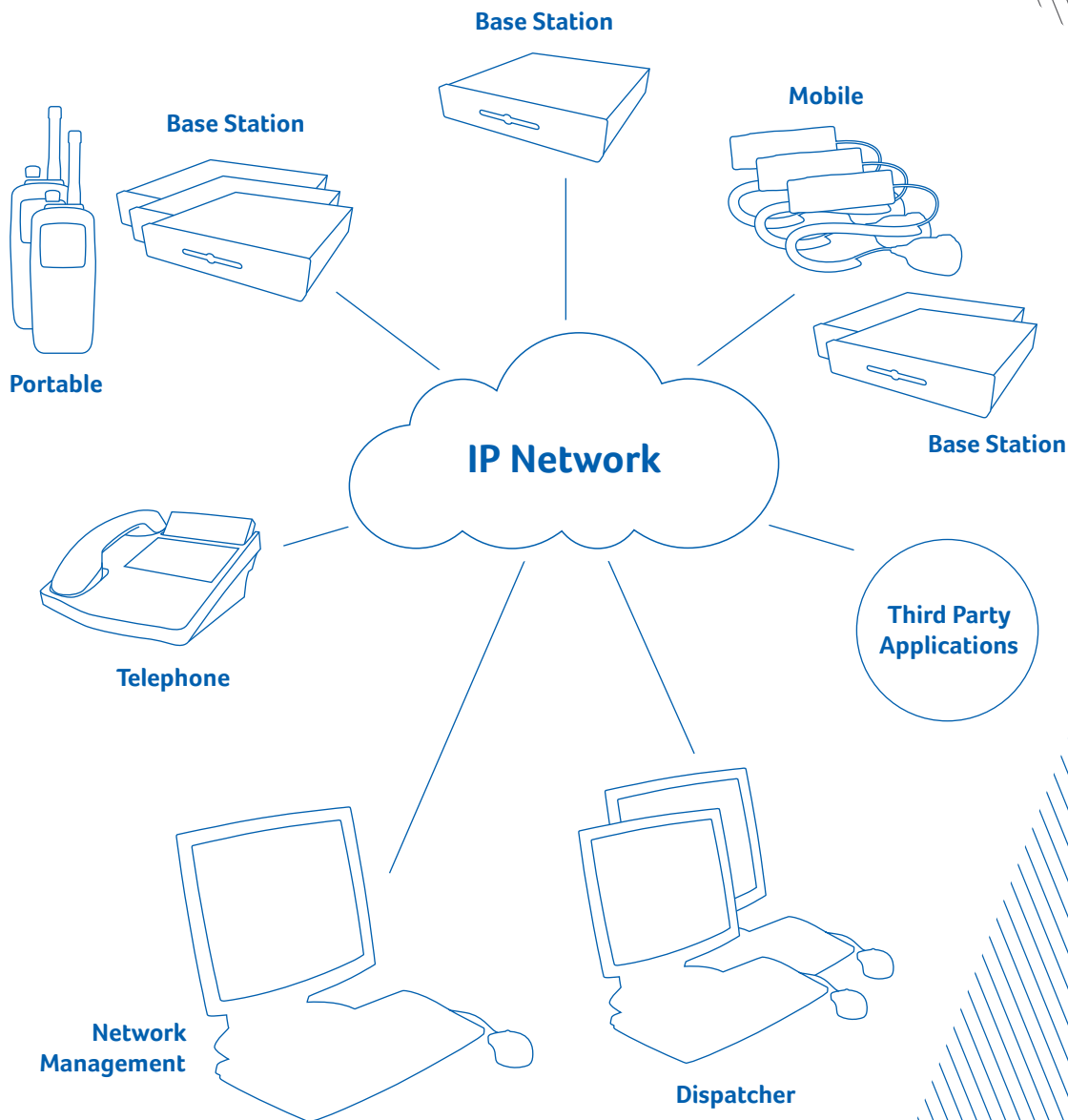
3. The third hardware element is the intelligent **Digital Base Station Repeater** with integrated intelligence for control and interfacing to applications and telephony.



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// Whole Suite



//Simoco Xd provides a full suite of products. The unique distributed infrastructure base station delivers wide area networks inter-connected using IP backbones and enables seamless integration of network management, dispatching, SIP telephony and third party voice and data applications. This is complemented by a flexible range of portable and mobile terminals.

// Supporting Operational Needs



Integrated Telephony

Simoco Xd can operate as part of a wider communication system. Telephony is integrated to the extent that users will not notice what kind of call they are making, simply calling from a contact list will make the necessary connection, whether mobile to mobile, mobile to PABX or mobile to dispatch.

At the infrastructure level, telephony integrates with other SIP-based systems, from small PABXs to larger exchanges. In the portables and mobiles telephone access is configured alongside other elements of the system and is transparent to the user. From the simple case of a programmable button being used to initiate a call to a specific telephone number to the more complex ability of being able to call certain ranges of telephone numbers, this facility is tightly integrated in all radio elements.

Third Party Applications

Simoco is working to provide standards based interfaces for application providers to gain access to a wide range of features within the radio system. This enables specialists in a variety of fields to tailor radio communications to specific applications and integrates the communications system within the operational processes of the customer organisation.

Full Duplex Calling

Full duplex calls allow both parties in a conversation to speak naturally as they would on a telephone call, which improves communication between the parties on the call.

When radio users are communicating with dispatch operators or telephones, the system still supports 2 calls per radio channel/base station as no extra radio resource is used.

When multi-site radio to radio calls are made each end of the call uses the same amount of radio resource as for a simplex (push-to-talk) call. Full duplex calls are available on all Simoco Xd portables as a software upgrade.



Low-Risk Migration Options

For generations Simoco has been migrating customers to new technologies. This experience is employed to help you make the most of DMR whilst supporting the radio features you have been using in analogue. All elements of the system work in both analogue and digital modes enabling migration solutions which minimise operational disruption during system rollout.

GPS & Intelligent Man Down

For the protection of users in hazardous situations, the combination of GPS with intelligent Man Down allows fast alerting of problems, sending messages to other radios or control room applications. Using the integrated accelerometer, after a pre-determined period with the portable radio being in a non-upright position, an alarm will sound and a duress message will be sent to a designated recipient.

Lone Worker

Lone worker application built into terminals to safeguard workers whilst operating in hazardous environments. The lone worker application can be configured to alert either dispatcher, fixed mobile or terminals.

Dispatcher

The Simoco Xd dispatcher (SDD) enables instant communication from desktop PC to radio. A simple and inexpensive approach to radio communications SDD puts control operators easily in contact with radio users. The SDD is an evolution

of the widely deployed range of Simoco radio consoles, bringing full integration with messaging and new voice features to make complete use of the digital radio platform and giving a wide range of benefits:

- **Instant messaging** – Instant text messaging and status alerting are tightly integrated parts of the Simoco Xd system, keeping workforces in touch by instructing and informing.
- **Easy to use** – The radio system is presented to the dispatch operator through a clear and intuitive Windows® user interface.
- **Instant access** – The main ‘home’ screen allows the user to make and receive calls and keep track of recent and in-progress tasks.
- **Simple installation** – All that is required is a standard desktop PC and a simple network connection to the radio system, so it need not be within the coverage of the radio system (no antenna is required).
- **Radio system health monitoring** – Tight integration between the dispatcher and the radio system gives the dispatch operator access to information about the health of the radio system, allowing problems to be highlighted quickly.

Turn-Key Systems

More than just core equipment, Simoco supplies complete turn-key systems for many projects, supporting dealers and customers with widely varying expertise in radio.

Choose the support you require.

- Choose the equipment you want pre-integrated, including RF combining, power-backup systems, rack cabinets, IP networking, RF cabling & antennas or more to suit your project.
- Choose how you want portables and mobiles, from specialist pre-configuration to in-vehicle installation or the tools required for your programming in the field.
- From complete systems in a crate to network elements pre-configured and tested.
- More specialist services include confined-space, tunnels and other challenging areas of radio coverage.
- Additional options are available for the support of your system, including regular maintenance and remote monitoring.



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www.simocogroup.com

For more information please contact your local Simoco representative: