

simocoXd

Digital voice and data capabilities

IP distributed architecture

DMR Tier II conventional and Tier III trunked

DMR Base Station Repeater



// DMR Base Station Repeater



A single common hardware platform supporting DMR Tier II conventional, DMR Tier III trunked and analog modes, VoIP telephone connectivity as well as open standard voice and data applications. The SDB600 series can be interconnected over an IP backbone to form a wide area radio system without any additional or centralized switching components.

The SDB600 series uses a well proven IP architecture combining RF elements and control intelligence in one box, proven in systems from a single base station repeater to many hundreds.

Dependable Communications

Simoco Xd uses a tried and tested all-IP architecture, which has been deployed in a range of business-critical applications for many years. This architecture offers resilience at the network level, by distributing control functions among all base station repeaters in the network. The integrated approach means that there are few network components and spares holding is reduced.

Remotely configurable base station repeaters ensure that outages are less likely, have less impact on communications and are faster and simpler to resolve.

Improved User Experience

The IP connection of the SDB600 series base station repeater inherently supports a wide variety of advanced features:

- **Applications** – The SDB600 series base station repeater provides a standard IP interface to enable a wide range of applications to be deployed on the network.
- **Configuration & Monitoring** – IP for configuration and monitoring allows these activities to be carried out anywhere on the network. System administration can be performed at single or multiple locations.

Integrated Telephony

Telephone and radio communications naturally sit together, so Simoco Wireless Solutions provides telephone connectivity directly from within all base station repeaters.

The SDB600 series implements this by a direct SIP/VoIP connection, without the need for a gateway between the radio and telephone systems and without compromising the features of either system.

Auto Switching

The Simoco Xd SDB600 series base station repeater automatically switches between Tier II conventional and analog modes depending on the received signal. This enables a smooth migration from analog to digital and supports a mixed terminal fleet during the transition period.

Simoco Xtend

For DMR Tier II conventional systems, Simoco Xtend enables radio sites to interconnect over an IP backbone. It is possible to connect a logical channel on one base station repeater to up to 15 other radio sites. This provides wide area working in both analog and digital modes.



// Features and Benefits

SDB600 Series

- Single platform for conventional and trunked systems
- Optional mountings for rack mount and wall mount installations
- Easily identifiable indications for transmit and receive in both TDMA slots
- Health and alarms are clear at a glance, with further information available via IP
- Compact 2U size
- Network management software included
- Integrated power supply
- 100% duty cycle at full power
- IP connectivity for applications interface, configuration, monitoring, telephony and trunking support
- Programmable facilities connector
- Battery backup



// Simoco Xd - Specifications



General

Frequency	AC (136-174 MHz), TU (400-480 MHz), UW (440-520 MHz)
Power Supply	(25W) 110/240 V AC ¹ or 13.6 V DC, (50W) 13.9 V DC
Frequency Stability	+/-0.5 ppm
Channel Spacing	12.5 kHz, 25 kHz
Channel Capacity	2000
Dimensions	408 mm (width) x 487 mm (deep) x 88.9 mm (height) (19" rack mount)
Weight	9.2kg / 8.95 kg / 8.7 kg ²
Emission masks	7K60FXD (data), 7K60FXE (voice), 7K60F1W (voice and data) for 4FSK digital modulation, 11K0F3E for 12.5 kHz modulation

Transmitter

RF Output Power	25 W and 50 W ³ variants
Modulation Limiting	+/-2.5 @ 12.5 kHz, +/-5.0 kHz @ 25 kHz
FM Hum and Noise	-40 dB (TIA-603-B)
Conducted / Radiated Emission	Complies with ETS086-1 / ASNZS4295 / TIA603-B
Adjacent Channel Power	-60 dBc (ETS086-1)
Spurious emissions	-80 dBc
Audio Response	+1/-3 dB
Audio Distortion	3% (TIA-603-B)
Digital Vocoder	AMBE+2

Receiver

Analog Sensitivity	-117.5 dBm (12dB SINAD)
Digital Sensitivity	-117.5 dBm (BER 1%)
Intermodulation	70 dB (ETS086-1)
Adjacent Channel Selectivity	65 dB (ETS086-1)
Spurious Rejection	70 dB (ETS086-1)
Hum and Noise	-40 dB (TIA603-B)
Audio Response	+1/-2dB (0.3-2.55 kHz)
Audio Distortion	3% @ 4 W
Conducted Spurious Emission	-57 dBm (ETS086-1)

Environmental

Storage Temperature	-40°C to +80°C
Operating Temperature	-30°C to +60°C (DC variants) -30°C to +55°C (AC variant)

¹ 110/240 V AC refers to SDB670 (25 W) variants which are available in EMEA only.

² SDB670 AC power / SDB670 DC power / SDB680 DC power

³ TU band variant +/- 0.6dB in range 470-480 MHz

Specifications based on standard operating conditions. Not all combinations of frequency bands and options are permissible for every market area. See Simoco Wireless Solutions Product Catalogue for a full list of specifications. All specifications are subject to change without prior notice. Simoco Wireless Solutions does not accept liability for any error or omission in this document.



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