DMR
BASE STATION REPEATER

A single common hardware platform supporting DMR Tier II conventional, DMR Tier III trunked and analogue 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 centralised 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. 6 programmable buttons
- 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 analogue modes depending on the received signal. This enables a smooth migration from analogue 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 analogue and digital modes.

Reliability
The SDB600 Series Base Station has been designed for a calculated MTBF of more than 100,000 hours – a figure that has since been confirmed by actual repair data.

SDB600 RANGE

SIMOCO

Features and benefits

- 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
- AES Encryption 256 bit
- 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

General Specification	SDB670 - AC Power	SDB670 - DC Power	SDB680 - DC Power
Frequency Bands	AC (136-174 MHz) TU (400-480 MHz)	AC (136-174 MHz) TU (400-480 MHz)	AC (136-174 MHz) TU (400-480 MHz) UW (440-520 MHz)
Power Supply	110/240V AC	13.6V DC	14.1V DC
Frequency Stability	+/-0.5 ppm		
Channel Spacing	12.5 kHz, 25 kHz		
Channel Capacity	2000		
Dimensions	408 mm (width) x 450 mm (deep) x 88.9 mm (height) (19" rack mount)		
Weight	8.6 kg	8.1 kg	8.7 kg
Emission masks	7K60FXD (data), 7K60FXE (voice), 7K60F1W (voice and data) for 4FSK digital modulation, 11K0F3E for 12.5 kHz modulation		

Transmitter Spec	SDB670 - AC Power	SDB670 - DC Power	SDB680 - DC Power
RF Output Power	25W	25W	50W*
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)		
Audio Response	-80 dBc		
Audio Distortion	+1/-3 dB		
Digital Vocoder	AMBE+2		

Receiver Spec	
Analogue Sensitivity	-117.5 dBm (12dB SINAD)
Digital Sensitivity	-117.5 dBm (BER 5%)
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)
Conducted Spurious Emission	-57 dBm (ETS086-1)

Environmental	SDB670 - AC Power	SDB670 - DC Power	SDB680 - DC Power
Storage Temperature	-40°C to +80°C		
Operating Temperature	-30°C to +55°C	-30°C to +60°C	-30°C to +60°C

* 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.All specifications are subject to change without prior notice.