D-SBR HP

High Power, Digital, Single Band Repeater
Channel Selective and Band Selective

Key features

- 37 dBm output power, 90 dB gain
- A range of models supporting one of the following frequency bands: 900 MHz, 1800 MHz, 2100 MHz
- Supports up to 12 sub-bands with optional non-contiguous sub-bands - enabled by programmable innovative DSP filtering
- Specific gain and power settings for each sub-band supporting single and multi-operator applications
- Supports up to three technology per repeater: GSM, WCDMA, LTE
- Interference Mitigation Oscillation Prevention (IMOP) technology prevents oscillations and balances coverage.
- MCPA technology supporting top level EVM, ACRR and emission performance, supports latest LTE technologies

The High Power D-SBR HP, Digital Single Band Repeaters are specifically designed for outdoor and in-building GSM/WCDMA/LTE applications.

Each single-band repeater can be configured for up to 12 contiguous or optionally non-contiguous sub-bands in the relevant band.

State of the art, DSP filtering based design enables user configurable customization of individual sub-band parameters according to site needs. This includes bandwidth, gain and power setting, as well as selection of any one of the supported technologies per sub-band. This allows providing different levels according to the requested service (i.e. GSM, WCDMA).

The repeaters utilise the IMOP mechanism, a robust way of dealing with poor isolation margin, protecting the system from oscillation and maintaining repeater operation.

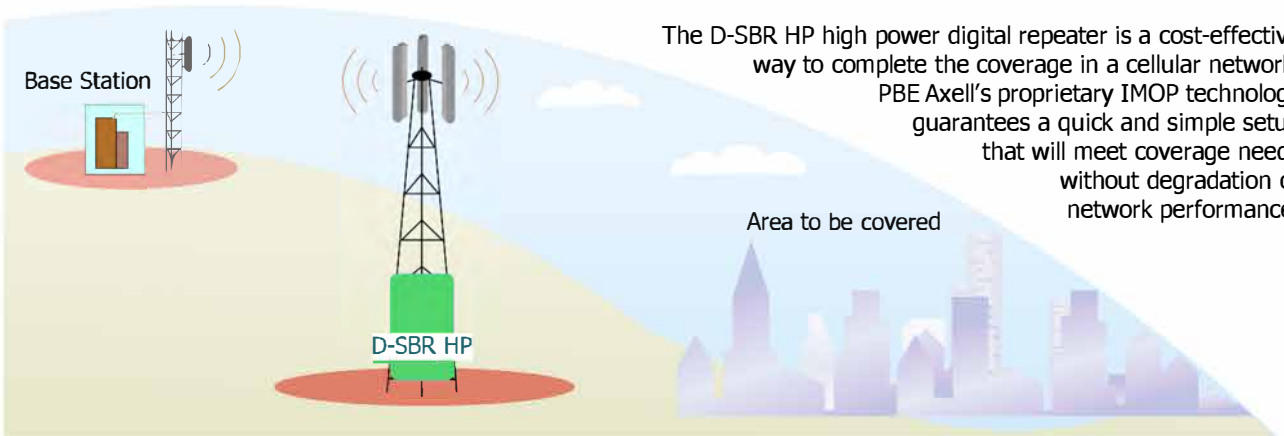
IMOP is an innovative algorithm that ensures that the repeater will never oscillate by measuring the isolation between the donor and service antennas and adjusting the gain accordingly. This allows for safe operation in a dynamic environment.

Using an advanced ALC mechanism each one of the sub-bands has an individual gain and ALC setting, hence it is possible to support multi technologies (2G, 3G and 4G) and multi operator functionality in one unit.

Highly linear Power Amplifier components (MCPA) and advanced DSP filtering provide top level performance that supports high throughput of the latest LTE technology.

The efficient thermal characteristics of the D-SBR HP and robust design result in high system reliability. The repeaters support intuitive web management GUI that can be accessed using any standard browser (no client installation required) through a local or remote connection via a wireless modem.

Alarm notifications are sent via SNMP traps or SMS. Using the PBE Axell advanced supervision and control management software (AEM), the entire deployment of repeaters can be monitored and controlled from a single management point.



The D-SBR HP high power digital repeater is a cost-effective way to complete the coverage in a cellular network. PBE Axell's proprietary IMOP technology guarantees a quick and simple setup that will meet coverage needs without degradation of network performance.

Technical specification

D-SBR 4007E		
RF Parameters	DL	UL
Frequency Range	703-733 MHz	758-788 MHz
Composite Output Power	+40dBm	+28 dBm
D-SBR 3709		
RF Parameters	DL	UL
Frequency Range	880-915 MHz	925-960 MHz
Composite Output Power	+37dBm	+23 dBm
D-SBR 3718		
RF Parameters	DL	UL
Frequency Range	1805-1880 MHz	1710-1785 MHz
Composite Output Power	+37 dBm	+28 dBm
D-SBR 3921		
RF Parameters	DL	UL
Frequency Range	2110 - 2170 MHz	1920 - 1980 MHz
Composite Output Power	+39 dBm	+28 dBm
Common parameters		
Number of Filters (*)	1 to 8 or 1 to 12 (model dependent)	
(*) For 12 sub band variants please contact Axell Wireless		
Filter Bandwidth (**)	200 kHz – 20 MHz	
(**) Any bandwidth by setting the start-stop frequencies. Adjustable, Contiguous/Non Contiguous		
Supported technologies	D-SBR 4007E	LTE
	D-SBR 3709 & 3718	GSM, WCDMA, LTE
	D-SBR 3921	WCDMA, LTE
Passband Gain (max)	90 dB	
Passband Ripple	± 2.5 dB	
Gain Attenuation Range	0-25 dB (in 1 dB steps)	
Noise Figure @ Maximum Gain (typical)	5 dB	
Propagation Delay	6 µs	
Total RF Input Power (No Damage)	+ 10dBm	
Impedance Level	50 Ohm	
V.S.W.R	1.5:1	
Power Supply	120/230 VAC	
Power Consumption	≈ 250 W	
Interfaces		
RF Connectors: Base/Mobile	N-Type, Female	
Communications	RJ-45	
Alarms-optional	Two external alarms, configurable via the Web GUI	
Mechanical & Environmental		
Dimension W x H x D	540 x 382 x 313 mm	
Weight	28 kg to 33 kg, model dependent	
Enclosure	IP65	
Installation	Wall mount, rack mount	
Operating temperature	-20 to +50 °C (-4 to +122 °F)	
Storage temperature	-30 to +70 °C (-22 to +158 °F)	
Compliance		
Complies with:	EU Directives	2014/53/EU Radio Equipment Directive (RED) EU 2015/863 European RoHS 3 directive.
	Safety	EN 60950-1:2006+A2:2013 - EN 50385:2002
	EMC	EN 301 489-1 V2.2.0 - EN 301 489-50 V2.2.0
	Radio	EN 303 609 V12.5.1 - EN 301 908-1 V11.1.1 EN 301 908-11 V11.1.2 - EN 301 908-15 V11.1.2

This specification sheet applies to the following repeater models:

D-SBR 4007E-8	700 MHz, high power - 8 sub bands, 40 dBm with WCDMA modem
D-SBR 3709-8	900 MHz, high power - 8 sub bands, 37 dBm with WCDMA modem
D-SBR 3718-8	1800 MHz, high power - 8 sub bands, 37 dBm with WCDMA Modem
D-SBR 3921-8	2100 MHz, high power - 8 sub bands, 39 dBm with WCDMA Modem

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specification subject to revision without notice.