

# D-CSR 2704

Digital channel and band selective repeater for TETRA

**COBHAM**

2017 Datasheet

The most important thing will build is trust

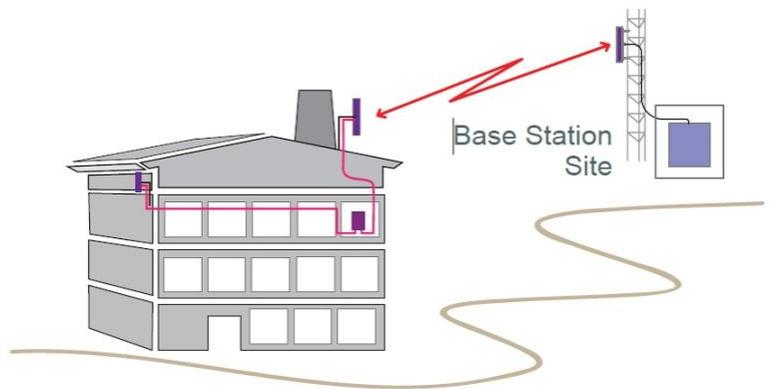


## Key features

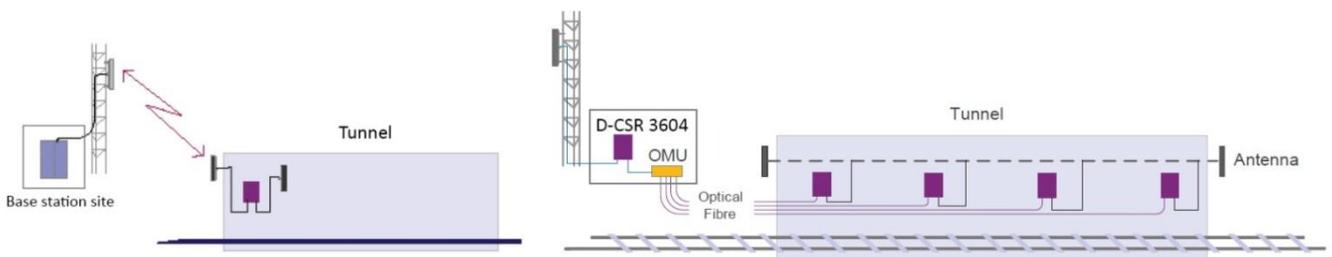
- Efficient repeater coverage footprint due to high output power and gain
- Dual personalities – programmable band or channel selective mode
- Very low propagation delay leading to higher security, resilience and availability of information
- Easy system implementation with built-in commissioning tools
- Time-slot based ALC minimizes noise contribution
- Supervision available over various wireless modems
- Built in spectrum analyzer

The D-CSR 2704 provides quick, cost-effective and secure radio coverage in any TETRA network and can handle up to eight TETRA carriers in channel selective mode or 2 sub-bands in band selective mode within the 5 MHz band. Through the use of the D-CSR 2704 an operator can easily expand a base station's service area by filling in coverage holes caused by terrain, buildings or tunnels.

The wireless interface permits the operator to remotely configure RF parameters as well as monitor alarms on a continuous basis. Supervision is available over various wireless modems.



The D-CSR 2704 can also be used to provide coverage in shorter tunnels. Longer tunnels can be covered by connecting the repeater to an OMU (Optical Master Unit) that feeds a number of fibre fed repeaters.



## Technical specification

Electrical specifications	Uplink	Downlink
	380-385	390-395
	385-390	395-400
	410-415	420-425
	415-420	425-430
	450-455	460-465
	455-460	465-470
Number of channels (channel selective mode)	Up to 8	
Channel frequency (channel selective mode)	any TETRA channel, options 60kHz (high selectivity), 90kHz (low delay)	
Filter options (Band selective mode) up to 4 sub-bands	100 kHz - 5 MHz in 25 kHz steps	
Impedance	50 $\Omega$	
Noise figure	4.5 dB at maximum gain	
Group delay (Channel selective mode)	<12 $\mu$ s (14 $\mu$ s high selectivity)	
Group delay (Band selective mode)	<2 $\mu$ s at band centre for 5MHz filter; <7 $\mu$ s at band edge	
ALC (Channel selective mode)	Time-slot based per channel	
ALC (Band selective mode)	RMS based with frame peak hold	
Squelch* (Channel selective mode)	Settable	
Output power/carrier	+27 dBm (1 carrier), +24 dBm (2 carriers), +21 dBm (4 carriers), +18 dBm (8 carriers)	
Gain	55 to 85 dB in 1 dB steps	
Third order intercept	+68 dBm, typical	
Spurious emissions from RF port	< -36 dBm	
Intermodulation products	-60 dBc (according to TS 101-789-1)	
Remote control and alarm supervision	IP-based via GSM/EDGE (850/900/1800/1900), GSM-R, UMTS, TETRA or Ethernet Circuit Switched via GSM/EDGE(850/900/1800/1900), GSM-R or PSTN	
Power requirements	230VAC 50Hz or 110VAC 60Hz or -48 VDC	
Power consumption	180 W, typical	
<b>External connection</b>		
RF Ports	7/16 Female	
External alarm inputs	4	
Alarm relay output	Dry contact	
<b>Mechanical specification</b>		
Dimensions (h x w x d)	540 x 382 x 198 mm	
Enclosure	Aluminium (IP65)	
Weight	22 kg	
Cooling	Convection	
Mounting	Wall mounted	
<b>Environmental specification</b>		
Operating Temperature	-25°C to + 50°C	
Storage	-30°C to + 70°C	
Humidity	ETSI EN 300 019-2-4 (see compliance below)	
Complies with	R&TT E Directive including, EN 301 489-5, ETSI TS 101 789-1, EN 62 368	

\* The squelch is set to -108 dBm, which ensures correct operation for most repeater system scenarios. It will open approximately 3dB below the static sensitivity in the repeater cell thus it will be open to any mobile on the cell border.

