

D-CSR 3604: 390 MHz to 395 MHz

Digital channel and band selective repeater for public safety
EMEA & APAC

Key features

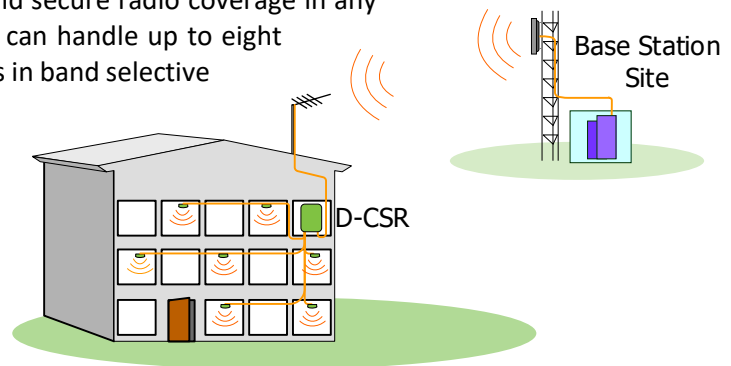
- Large repeater coverage footprint due to high output power and gain.
- Dual aspect: programmable band or channel selective mode.
- Very low propagation delay leading to higher security, resilience and availability of information.
- Easy system implementation with built-in commissioning tools.
- Time-slot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



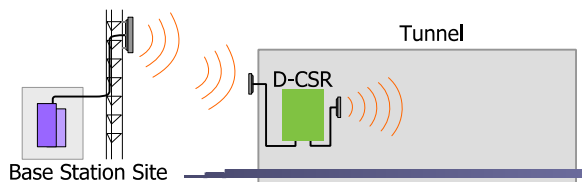
The D-CSR 3604 provides quick, cost-effective and secure radio coverage in any TETRA, TETRAPOL and many UHF networks and can handle up to eight carriers in channel selective mode or 2 sub-bands in band selective mode within the 5 MHz band.

Through the use of the D-CSR 3604 an operator can easily expand a base station's service area by filling in coverage holes caused by terrain, buildings or tunnels.

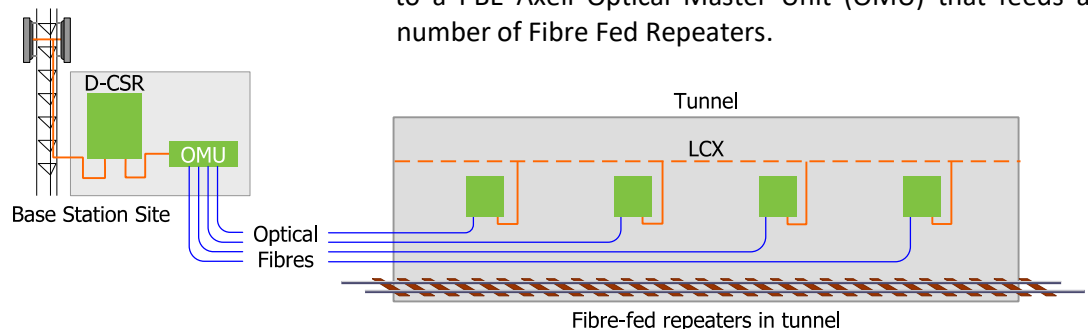
The wireless interface permits the operator to remotely configure RF parameters as well as monitor alarms on a continuous basis. Supervision is available over various wireless modems



The D-CSR 3604 can also be used to provide coverage in shorter tunnels.



Longer tunnels can be covered by connecting the repeater to a PBE Axell Optical Master Unit (OMU) that feeds a number of Fibre Fed Repeaters.



Technical specification

RF specifications		Downlink	Uplink	Bandwidth
Frequency range.		390 MHz to 395 MHz	380 MHz to 385 MHz	5 MHz
Duplex Spacing		10 MHz		
Number of channels (channel selective mode)		Up to 8		
Channel frequency (channel selective mode)		Any channel within band: TETRA : 60 kHz (high selectivity), 90 kHz (low delay) NBFM : 30 kHz (8 pole), 30 kHz (4 pole)		
Filter options (Band selective mode) up to 4 sub-bands		100 kHz to 5 MHz in 25 kHz steps		
Impedance		50 Ω		
Noise figure		4.5 dB at maximum gain		
Group delay (TETRA mode)		<12 μs (14 μs high selectivity)		
Group delay (Band selective mode)		<2 μs at band centre for 5 MHz filter; <7 μs at band edge		
Group delay (NBFM)		<27 μs, 30 kHz, 4 pole <60 μs, 30 kHz, 8 pole		
ALC (Channel selective mode)		Time-slot based per channel		
ALC (Band selective mode)		RMS based with frame peak hold		
Squelch (Channel selective mode) (*)		Settable		
(*) The squelch is set to -108 dBm, which ensures correct operation for most repeater system scenarios. It will open approximately 3 dB below the static sensitivity in the repeater cell thus it will be open to any mobile on the cell border.				
Output power/carrier		+36 dBm (1 carrier) +33 dBm (2 carriers) +30 dBm (4 carriers) +27 dBm (8 carriers)		
Gain		55 dB 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 ETSI TS 101-789-1)		
Remote control and alarm supervision		IP-based via GSM/EDGE (850/900/1800/1900), GSM-R, UMTS or Ethernet		
		Circuit Switched via GSM/EDGE(850/900/1800/1900), GSM-R or PSTN		
Power requirements				
Voltage requirements		230 VAC 50Hz or 110 VAC 60Hz or -48 VDC		
Power consumption		180 W, typical		
External connection				
RF Ports		7/16 DIN Female		
External alarm inputs		4		
Alarm relay output		Dry contact		
Mechanical and Environmental specification				
Dimensions (H x W x D)		540 mm x 382 mm x 198 mm		
Enclosure		Aluminium (IP65)		
Weight		22 kg		
Cooling		Convection		
Mounting		Wall mounted		
Operating Temperature		-25°C to + 50°C		
Storage		-30°C to + 70°C		
Humidity		0 to 95% RHNC		
Compliance				
Complies with	Safety	EN 62368-1, EN 50385		
	EMC	EN 301 489-1, EN 301 489-5		
	Radio	EN 302 561		