

## BSF 3604

Band selective fibre optic TETRA repeater for EMEA & APAC

### Key features

- High power, 36 dBm
- Optimized for low noise figure.
- Full monitoring and control through SNMP, webserver or AEM monitoring software via OMU.
- The unique combination of high output power and highly linear power amplifiers ensures large coverage with uniformly excellent signal quality
- Optimized for low noise figure.
- The BSF 3604 can optionally be upgraded with a second optical transceiver module for redundant fibre applications



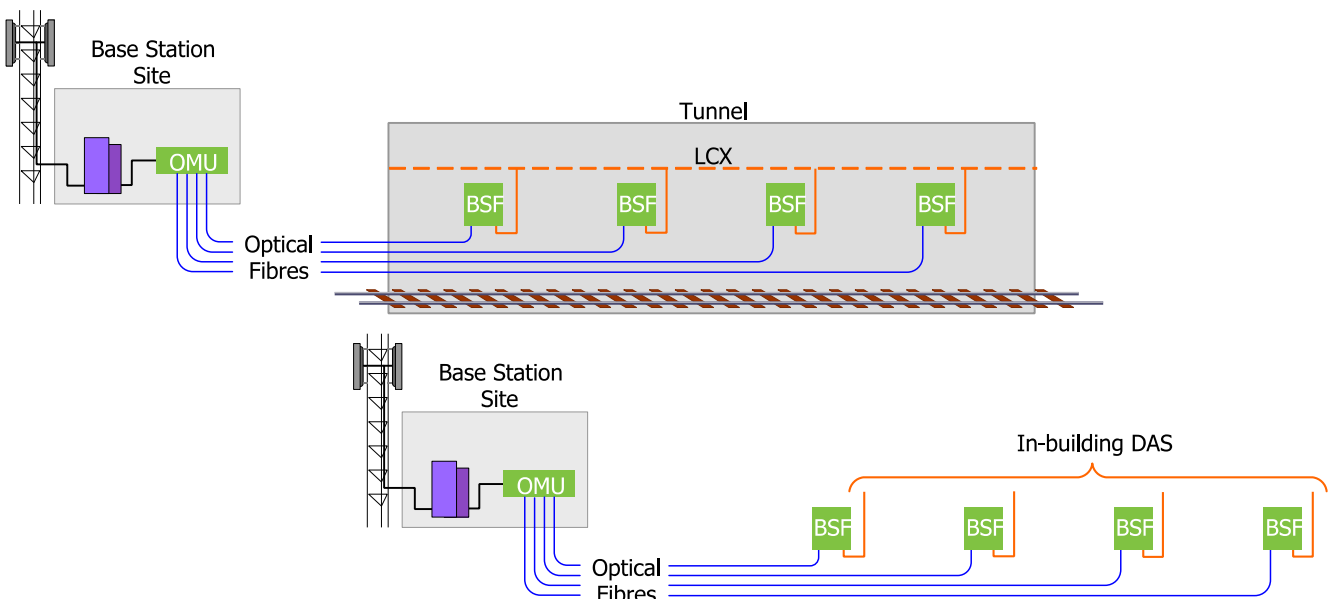
The BSF 3604 is a fibre optic fed TETRA repeater (supports other technologies within supported frequencies ranges, DMR, P25, LTE etc). The repeater is part of a system that is fed from a PBE Axell Optical Master Unit (OMU). RF signals are coupled off from a nearby base station by the OMU which modulates the RF to optical signals which are distributed via fibre optic cables to one or several remote BSF repeaters. The maximum optical loss allowed for is 10 dBo of fibre between the OMU and the most distant last remote unit that the OMU supports.

These remote BSF repeaters can be installed up to 20 km from the base station site, offering great flexibility when providing RF coverage in areas where off air reception is not a preferable or possible solution. The remote BSF repeaters demodulate the optical signal to RF and feed it to a Distributed Antenna System (DAS) or Leaky Feeder array to distribute the RF signal throughout the area to be covered. The high output power of the remote BSF repeaters results in a need to deploy fewer remote sites, which lowers the capital expenditures for the deployment.

The fibre optic system is easily remotely monitored and controlled by PBE Axell's effective supervision tool, Active Element Manager (AEM).

### Automatic optical gain setting

The system gain is adjusted for optical loss in the fibre by measuring the level of a pilot carrier sent from the OMU. The level of the received pilot carrier is continuously monitored.



## Technical specification

Electrical specifications			
General frequency ranges available:  Other frequency bands and duplex options available upon request within the 330 MHz to 520 MHz public safety band.	Downlink		Uplink
	390 MHz to 395 MHz		380 MHz to 385 MHz
	395 MHz to 400 MHz		385 MHz to 390 MHz
	420 MHz to 425 MHz		410 MHz to 415 MHz
	425 MHz to 430 MHz		415 MHz to 420 MHz
	460 MHz to 465 MHz		450 MHz to 455 MHz
	465 MHz to 470 MHz		455 MHz to 460 MHz
	390 MHz to 397 MHz		380 MHz to 387 MHz
	423 MHz to 430 MHz		413 MHz to 420 MHz
390 MHz to 396.5 MHz		380 MHz to 386.5 MHz	Bandwidth 5 MHz
Number of frequency bands		1 duplexed	
Duplex distance (in one band)		10 MHz (others upon request)	
Impedance		50 Ω	
Output power/carrier (DL) per band	1 carrier:	+36 dBm	
	2 carriers:	+33 dBm	
	3-4 carriers:	+30 dBm	
	8 carriers:	+27 dBm	
IP3		Typical +68 dBm	
Noise figure (UL)		<6 dB, 5 dB typical at maximum gain	
Group delay		2 μs max	
Fibre optic loss compensation		Implemented	
Spurious emissions from RF port		< -36 dBm	
Intermodulation products		< -60 dBc or < -36 dBm	
Optical module electrical specification			
Maximum optical output power		+3 dBm ±2 dB	
Maximum optical input power		+2 dBm	
Power Requirements			
Voltage options		120 V ac, 60Hz or 230 V ac, 50Hz, or -48 V dc	
Power Consumption		<100 W, typical	
External connection			
Local Maintenance Terminal		RS232	
RF Port		7/16 DIN female	
Optical Port		SC/APC female	
Remote connection		Via fibre link to OMU as standard Option: factory configured for Ethernet alarm reporting	
Mechanical and Environmental specification			
Dimensions (H x W x D)		540 mm x 382 mm x 198 mm	
Weight		28 kg	
Cooling		Convection	
Mounting		Aluminium (IP65) wall-mount enclosure	
Operating Temperature		-25°C to +55°C	
Storage		-30°C to +70°C	
Humidity		0 to 95% RHNC	
Compliance			
EU Directives		2014/53/EU (RED) (EU) 2015/863 (RoHS3)	
Complies with: RED	Safety	EN 62368-1, EN 60825-1, EN 50385	
	EMC	EN 301 489-1, EN 301 489-5	
	Radio	EN 302 561	