CRITICAL
COMMUNICATIONS
TETRA FAMILY

BHE BONN HUNGARY ELECTRONICS LTD.

CRITICAL
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TETRA FAMILY

DIGITAL OFF-AIR REPEATERS

PASSIVE COMPONENTS

OPTICAL REPEATERS

BHE

NETWORK MANAGEMENT SYSTEM

ANALOGUE OFF-AIR REPEATERS

RACK - WALL MOUNT OR ATEX HOUSING

DIGITAL OFF-AIR REPEATERS

- SDR based digital filtering
- Band and channel selective characteristics (up to 6.5 MHz bandwidth or up to 10 channels)*
- 24 or 36 dBm downlink output power
- In band frequency offset function
- Built in isolation measurements between mobile and donor ports
- Built in spectrum analyser function
- Ethernet remote control option
- Optional 2G / 4G remote control
- NMS capability & compatibility
- Wall mount construction with IP65 protection or rack mount

Transmission characteristic

Control software

Spectrum Analyser

BRTL44

PARAMETERS

| | Model | RF Gain | Output power | | Housing | | Combined Port | Separated Port | SNMP Control |
			Downlink	Uplink	Wall mount	19" rack mount			
Mini	BRTM32	76 dB	24 dBm	22 dBm	✓		✓		✓
	BRTM34	76 dB	24 dBm	22 dBm		✓		✓	
	BRTM47	76 dB	24 dBm	22 dBm	✓		✓		✓
Macro	BRTL42	90 dB	36 dBm	24 dBm	✓		✓		✓
	BRTL44	90 dB	36 dBm	36 dBm	✓		✓		✓
	BRTL37	90 dB	36 dBm	24 dBm		✓	✓		✓
	BRTL48	90 dB	36 dBm	36 dBm	✓		✓		✓

* For more details please see our 6.5 MHz TETRA PRODUCT FAMILY brochure.

OPTICAL REPEATERS

- Master – Slave configuration
- Various architectures: point to point, star, daisy chain
- Modular construction, easy to extend
- Mini and Macro Slave units can be combined
- Wavelength-division multiplexing (WDM)
- Dual TETRA – UHF band support
- Various radio systems support (TETRA, PMR, DMR)
- Multiband options (FM / DAB / TETRA / GSM / UMTS)
- NMS capability & compatibility

- Up to 32 slaves supported with 1 master
- Ethernet, SNMP control interface
- Optional 2G / 4G remote control
- 19" rack mount master units
- Different level of redundancy
- 24 or 36 dBm composite downlink output power
- Remote control via the master (RS-232 or Ethernet interface on slave units)
- Wall mount, 19" rack mount or optional ATEX housing

OPTICAL MASTER REPEATERS

Model	Gain	Abs. max input power level	RF Band Single	Dual	Extendable	Max number of slots	Max number of slaves	Redundant support
BRMF50	-10 dB	+10 dBm	✔			1	4	✔
BRMF53	-10 dB	+10 dBm	✔			2	8	✔
BRMF55	-20 dB	+26 dBm	✔	✔	✔	8	32	✔
BRMF65	-25 dB	+26 dBm		✔	✔	8	32	✔

BRMF50

Simple optical master for redundant point-to-point network Suitable for in-building coverage

BRMF55

Single RF band 5 wave WDM optical master unit for redundant star topology Supports up to 32 optical channels, extendable on site

BRMF65

Dual RF band 5 wave WDM master unit for redundant star and daisy chain topology Supports up to 32 optical slave units, extendable on site

BRTF44

Optical Macro Slave
Single TETRA band
Single feed
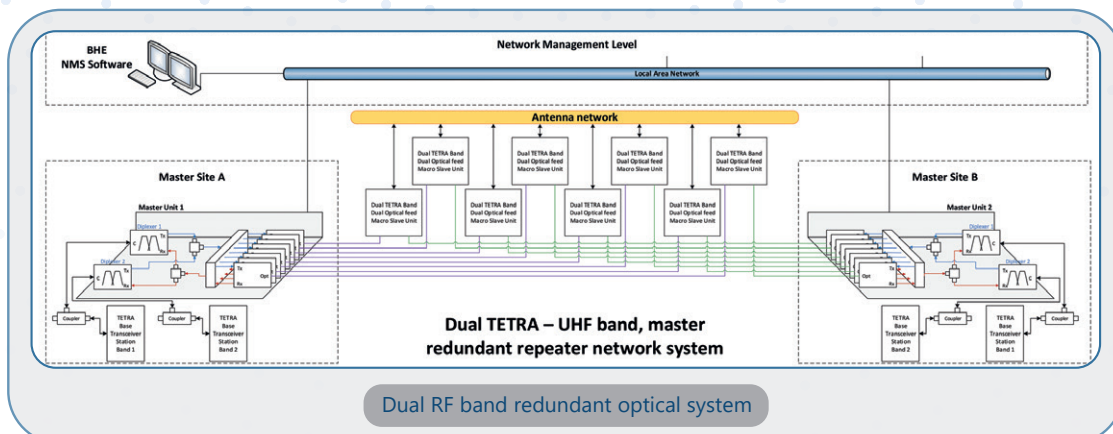
BRDF22

Optical Macro Slave
Dual TETRA band
Single feed

BRDF23

Optical Macro Slave
Dual TETRA band
Dual feed

OPTICAL SLAVE REPEATERS

| | Model | GAIN MAX | OUTPUT POWER / BAND | BAND | | HOUSING | | | | |
				SINGLE	DUAL	WALL MOUNT	19" RACK MOUNT	ATEX	DUAL OPTICAL FEED	SNMP LOCAL CONTROL
MINI	BRTF23	50 dB	24 dBm	✓		✓				
	BRTF43	50 dB	24 dBm	✓			✓			✓
	BRTF41	50 dB	24 dBm	✓				✓		
MACRO	BRTF49	65 dB	36 dBm	✓		✓				✓
	BRTF44	65 dB	36 dBm	✓			✓			✓
	BRTF18	85 dB	36 dBm	✓			✓			
	BRTF15	65 dB	36 dBm	✓		✓			✓	
	BRTF46	65 dB	36 dBm	✓			✓		✓	✓
	BRTF37	65 dB	36 dBm	✓		✓				✓
	BRTF42	65 dB	36 dBm	✓		✓			✓	✓
	BRDF22	65 dB	33 dBm		✓	✓				✓
	BRDF23	65 dB	33 dBm		✓		✓		✓	✓
	BRDF24	65 dB	33 dBm		✓	✓				✓

All slave units based on 5-WDM and can be used in point to point, star and daisy chain configuration as well.

Dual TETRA – UHF band, master redundant repeater network system

Dual RF band redundant optical system

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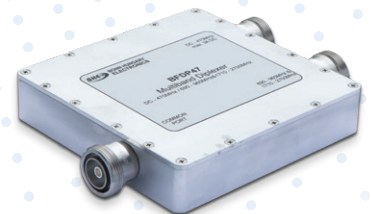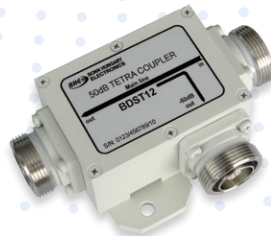**CRITICAL COMMUNICATIONS**
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ANALOGUE OFF-AIR REPEATERS

- 18, 22 or 36 dBm downlink output power
- 5 or 6.5 MHz bandwidth*
- Optional uplink squelch function
- Various control interfaces (RS-232, Ethernet, SNMP)
- Optional 2G / 4G remote control
- Indoor or outdoor application
- Wall mounted or 19" rack mount constructions
- Dual TETRA band option

BRTS30

| | Model | RF gain | Downlink Output Power | Housing | | | Combined Port | Separated Port | Optional UL muting | SNMP control |
				Wall mount	19" rack mount	ATEX ⟨Ex⟩				
Pico	BRTS30	70 dB	18 dBm	✔			✔		✔	✔
	BRTS31	70 dB	18 dBm	✔			✔		✔	✔
	BRTS40	70 dB	18 dBm			✔	✔			
Mini	BRTM24	70 dB	22 dBm	✔			✔		✔	
	BRTM27	70 dB	22 dBm		✔		✔		✔	✔
	BRTM28	70 dB	22 dBm		✔			✔	✔	✔
	BRTM40	70 dB	22 dBm			✔	✔			
Macro	BRTL43	90 dB	36 dBm	✔			✔			
	BRTL36	90 dB	36 dBm		✔			✔		✔
	BRTL38	90 dB	36 dBm		✔		✔			✔

SUPPLEMENTARY PRODUCTS

- Cable break monitor
- 6 channel antenna switch
- Redundant switch
- TETRA multiband diplexer
- Splitters / combiners
- Directional couplers

*For more details please see our 6.5 MHz TETRA PRODUCT FAMILY brochure.

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NETWORK MANAGEMENT SYSTEM

- Server-client architecture
- Hierarchical grouping of devices
- Map-based location view
- Performance data monitoring (facilitates preventive maintenance)
- Automatic optical link redundancy management
- Northbound interface: Syslog, SNMP (v1/v2c/v3)
- Continuous feature upgrades (roadmap available)
- Web-based user interface (optional)
- Support for third-party devices on user request
- Repair and maintenance logs

For more information please visit our website here:

REFERENCE EXAMPLES

North Sea
Windfarm

Germany, Berlin
Entire metro network coverage

Germany, Frankfurt
Grand Tower skyscraper

Finland, Helsinki
Mall of Tripla

Switzerland, Rhätische Bahn
Vereina tunnel (20 km long tunnel)

Netherlands, Amsterdam
Rembrandt Museum

HU
AQAP 2110
AQAP 2210

SUITABLE SUPPLIER FOR NATO
TENDERS

BUDAPEST BRAND
BUDAPEST
2014

CERTIFIED
LR
AS 9100

CERTIFIED
LR
ISO 9001

Facility Security
Clearance
since 2020

These certificates refer to BHE's quality management systems. All our products are manufactured according to ISO 9001.
Other, sector-specific management systems are only used in case of the customer's explicit request.

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