



BRRF14 & BRRD14

CHANNEL SELECTIVE FM REPEATER & DAB REPEATER MODULES

- **HIGH SELECTIVITY**
- **HIGH DYNAMIC RANGE**
- **3U HIGH MODULES**
- **FIT INTO 19" RACK**

BRRF14 and BRRD14 are the channel units of BHE's FM and DAB solution. They are connected to the respective amplifier unit (BRRF15 / BRRD15) to amplify the selected channel within the band. Placed in a modern rackmount box, these units can be combined with BHE rackmount TETRA repeaters fulfilling the various communications need of special places like tunnels or underground stations.

Electrical characteristics:

Specification	BRRF14 FM Broadcast repeater	BRRD14 DAB repeater
Input characteristics		
Frequency (Programmable, Channel selective)	87.5 – 108MHz	174 – 240MHz
Frequency step	50kHz	25kHz
Input power range – Repeater mode	-80...-30dBm	
Input return loss	<-10dB	
Noise figure @ max. gain	4.5dB typ., 6dB max.	8dB typ., 10dB max max.
Selectivity (typically)	-3dB @ centre freq +/-100kHz --- -50dB @ centre freq +/-300kHz	-3dB @ centre freq. +/-0.77MHz - -45dB @ centre freq. +/-0.97MHz -80dB @ centre freq. +/-1.25MHz
Output characteristics		
Frequency (Same as the received frequency)	87.5 – 108MHz	174 – 240MHz
Max. output power	+16dBm min. @ Repeater mode at max. gain +14dBm min. @ Break in mode	
Max. Gain	98dB typ.	
Programmable attenuation	0 - 94.5dB-	
Gain step	0.5dB	
Output 1dB compression	min. +18dBm	
Output IP3	+28dBm min.	
Harmonics	-60dBc typ., -50dBc max.	
Spurious	-60dBc typ. -55dBc max.	
Output return loss	<-15dB	
Local leakage @ max. gain	<-100dBm	<-80dBm
FM deviation at Break-in mode	programmable, +/-75kHz max.	-



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Specification	BRRF14 FM Broadcast repeater	BRRD14 DAB repeater
Other parameters		
Control and monitoring	via LAN, Web server	
Connector	DIN41612 type, 60 pins+4 coax. 2 coaxial connectors built-in	DIN41612 type, 60 pins+4 coax. 3 coaxial connectors built-in
Break in mode	RDS message and/or audio transmitting in the selected FM channel by operator	External DAB RF signal switched to RF output
Inputs	RDS data, Audio, Mute, Break in, +2 digital data in (optional)	Mute, Break in, +2 digital data in (optional)
Digital Outputs	Alarm + 2 data out (optional)	
External Audio level	100-600mVeff	-
Double Colour Status LED on front panel	RED at Alarm, GREEN in normal operation	
Monitoring	Input/Output level, Lock status, Internal DC voltages	
Supply current	500mA typical @ +12V	550mA typical @ +12V
Operating temperature	-20°C ... +60°C	
Dimension	188 x 100 x 19mm (without front cover) 5TE wide module, mountable in 3U high, 19" rack	

Installation	FM broadcast	DAB
BRRF11 3U high, 19" rack	16 pcs BRRF14 FM repeaters	16 pcs BRRD14 DAB repeaters
BRRF12 3U high, 19" rack	4 pcs BRRF15 FM amplifiers	4pcs BRRD15 DAB amplifiers
BRRF13 3U high, 19" rack	8pcs BRRF14 FM repeaters and 2pcs BRRF15 FM amplifiers	8pcs BRRD14 DAB repeaters and 2pcs BRRD15 DAB amplifiers

Note:

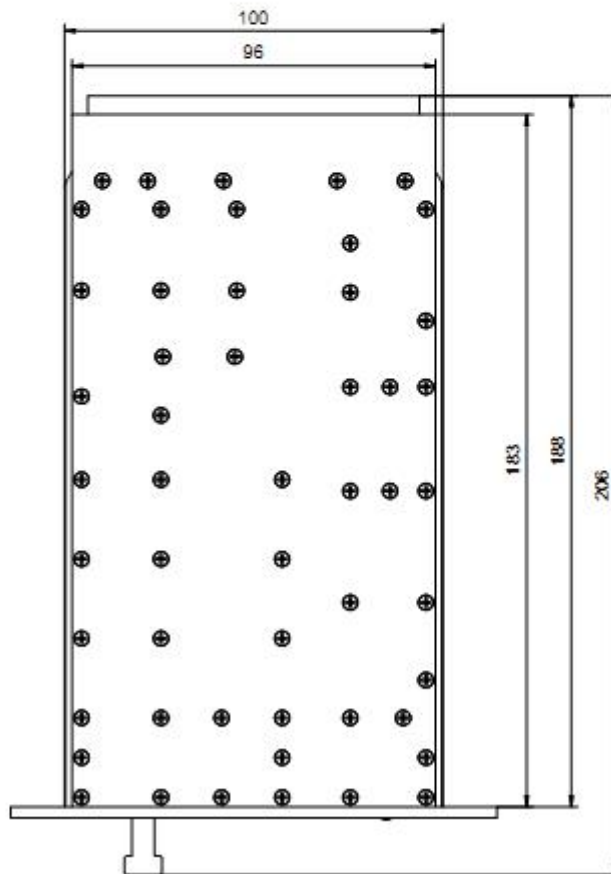
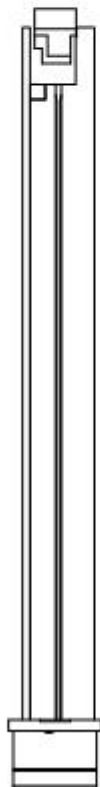
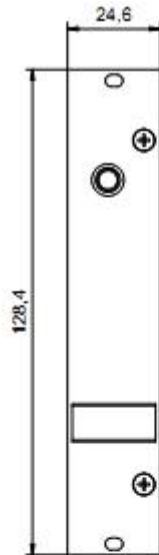
BRRF14 and BRRD14 modules can be combined without restriction in the racks



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Outline dimensions (mm) BRRF14 & BRRD14: (front, side and top view)





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Picture of BRRF14 & BRRD14:



In rack:

