



# 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
<b>Input characteristics</b>		
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
<b>Output characteristics</b>		
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
<b>Other parameters</b>		
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
<b>BRRF11 3U high, 19" rack</b>	16 pcs BRRF14 FM repeaters	16 pcs BRRD14 DAB repeaters
<b>BRRF12 3U high, 19" rack</b>	4 pcs BRRF15 FM amplifiers	4pcs BRRD15 DAB amplifiers
<b>BRRF13 3U high, 19" rack</b>	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

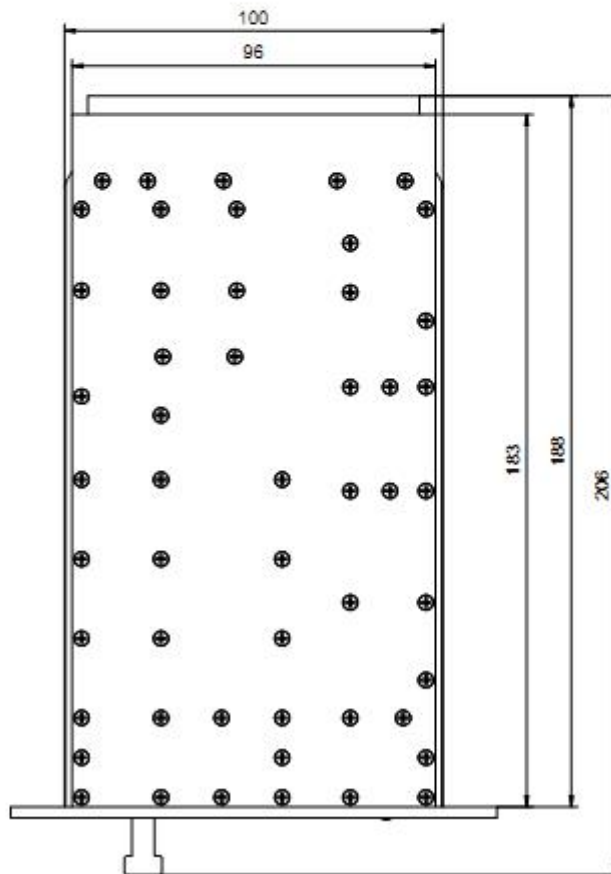
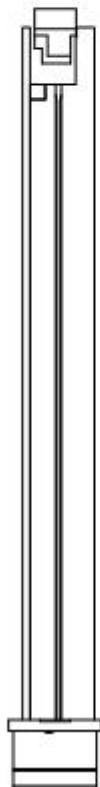
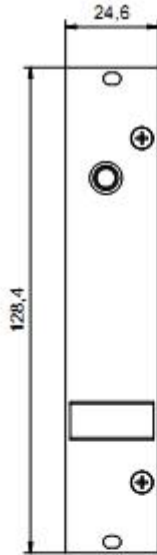


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## CHANNEL SELECTIVE FM REPEATER & DAB REPEATER MODULES

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





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## CHANNEL SELECTIVE FM REPEATER & DAB REPEATER MODULES

Picture of BRRF14 & BRRD14:



In rack:

