



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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|---|---|---|
| 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:

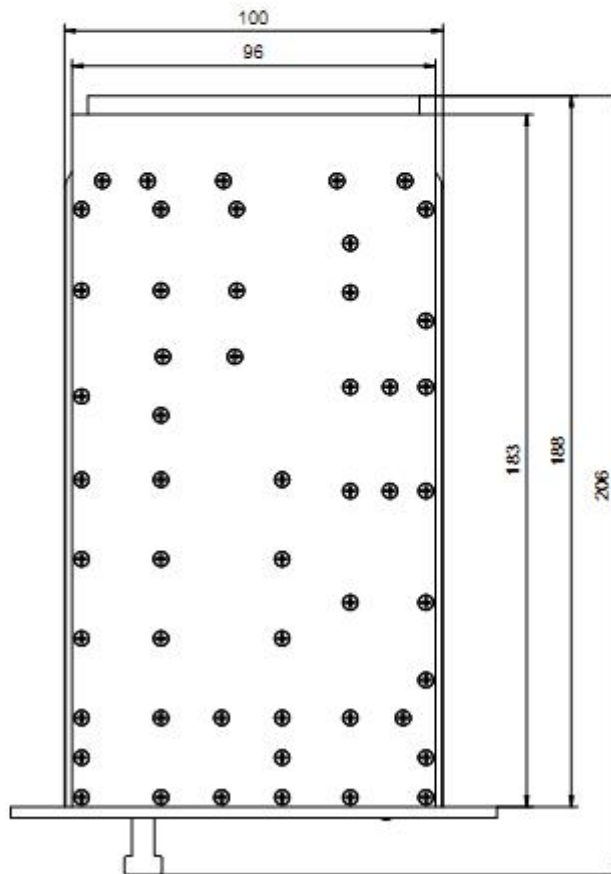
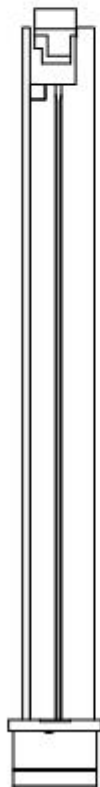
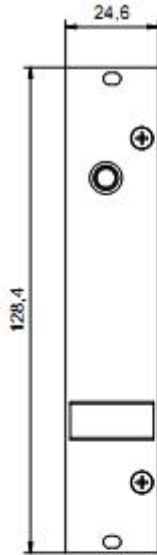
BRRF14 and BRRD14 modules can be combined without restriction in the racks



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





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Picture of BRRF14 & BRRD14:



In rack:

