



CHANNEL SELECTIVE VHF FM REPEATER MODULE

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

BRRV14 is the channel selective repeater module of BHE's VHF solution. It is connected to the respective amplifier unit (BRRV15) to amplify the selected channel within the band. Placed in a modern rackmount box, these units can be combined with BHE rackmount TETRA, FM Broadcast and DAB repeaters fulfilling the various communications need of special places like tunnels or underground stations.

Electrical characteristics:

Specification	BRRV14 VHF repeater
Input characteristics	
Frequency (Programmable, Channel selective)	148 – 174MHz
Channel spacing	25kHz (optional 20kHz or 12.5kHz, factory preset)
Frequency step	25kHz (optional 20kHz or 12.5kHz, according to the channel spacing)
Input power range	-80...-30dBm nominal, Abs. max. +10dBm
Input return loss	<-10dB
Noise figure @ max. gain	6.5dB typ.
Sensitivity at 20dB SINAD	-122dBm typical
Selectivity (typically)	-3dB @centre freq +/-7.5kHz (at 25kHz channel) -90dB@centre freq +/-25kHz-
Output characteristics	
Frequency (Same as the received frequency)	146-174MHz
Max. Gain	98dB typ.
Programmable attenuation	0 - 94.5dB-
Gain step	0.5dB
Output P1dB	min. +17.5dBm
Output IP3	+30dBm min.
Harmonics	-80dBc typ., -70dBc max.
Spurious	-80dBc typ. -70dBc max.
Output return loss	<-15dB
Local leakage@max. gain	<-80dBm



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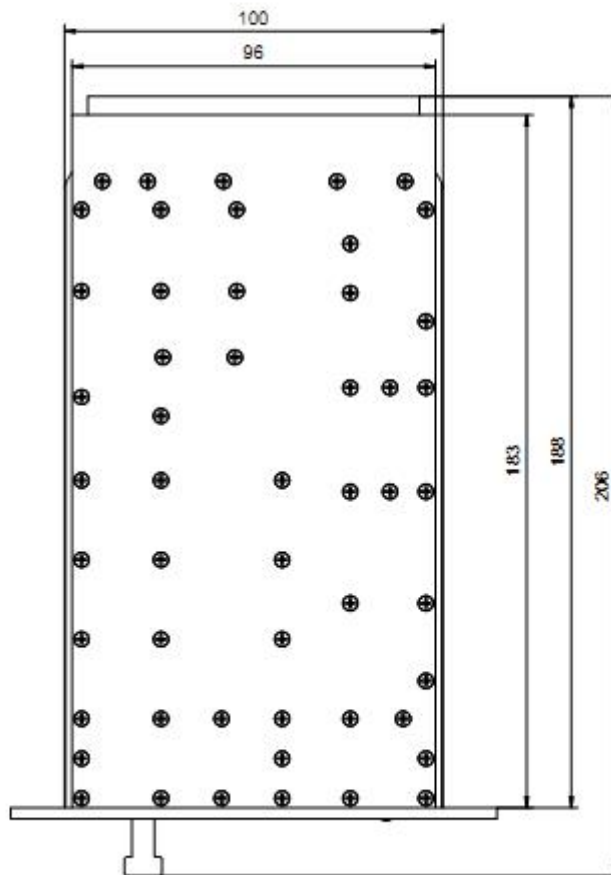
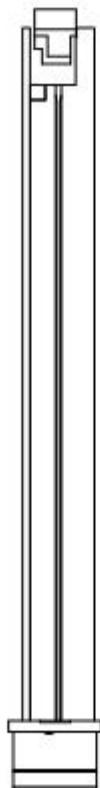
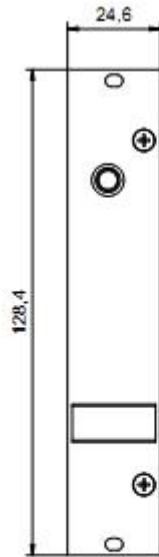
Specification	BRRV14 VHF repeater
Other parameters	
Control and monitoring	via LAN, SNMP Web server
Connector	DIN41612 type, 60 pins+4 coax. 2 coaxial connectors built-in
Operation mode	Duplex via VHF duplexers (TX/RX frequencies are different) Simplex with external T/R switch (TX/RX frequencies are same)
Digital Outputs	Alarm, 1 switch data for T/R control in simplex mode
Double Colour Status LED on front panel	RED at Alarm, GREEN in normal operation
Monitoring	Input/Output level, Lock status, Internal DC voltages
Controlled parameters	Frequency, Input/Output attenuations (Gain), Squelch level, Mute, Output threshold level, Start delay
Supply current	520mA 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	Content
BRRV16 Dual Duplex repeater in 3U high, 19" rack	Four BRRV14 VHF channel selective amplifiers with built in duplexers and combiners/splitters

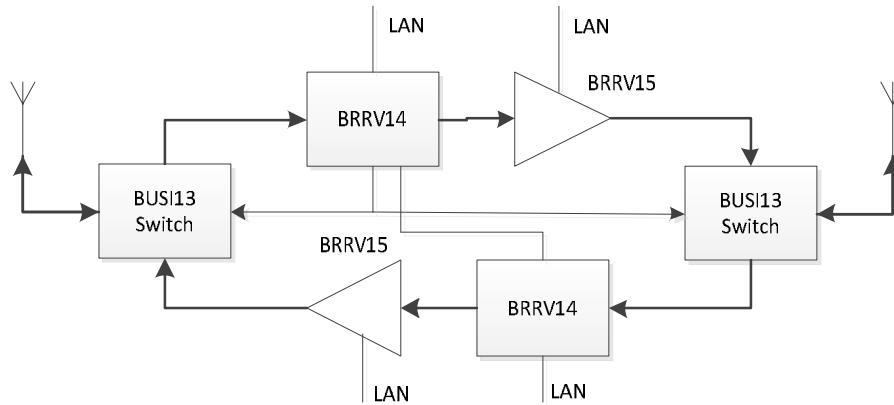


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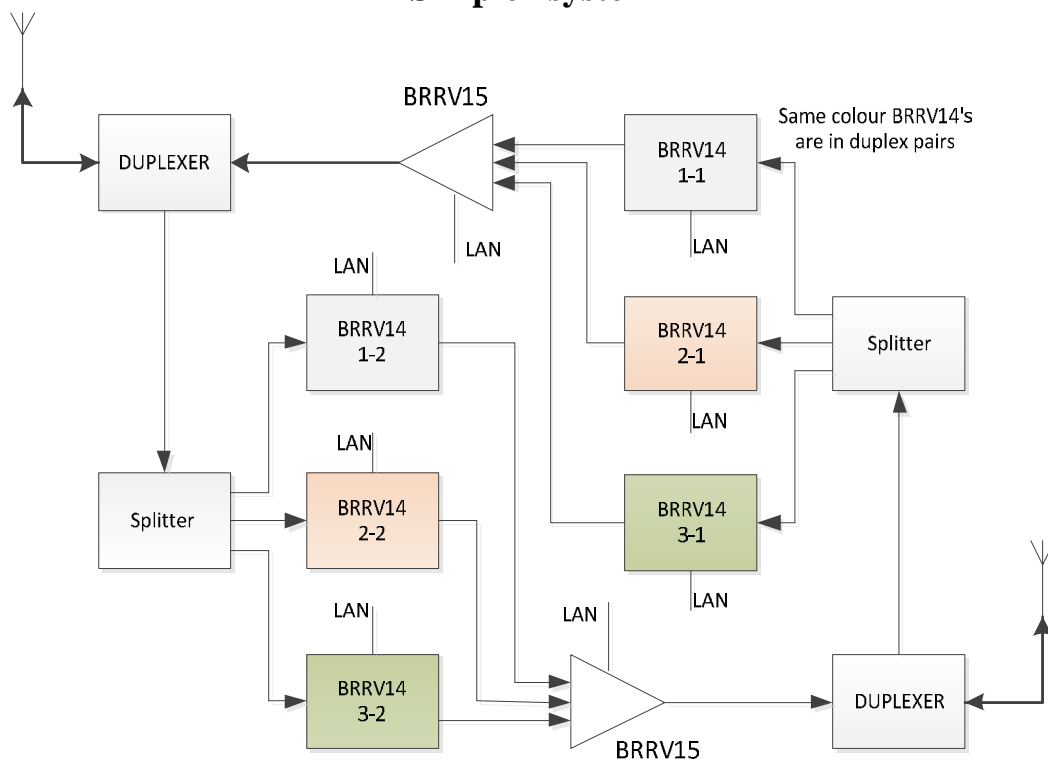
Outline dimensions (mm) BRRV14 (front, side and top view)



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Simplex system



Duplex system

Uplink BW and downlink BW < 1 MHz
(More duplexers are needed in case of higher bandwidth)