



## BAND SELECTIVE DUPLEX VHF BIDIRECTIONAL AMPLIFIER

- **BAND SELECTIVE MODULES**
- **HIGH DYNAMIC RANGE & HIGH GAIN**
- **4U HIGH, 19" RACK**
- **ETHERNET CONTROL**

The BRRV21 is a 19" rack mounted, 1 uplink and 1 downlink band-selective bidirectional amplifier with built in duplexers. The BRRV21 built with two pairs of cascaded BRRV18-BRRV15 VHF channel selective amplifiers with ETHERNET control. The modules can be individually accessed via web browser by their own WEB- gui.The unit 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	BRRV21 VHF band selective duplex repeater
<b>Input characteristics (per channels)</b>	
Frequencies	Uplink band center frequency: 152.175MHz
	Uplink band bandwidth (-3dB):1.54MHz
	Downlink band center frequency: 147.575MHz
	Downlink band bandwidth (-3dB):1.54MHz
Tuning frequency step	25kHz nominal, (according to the channel spacing)
Input power range	-50...-30dBm nominal, (Then the output level can be +10dBm nominal) Absolute. maximum is +10dBm
Input & Output return loss	< -10dB
Selectivity (typical)	-3dB: typ: 1.82MHz -40dB: typ 2.62MHz
Noise figure @max. gain	8dB typ.
Sensitivity at 20dB SINAD	<-100dBm
Squelch sensitivity @max gain	typ -85dBm

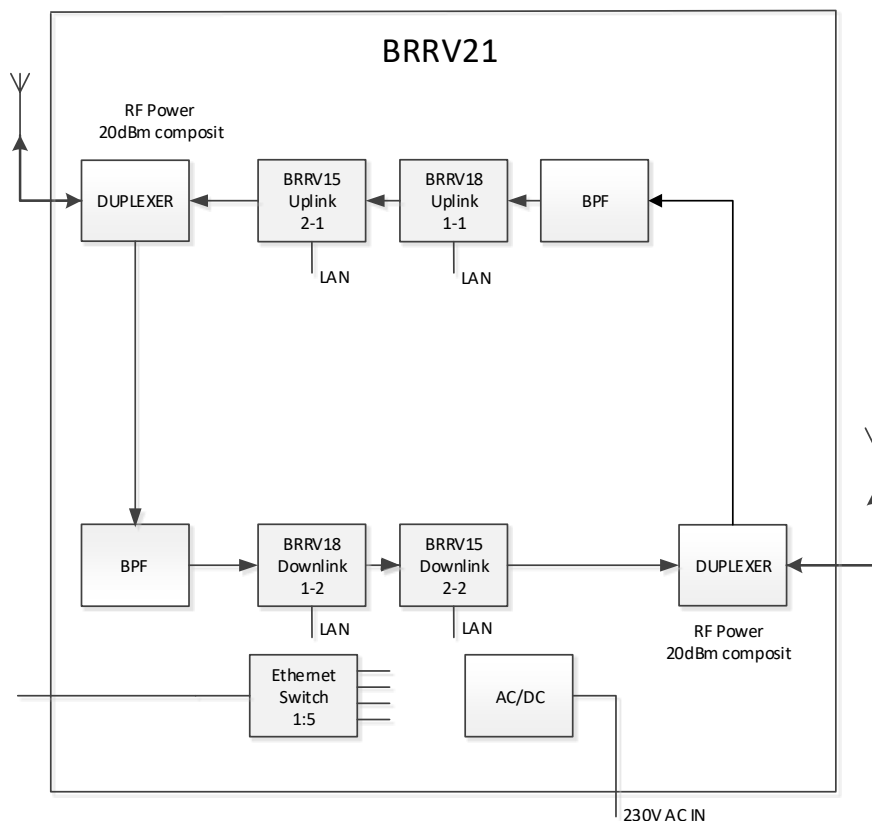
<b>Output characteristics (per channels)</b>	
Frequencies	Same as the received frequency
Max. Available Gain (BRRV18+BRRV15)	<62dB
Gain Settings in BRRV18	19dB in 1dB step: 30-49dB
Gain Settings in BRRV15	15dB
Output P1dB	+32dBm min.
Output IP3	+42dBm min.
Harmonics	-65dBc typ.,
Output threshold level	0 to +20dBm (warning level), settable in 1dB
Spurious @ max. gain	<-65dBc
Residual FM	10Hz typical
Start delay	50msec typ.



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<b>Other parameters</b>	
Control and monitoring	via LAN, Web server
Connectors	Control :RJ45 for ETHERNET.
	RF: N type female connectors
Status LEDs on front & rear panel / per channels	continuous GREEN light in normal operation, various flashing at warning
Monitoring / per channels	Input/Output level, Lock status, Internal DC voltages, Temperature
Control / per BRRV18	Output attenuations (Gain), Squelch level, Output ALC level
Control / per BRRV15	Input attenuation (Gain), Output warning level
Power Supply	100 to 250VAC@ 47 to 63Hz, 230VAC & 50Hz nominal,
Power Consumption	57W typ.@ 230VAC & 50Hz
Operating temperature	0°C ... +40°C
Dimension	4U high, 19" rack,
Weight	18kg

### Blockdiagram



**Dual Duplex system**  
**Uplink BW and Downlink BW : 1800kHz**



**BRRV21**

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**Outline dimensions (mm):**(front, top and rear view)

