

Power Amplifier 20W

PA 20W is designed for operation as a part of HF radio stations to reinforce an exciter signal up to 20W. PA 20W is developed according to the up-to-date radio equipment requirements with the most advanced technology and the latest electronic components. The amplifier provides the highest level of linearity, power efficiency and reliability.

The main features of the amplifier are:

- Built-in controller
- p-i-n diodes in the harmonic filter switching circuitry
- the highest power efficiency of the RF stages

Technical specifications

Operating frequency range:	1.5-30 MHz
Output power in CW, SSB PEP modes:	Four levels: 20 W ±1 dB 10 W ±1 dB 5 W ±1 dB 1 W ±1 dB
Amplification gain:	30 dB
Nominal power input level :	16 dBm
Intermodulation :	no more than -36 dB relative to PEP at 50 Ohm load -33 dB relative to PEP at load with VSWR≥2:1
Harmonic level:	no more than -50 dB, it is provided with 7-band switchable filter in the following frequency bands: 1.5-2.19 MHz 8.0-12.29 MHz 2.2-3.39 MHz 12.3-18.99 MHz 3.4-5.19 MHz 19.0-30.0 MHz 5.2-7.99 MHz
Non-harmonic component level:	no more than -70 dB
Input/output impedance:	50 Ohm
Operation at load mismatch :	Operation is provided in the load range with VSWR 2:1 – 5:1. At this condition an output power will be reduced to: 13W at VSWR =2, 9W at VSWR=3, 6,5W at VSWR=4, 3W at VSWR=5, there is an independent protection at short and idle pass in the load circuit.
Activation time:	2 sec.
Switching time of transmission/reception:	10 msec.
Switching time of reception/transmission:	20 msec.
Switching time between any harmonic filters:	1 msec.
Interface:	RS232 / RS485
Control system:	It provides a monitoring and indicates the following features: Output power level; reflected power level; VSWR value; operating frequency range; input signal level; thermal conditions control; monitoring of the harmonic filters availability; monitoring of final stages operability and the other functional parts of the device.
Cooling system:	Air forced ventilation
Overheating protection:	Automatic cooling system control, two-step overheating protection.
Power supply voltage :	24 ±2V DC. Input current is less than 2A at nominal load in CW mode.
Operation cycle:	Continuous
Operating temperature range:	-30°C to +55° C
Dimensions:	198×160×25 mm
Weight:	300 g