

Radio Frequency Pulse Power Amplifier for ≤ 11.7 Tesla Systems

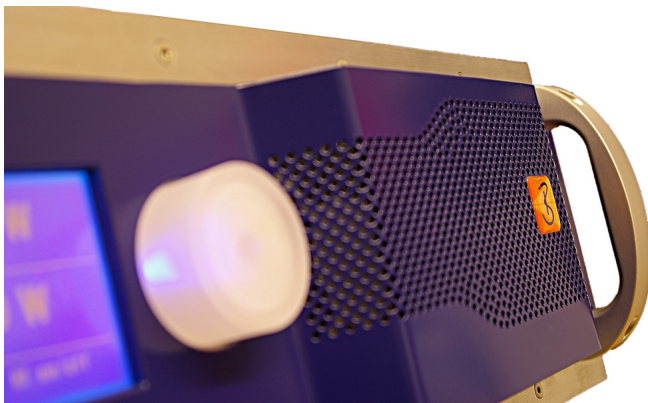
Narrowband

RFPA-500-100

RFPA-500-250

RFPA-500-500

RFPA-500-1000



When we designed our pulse power amplifier series we had in mind the requirements of spectroscopic analysis, for instance

- Nuclear Magnetic Resonance (NMR/MRI)
- Electron Paramagnetic Resonance (ESR/EPR)
- Electron Nuclear Double Resonance (ENDOR)

and similar applications. We have striven to achieve excellent linearity, plus phase and amplitude stability. Additional emphasis we put on the RF fall time as this is a critical parameter for many applications.

We apply state of the art LDMOS transistor amplifier stages. This way the amplifiers are robust to cope with mismatch conditions. The amplifiers are controlled by a micro controller.

Versions

	Freq. Bandwidth	RF Peak Power	Cabinet Height	Part No.
RFPA-500-100	475-510 MHz	100 W	2 U	185700
RFPA-500-250	475-510 MHz	250 W	2 U	185710
RFPA-500-500	475-510 MHz	500 W	3 U	185720
RFPA-500-1000	475-510 MHz	1000 W	3 U	185730

Other frequencies and RF output powers are possible. Please contact us with your requirements.

Energy Control

In its standard version the pulse power amplifier controls the maximum pulse power, the maximum pulse length, and the maximum duty cycle. If either parameter exceeds its limit the amplifier protects itself and turns off the RF amplification.

With the option *Energy Control* the parameters output power and duty cycle are connected to each other. The maximum RF pulse power is still controlled. In case it exceeds its maximum limit it will cause an error. The pulse length is not any longer controlled separately. With a reduced output power even CW operation is possible. The duty cycle and the RF output power are combined to an energy control. The smaller the output power the higher the duty cycle may be.

Remote Control

The RF pulse power amplifier can be remotely controlled with a serial data connection. There are two protocols implemented a proprietary binary protocol, and an ASCII protocol.