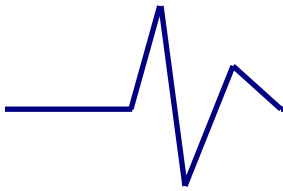


PF-500 RF Power Fuse



The PF-500 is a stand-alone RF power sentry that is used to protect expensive transducers from accidental overpower damage. Placed inline between the RF power generator and the transducer, it passes the signal unless the power level exceeds the desired limits. The user may select from six power-limit settings. If an excessive amount of power is sent to the transducer, the PF-500 will send out a warning signal or short the RF line to ground, or both, depending on the user settings.

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PF-500 Features:

This product is designed to protect expensive HIFU transducers from being overdriven and damaged. A six position switch selects the desired power level at which a TTL error signal will be generated. If desired, the PF-500 can also be set to short the coax to ground within ten milliseconds of an accidental overpower condition. This blows an inexpensive replaceable fuse in the PF-500 instead of damaging the transducer.

The PF-500 can also be installed backwards to monitor the reflected power coming back from the transducer. In this configuration the PF-500 provides protection in case the transducer is lifted out of the water. If this happens, the acoustic match is lost and all power reflects back toward the power amplifier, potentially damaging the amplifier. The transducer can also be damaged, since the voltage at the transducer can spike to a high value.

The PF-500 can be used by itself, or it can work in concert with other JJ&A HIFU products to provide a complete laboratory system.

Additional JJ&A HIFU products for use with the PF-500 include:

- **RFG-100 RF Generator:** A compact, 100 Watt RF Power Generator with frequency ranges available from 700 KHz to 5 MHz. Includes USB interface, CW and Pulse modes, and emergency shutdown circuit. Cascadable for phased or annular arrays.
- **RFG-1000 RF Generator:** Same features as the RFG-100 except that the maximum power output is 1000 Watts.
- **TMN-100 Transducer matching network:** Automatically computes the proper impedance transformation between the power source and transducer without the need for additional inductors and capacitors.
- **PM-1000 Power Meter:** Pulse power and SWR monitoring module. Measures SWR (Standing Wave Ratio), forward power, and reflected power in either CW or pulse modes. Very unique in that it will function properly with fast pulses. Information is sent back to the user via standard USB interface. This information can be used to halt the power generator if a high SWR condition suddenly exists.
- **DDL-1000 Digital Dummy Load:** Combination dummy load and power sensor with USB port. Useful for dry runs and diagnostics. Use to confirm that proper power levels are set.
- **RX-1 Receiver:** Used to present baseband I and Q (In phase and Quadrature) output signals for signal analysis. Receiver locks onto transmitting frequency and IQ outputs show phase information of received signal. Analog outputs, ready for your digitizer.
- **CIRC-1000 Circulator:** Used to isolate transmitted and received signals, or can be used alone as a T/R switch.
- **FS-1 Foot Switch:** Accessory for use during experiments to control when the power generators are on.
- **HWS-1 HIFU Work Station:** Wet-lab work area with adjustable arms and clamps for holding transducers, test gels, cameras, etc. Includes a high intensity illuminator, 7 MP digital camera for still and video with USB interface, plus a stand-alone video screen on the workstation that is used to zoom in and adjust the experiment during setup. Work area is 18 x 24 inches (46 x 61 cm).