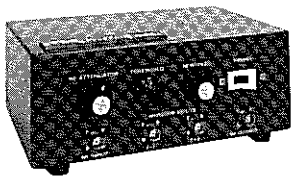
Leveling Preamplifiers

Model 777

10 kHz-220 MHz

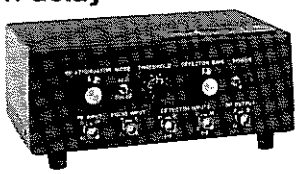


The Model 777 solid-state leveling preamplifier provides up to 40 dB of gain control within an operational bandwidth of 10 kHz to 220 MHz for constant-field rfi susceptibility testing, power-output control, modulation envelope feedback, and simulation of current or voltage sources. Employing a front-panel attenuator that permits level adjustment of rf signal input, the Model 777 is compatible with a wide variety of rf sources, including function and sweep generators and frequency synthesizers.

It accepts a monitor input voltage of any polarity (positive, negative, or differential) from an electric-field sensor system (see page 7) or from the detected output of a directional coupler (page 9). A front-panel threshold control sets the level at which gain control is achieved. This versatile preamplifier is well suited for leveling Amplifier Research L series amplifiers, and the many other rf power amplifiers within its frequency range and power-output capabilities.

Model 999

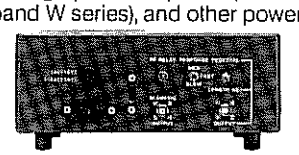
1-1000 MHz
Blanking and pedestal outputs, rf delay



The Model 999 gated leveling preamplifier provides features similar to those of the Model 777 and more: rf gain control over an extended bandwidth of 1-1000 MHz (25 dB minimum, see specifications); pedestal output of adjustable width; blanking output; rf output delay (also adjustable) at the conclusion of a blanking pulse to permit the power amplifier to settle before an rf signal is again applied.

These blanking and pulsing features make the Model 999 particularly useful in NMR spectroscopy.

The Model 999 is compatible with all Amplifier Research broadband high-power amplifiers (including our ultrabroadband W series), and other power amplifiers within its bandwidth and power-output capabilities.



Specifications

	Model 777	Model 999
Rf characteristics		
Power output, minimum	10 milliwatts	10 milliwatts
Frequency range		
Full performance	10 kHz-220 MHz	1-1000 MHz
Reduced performance	5 kHz-300 MHz	
Flatness, maximum	±0.5 dB	±1.5 dB
Rf gain, minimum	10 dB	10 dB
Manual gain control, minimum	18 dB	20 dB
Harmonic distortion @ 10 milliwatts	Minus 25 dBc	Minus 25 dBc
Input and output impedance, nominal	50 ohms	50 ohms
Leveling characteristics		
Monitor input polarity	Plus, minus, or differential	Plus, minus, or differential
Threshold adjust range	Up to 5 V	Up to 5 V
Monitor input impedance, nominal	10,000 ohms	10,000 ohms
Closed-loop control of rf gain	40 dB to 200 MHz 27 dB to 250 MHz 23 dB to 300 MHz	25 dB minimum, 1-1000 MHz 40 dB typical, 5-500 MHz
Response	See note (1)	See note (1)
Pulsed characteristics		
Input pulse amplitude	—	+5 Vdc
Input impedance	—	50 ohms nominal
Rf envelope rise time (excluding rf delay)	—	0.5 microsecond
Rf envelope fall time	—	0.3 microsecond
Rf delay, adjustable (2) (5)	—	10 microsecond to 1 millisecond
Pedestal pulse amplitude (5)	—	−5 Vdc nominal into 50 ohms
Pedestal pulse length, adjustable (3) (5)	—	10 microseconds to 10 milliseconds
Blanking pulse output	—	+5 Vdc nominal into 50 ohms
Connectors	Type BNC female	Type BNC female
Primary power	115/230 Vac, 50/60 Hz	115/230 Vac, 50/60 Hz
Weight	2.3 kg (5 lb)	2.3 kg (5 lb)
Size (W x H x D) (4)	24.0 x 9.0 x 16.0 cm 9.5 x 3.5 x 6.3 in.	24.0 x 9.0 x 16.0 cm 9.5 x 3.5 x 6.3 in.

Notes:
(1) Response switch has multiple selection, which permits matching the detector response to avoid loop oscillation.
(2) RF-delay time starts at the end of the blanking pulse.
(3) Pedestal-pulse length starts at the end of the blanking pulse.
(4) Adapters available for 19-inch rack mounting. Requires 5¼ inch panel space.
(5) These outputs are used to interface with Amplifier Research amplifiers having pulse mode and/or blanking features.

Typical pulse rfi susceptibility test configuration