

## MODEL 200

### AVERAGE AND PEAK RESPONDING LIMITER



*A dual-function Audio Limiter for studio recording, mastering, and broadcast.*

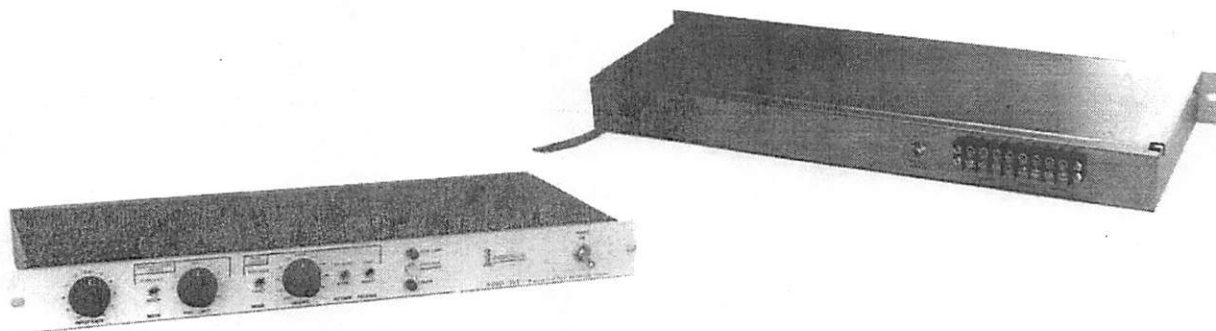
The fast-acting Peak Limiter section of the Model 200 restricts program peaks to a preset ceiling value. Alternately, the exclusive PEAK HOLD feature can automatically set an optimum dubbing level during an initial preview play-through in certain mastering applications.

An independent gain control circuit maintains the average program level within desired limits. Activation of the SLOW A.G.C. function provides control over long term level variations.

### FEATURES

- Fully Calibrated** — detented controls guarantee repeatability, are quickly and easily set for any desired limiting function.
- Simple Operation** — even inexperienced personnel obtain effective results with "straight-up-and-down" control settings.
- Very Low Distortion**, even at low frequencies, assured by open-loop gain control and unique ripple-cancelling circuits.
- Instant Display** of limiting action by peak-responding indicators. Optional remote-mounting meter may be located at console.

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## SPECIFICATIONS

**Frequency Response**  
±0.5dB 20Hz – 20kHz

**Signal-to-Noise Ratio**  
>75dB, 20Hz – 20kHz referred to +4dBm line level

**Distortion (1)**  
50Hz – 200Hz 200Hz – 20kHz

<b>Peak Limiter</b>		
NORM Release:	<0.5%	<0.3%
FAST Release:	<0.8%	<0.4%
Average Level Limiter:	<0.4%	<0.3%
Limiters OFF:	<0.15%, 20Hz – 20kHz at +23dBm	

### Limiter Timing (2)

**Peak Limiter**  
NORM Attack: <1 $\mu$ s / dB-limiting  
DELAYED Attack: 2ms fixed delay + 0.5ms / dB-limiting  
NORM Release: approx. 30ms / dB-limiting  
FAST Release: approx. 6ms / dB-limiting  
PEAK HOLD Attack: <10 $\mu$ s / dB-limiting  
PEAK HOLD Release (drift): <0.1dB / minute

**Average Level Limiter**  
NORM Attack and Release: approx. 50ms / dB-limiting  
SLOW A.G.C.: Operates in conjunction with NORM mode and requires approx. 10 seconds for complete gain reduction or restoration.

### Stereo Coupling

Two or more units may be interconnected for ganged gain reduction.

### Input

Sensitivity: Adjusts in 2dB steps to accommodate input levels between -10 and +10VU.  
Impedance: 100K, unbalanced (transformer optional)

### Output

Line output feeds 600 ohm line or bridging input at +4 or +8dBm. Clipping level +24dBm.

### Panel Controls

POWER: ON – OFF  
INPUT GAIN: -10 to +10dB in 2dB steps  
Average Level Limiter  
MODE: NORM – SLOW A.G.C.  
AVG. LEVEL LIMIT: -3. to +3VU in 1dB steps (and OFF)  
Peak Limiter  
MODE: NORM – PEAK HOLD  
CEILING: 0 to +18VU in 2dB steps (and OFF)  
ATTACK: NORM – DELAYED  
RELEASE: NORM – FAST

### Panel Indicators

Peak-responding indicators display gain state of Limiter circuit: LINEAR (no limiting); AVG. GAIN REDUCTION; PEAK LIMIT.

### Power Requirement

105 – 130VAC, 50/60Hz, 10 watts

### Size and Weight

1 $\frac{1}{4}$ " X 19" X 1 $\frac{1}{2}$ ", 7 lbs.

### Accessories

Remote-mounting Gain Reduction Meter  
Input isolation transformer

### Price

- (1) Total Harmonic Distortion at +4dBm line level with 15dB Limiting or Average Level Reduction.
- (2) Attack and Release are not linear time-per-dB-of-limiting characteristics. The specified figures represent Best Straight Line approximations of these characteristics over the greatest portion of their operating values.

As terminology relating to Audio Limiters is not standardized, and as some operating parameters are difficult to specify in universally understood terms, Inovonics welcomes the opportunity to answer any questions which may arise from the specifications as stated above. Address correspondence to Engineering Department.