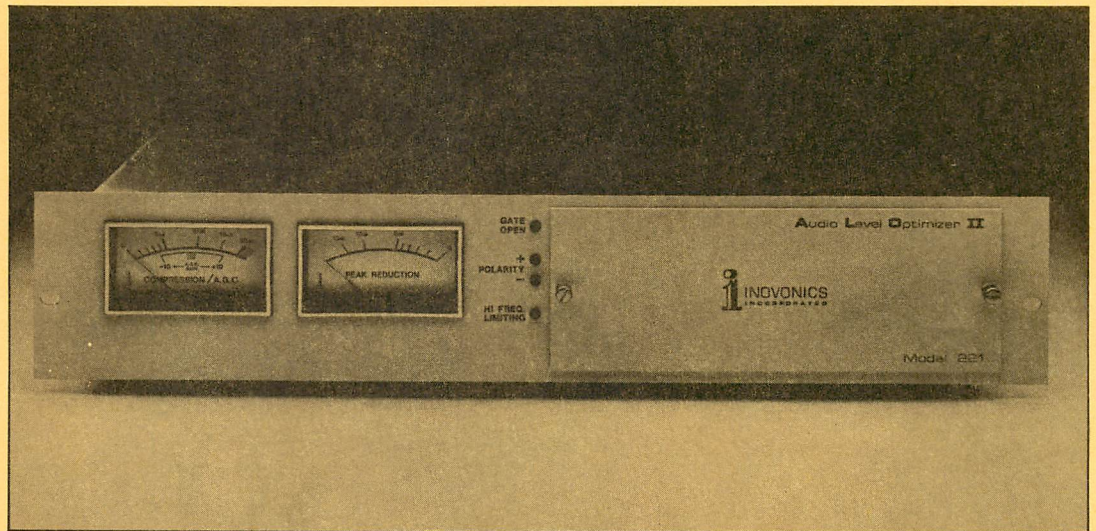


Product Information Sheet

(REPRINTED FROM CURRENT FULL-LINE CATALOG)

Model 221 Audio Level Optimizer II

Inovonics has combined three distinct broadband audio processing functions into a single package—The Model 221 Audio Level Optimizer II. A gain-riding AGC amplifier corrects for long-term input level variations, while a unique gated “open loop” compressor provides “firm-but-gentle” control over program dynamics. Overmodulation is prevented by a fast, accurate peak limiter with program-controlled phase inversion and adjustable limiting symmetry for AM and a separate 25-/75-microsecond high-frequency limiter for FM. Although Model 221 is designed for radio broadcast use, it also satisfies the complex audio processing requirements of TV audio, dialog recording, and sound reinforcement.



General Specifications

Frequency Response	±1 dB, 20 Hz-20 kHz	Asymmetrical Operation (Defeatable):	Positive peak value can be set between 100% and 150% of negative.
Noise Level	Better than 70 dB below 100% modulation output level.	Phase Follower (Defeatable):	Circuit inverts program phase at signal zero-crossings as required to maintain maximum positive modulation.
Distortion	<1% THD with 10 dB compression and 10 dB limiting of steady-state signal, 200 Hz-20 kHz.	Gating Feature (Defeatable)	Circuit serves to inhibit compression release and maintain gain at the level of previous compression when input signal falls below preset gating threshold value. This prevents “pumping” or background noise modulation, particularly during speech. Gating logic similarly controls AGC function.
AGC Function (Gated)		Input	
Operation:	Serves as slow “gain-riding” function to correct for long-term input level variations.	Sensitivity:	Adjusts to accommodate input program levels between -20 and +10 dBm.
Capture Range:	±10 dB	Impedance:	20k bridging with transformer isolation.
Correction Rate:	0.5 dB/sec.	Output	Transformer-isolated line output feeds 600 ohm line or bridging inputs at program levels between 0 and +24 dBm, corresponding to 100% modulation. Clipping level +24 dBm.
Compressor (Gated)		Stereo Coupling	Two or more units may be interconnected for ganged gain reduction.
Ratio:	Variable; increases as a function of compression.	Power Requirements	105-130 VAC (230 V available), 50/60 Hz, 1/4 A
Compression:	Variable to 20 dB	Size and Shipping Weight	3-1/2" x 19" x 9", 11 lbs.
Attack:	1 ms/dB compression		
Release:	5, 15, or 50 ms/dB compression		
Peak Limiter			
Ratio:	>100:1		
Limiting:	Variable to 15 dB		
Attack:	<1 μs		
Release:	Complex function of program peak content; manually variable over 10:1 range.		
High Frequency Limiter (Defeatable):	Independently maintains high-frequency energy within bounds imposed by 25-/75-microsecond FM pre-emphasis characteristic.		