

The Schlockwood 200

LPAM Broadcast Audio Processor



The Schlockwood 200 (SW200) is a full-featured audio processing system developed specifically for LPAM (Low Power AM) broadcast services. Applications include

license-free FCC Part 15 'hobby broadcast' operation, TIS (highway information) systems, and voice processing for amateur radio operators.

FEATURES:

- Interfaces easily with balanced studio-level program feeds and unbalanced consumer/semi-pro signal levels.
- Subsonic and RF filters guard against erratic operation from out-of-band program frequency components.
- Slow, 'gain-riding' Gated-AGC normalizes average levels from diverse program sources.
- Choice of the established NRSC program pre-emphasis characteristic or a continuously-variable family of 'peaking' curves.
- 3 bands of multiband, frequency-discriminate compression and limiting to optimize and maintain program density.
- Variable low- and high-frequency program equalization.
- Tight final peak control with variable output asymmetry; up to +135% modulation for positive-going program peaks.
- A sharp-cutoff output filter may be programmed for either 10kHz or 5kHz audio response.
- Through-hole assembly uses readily-available generic parts to simplify maintenance and user circuit modifications.

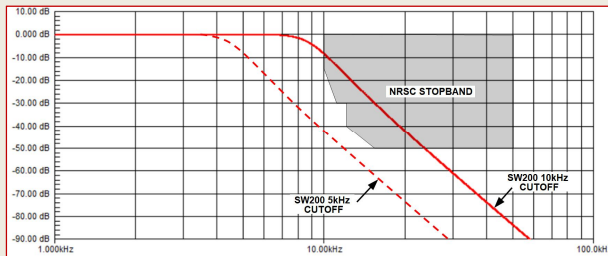
SW200 SPECIFICATIONS

Passband Frequency Response:

±0.25dB inside filter skirts; filter plots shown below:



High-Pass (Subsonic) Filter



Low-Pass Filter Options

Signal-to-Noise Ratio:

Noise better than 70dB below 100% modulation

Distortion:

<0.5% THD at a modest processing depth

Program Line Input:

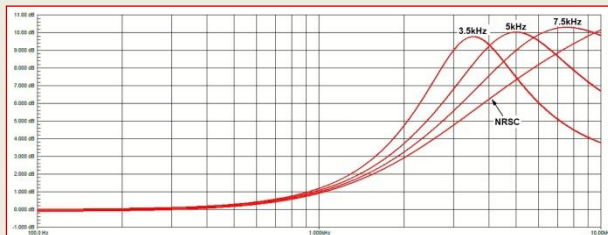
Female XLR or ¼-inch TRS phone jack accepts 'Zero-VU' balanced or unbalanced inputs between -20dBu and +10dBu. Bridging input impedance is 20kΩ balanced, 10kΩ unbalanced.

Program Line Output:

Male XLR or ¼-inch TRS phone jack delivers a balanced output adjustable between -15dBu and +15dBu; unbalanced output is 6dB lower.

Pre-Emphasis Characteristic:

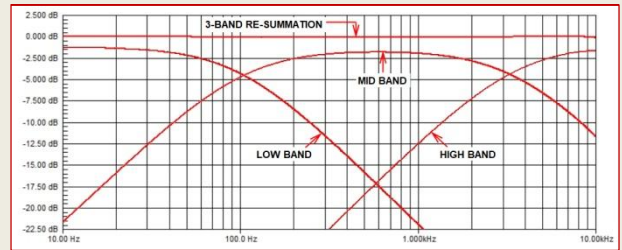
Variable between the US NRSC curve and 'peaking' pre-emphasis options as shown below:



Pre-Emphasis Adjustment Range

Triband Processing:

3 bands of compression/limiting; crossover frequencies shown below. Attack and release ballistics are optimized for each frequency band; >30dB G/R (Gain Reduction) range.



Triband Processing Band Division

Low & High Equalization:

Independent ±6dB control over the drive to the Low and High processing bands

Peak Control:

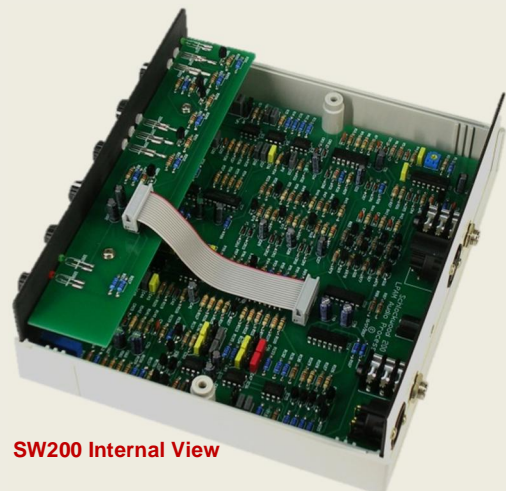
The final peak limiter employs smooth fast limiting and absolute peak clipping in a feedback-loop configuration. The ratio between limiting and clipping is adjustable as a percentage ratio between the two functions. Positive asymmetry of the limited/clipped program waveform may be set between +100% and +135%, relative to the negative peak value.

Power Requirement:

A 'universal' regulated and isolated switchmode power adapter is provided to operate the SW200 from AC mains voltages between 100VAC and 240VAC. The SW200 must be used with the supplied adapter to ensure proper operation.

Size and Weight:

2½"H x 8"W x 8"D; 2 lbs shipping weight.



SW200 Internal View



SW200 Rear View

The Schlockwood Laboratory

Brea, California

www.schlockwood.com

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