

# Inovonics 222

*An economical AM Processor for NRSC compliance*

## **INCORPORATES TIGHT PEAK CONTROL, ADAPTIVE PRE-EMPHASIS AND LOW-PASS FILTERING**

Inovonics' 222 offers a low-cost means of conforming to NRSC transmission standards which have been mandated for all AM broadcasting in the United States. Moreover, the 222 is optionally available in various alternative versions to serve European medium-wave and international short-wave broadcasting needs.

Adaptive pre-emphasis enhances signal intelligibility, and the sharp-cutoff low-pass function eliminates interference to adjacent channels. With its built-in asymmetrical peak controller, the 222 is effective as a "stand alone" processing system, or it may be combined with pre-processing devices to create a transmission "signature."



# Inovonics 222

## Features & Specifications

- The built-in Peak Controller can enhance or replace existing limiters to maintain the asymmetrical AM modulation advantage.
- A separate pre-emphasis protection limiter independently controls high frequency program energy for best utilization of the NRSC (or other) transmission characteristic.
- Feedforward pulse-width-modulation (PWM) techniques are utilized in limiter and adaptive pre-emphasis stages for colorless, quasi-digital control of the program signal.
- Active multipole low-pass filtering exceeds requirements for adjacent-channel protection, even under adverse conditions. A proprietary overshoot compensator eliminates any need for splatter-generating clippers to assure full modulation.

### FREQUENCY RESPONSE

(pre-emphasis defeated):

"PROOF" mode:  $\pm 0.5$ dB, 10Hz–15kHz

222-00 (NRSC):  $\pm 1$ dB, 10Hz–9.7kHz

222-01 (Euro MW):  $\pm 1$ dB, 10Hz–8.7kHz

222-02 (US SW):  $\pm 1$ dB, 10Hz–6.2kHz

222-03 (Int'l SW):  $\pm 1$ dB, 10Hz–4.85kHz

### DISTORTION

Less than 0.2% THD, 10Hz–cutoff with Peak Limiter OFF.  
Less than 1% THD, 200Hz–cutoff with Peak Limiter ON.

### NOISE

Better than 75dB below full carrier modulation (assuming NRSC de-emphasis).

### FIXED PRE-EMPHASIS

The US version follows the "truncated" 75 $\mu$ s curve specified by the NRSC transmission standard. Alternative versions employ pre-emphasis appropriate to the service and the cutoff frequency.



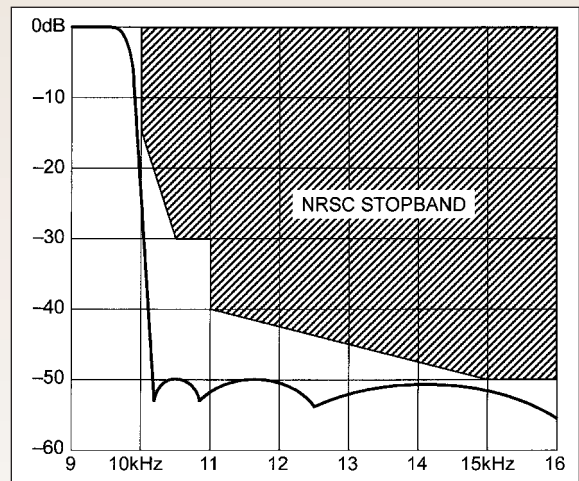
Rear view

### INPUT

Active-balanced, bridging; accepts nominal program line levels between  $-15$ dBu and  $+15$ dBu.

### OUTPUT

Active-balanced, 600-ohm resistive source; delivers 0dBm to  $+15$ dBm into 600 ohms.



Filter Stopband Response - NRSC Version

### OUTPUT ASYMMETRY

Positive peak amplitude is continuously variable between  $+100\%$  and  $+130\%$  of the negative peak value.

### POWER REQUIREMENT

105–130VAC or 210–255VAC, 50/60Hz; 8W.

### SIZE AND WEIGHT

1 $\frac{3}{4}$ "H x 19"W x 7"D (1U); 7 lbs.