Simple, affordable...
...and <u>VERY</u> effective.
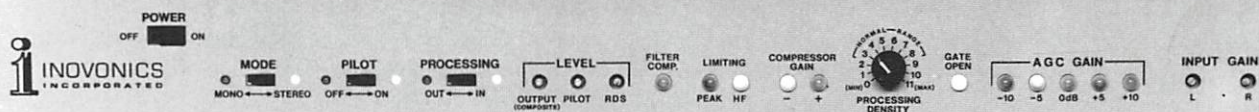
INTEGRATED FM-STEREO PROCESSOR/GENERATOR

Inovonics' "**DAVID**" (as in David vs. Goliath) is an integrated Audio Processor/Stereo Generator for all FM-Stereo broadcasting applications.

The comprehensive Audio Processing section combines the functions of a gated, gain-riding AGC with split-spectrum dynamic compression and peak control. The result is a signal which is both "competitive" and fully protected from overmodulation.

The Stereo Generator section features digital synthesis of the composite signal with its inherent superior stability and performance. Internal combining for SCA or RDS subcarriers is provided, as well as a TTL-level 19kHz pilot output for subcarrier sync.

The design is unique in its simplicity and utilizes readily-available, multiple-source components.

...The DAVID - by Inovonics

➤ **Stereo Audio Processing** includes Slow-AGC, Dynamic Compression, Peak and High Frequency Limiting. Single knob controls program density.

➤ **Digital Synthesis** of pilot and subcarrier for best separation and freedom from drift and routine adjustment.

➤ **Built-In Combining** for SCA or RDS subcarriers with separate TTL pilot sync output.

➤ **Easy to Set-Up, Easy to Use.** "Generic" components used throughout for ease in servicing, anywhere in the world.

FREQUENCY RESPONSE:
±1dB, 20Hz - 16kHz; –60dB or better at 19kHz.

STEREO SEPARATION:
Better than 60dB, 20Hz - 16kHz.

DISTORTION:
<0.15% THD in baseband and subcarrier at 95% modulation.

NOISE:
–75dB or better below 100% modulation in baseband and subcarrier with pilot OFF; 38kHz residual and "digital" noise above 54kHz, –70dB or better.

CROSSTALK:
M - S or S - M; –55dB or better "nonlinear" crosstalk at TEST inputs, –45dB or better overall.

PILOT:
19kHz, ±1Hz; level adjustable between 6% and 12%, relative to 100% modulation. <1% THD in pilot signal.

LINE INPUTS:
LEFT and RIGHT Line Inputs are active-balanced/bridging; accept levels between –15dBu and +15dBu for 100% modulation.

TEST INPUTS:
LEFT and RIGHT unbalanced test inputs bypass audio processing and preemphasis circuitry for direct signal feed to Stereo Generator section.

SUBCARRIER INPUT:
Single-ended (unbalanced) input accommodates SCA or RDS subcarrier signals at levels between –20dBu and 0dBu for nominal 5% - 10% injection.

PRIMARY LOW-PASS FILTERING
7-pole, phase-corrected, active-elliptic "FDNR" low-pass with proprietary filter overshoot compensation circuitry.

PREEMPHASIS:
Integral to split-spectrum audio processing circuitry; may be jumpered for 75µs or 50µs characteristic.

AGC AMPLIFIER:
Slow (0.5dB/sec.) correction for long-term input level variations; ±10dB capture range displayed by LED indicators.

COMPRESSOR/LIMITER:
Fast-acting peak limiter has secondary "platform" time constant to compress dynamic range with average-value weighting. Independent high frequency limiter conforms to selected preemphasis characteristic. LEDs indicate peak and H.F. limiter action and compressor gain state. DENSITY control alters time constants and platform values.

SIGNAL CLIPPING:
Program signal clipping is generally relegated to non-repetitive limiter overshoots 1ms or less in duration. "Safety" clipping of the Composite output signal is performed prior to Stereo Pilot insertion.

COMPOSITE OUTPUT:
Single-ended (unbalanced), "zero" (voltage source) impedance. Level adjustable between –5dBm and +12dBm (0.5 - 3V r.m.s., or 1.2 - 8V p-p).

19KHZ SYNC OUTPUT:
TTL-level symmetrical squarewave, in phase with 19kHz Stereo Pilot.

DIGITAL SYNTHESIS SAMPLING RATE:
608khz (16X subcarrier oversampling).

POWER REQUIREMENT:
105 - 130VAC or 210 - 255VAC, 50/60Hz; 15 watts.

SIZE AND WEIGHT:
1 3/4"H x 19"W x 7"D (1U); 7 lbs. (shipping).
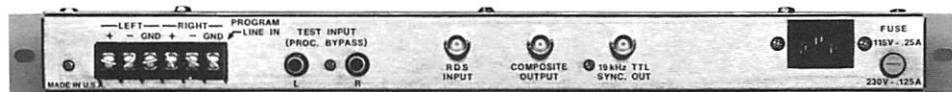
Rear View

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