

Inovonics 531

Performance and affordability in an FM Mod-Monitor

ACCURATE MEASUREMENT OF FM SIGNAL PARAMETERS DIRECTLY OFF-AIR

This second-generation FM Modulation Analyzer maintains the traditions of performance and value found in its very popular predecessor. Several new features have been added to enhance the versatility, the usefulness and the performance of the 531 with negligible impact on price.

Synthesized, pushbutton tuning with one-touch memory entry permits instant comparisons between any station and its market companions. Readouts of signal strength, multipath distortion and synchronous AM noise qualify the incoming signal and validate the measurements.

The 531 presents bright, easy-to-read and accurate displays of total carrier modulation and demodulated stereo audio. It also offers frequency-selective measurement of data and analog subcarrier injection levels. Alarm tallies enable remote indications of various transmission and reception faults.



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Features & Specifications

- Synthesized tuning includes seven station presets for quick station comparisons.
- The bargraph modulation display with peak-hold gives accurate modulation readings, including the injection levels of data and analog subcarriers.
- A built-in incidental AM noise measurement feature finds utility in transmitter alignment.
- Alarms with individual output tallies indicate overmodulation, carrier loss, program audio loss and excessive multipath effects.

TUNING RANGE

87.9MHz to 108.1MHz in 100kHz steps; 7 station presets.

REMOTE STATION SELECTION

Any of the seven station presets may be called-up by applying a momentary ground to rear-panel terminals.

SENSITIVITY

10 μ V (10dBf) for 50dB mono quieting; 250 μ V (60dBf) is usually required for valid off-air modulation measurements.

RF INPUTS

A rear-panel switch selects the F antenna input or the BNC high-level RF input.

BASEBAND INPUT

A BNC composite/MPX input to the stereo decoder and sub-carrier measurement circuitry accepts levels of 1Vp-p or greater.

BASEBAND OUTPUT

A BNC composite/MPX demod output delivers 3Vp-p at 100% modulation.

STEREO PROGRAM OUTPUTS

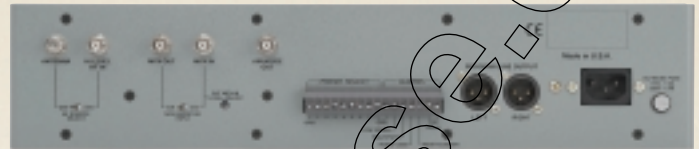
Balanced XLR stereo program outputs deliver +4dBm. A front-panel headphone jack also monitors the stereo program.

AM NOISE OUTPUT

A BNC synchronous/asynchronous AM noise output is also routed to the headphone jack in the noise measurement mode.

CARRIER MODULATION DISPLAY

This bargraph display has quasi-peak response with a 'floating dot' peak-hold function. It normally shows total peak carrier modulation, but independent positive or negative deviation readings may also be selected. With 100% corresponding to \pm 75kHz carrier deviation, the display has 1% resolution between 120% and 80%, and 2% resolution between 80%



Rear view

and 46%. Measurement integration may be jumpered for 0.1ms, 0.2ms, 0.5ms or 1.0ms.

PEAK FLASHER

The flasher is digitally programmable from the front panel in 1% increments between 95% and 125%.

PILOT/SUBCARRIER MEASUREMENTS

Measurement filters are included for 19kHz, 38kHz, 57kHz, 67kHz and 91kHz. Injection levels between 2.6% and 14% are displayed with 0.2% resolution.

DEMOD METERING DISPLAY

A dual bargraph shows L / R or L+R / L-R program audio. The display is peak-responding between +10dB and -30dB, and average-responding between -30dB and -64dB. This display also switches to show relative AM noise.

PROGRAM DE-EMPHASIS

An internal jumper selects the 75 μ s or 50 μ s characteristic. De-emphasis may be defeated with a front-panel button.

OFF-AIR PERFORMANCE

Frequency Response: \pm 0.5dB, 20Hz-15kHz.

Noise: better than 65dB below 100% modulation (with de-emphasis).

Distortion: <0.25%THD at 100% modulation.

Stereo Separation: typically 50dB (>60dB with baseband input).

Crosstalk Measurement: M/S and S/M crosstalk via the stereo sum/difference method.

ALARMS

Rear-panel terminals present open-collector NPN switch closures to ground concurrent with these front-panel fault indications:

Overmodulation (peak flasher)

Carrier Loss

Excessive Multipath

Audio Loss (loss of either program channel; alarm follows a delay that can be programmed from the front panel between 10 seconds and 2 minutes.)

POWER REQUIREMENT

105-130VAC and 210-260VAC; 50/60Hz; 20W.

SIZE AND SHIPPING WEIGHT

31/2"H x 19"W x 12"D (2U); 14 lbs.