

# Inovonics 525

## AM Reference Receiver and Modulation Monitor

### **A FREQUENCY-AGILE AM BROADCAST MONITOR COMPATIBLE WITH IBOC DIGITAL TRANSMISSIONS**

Inovonics' 525 is a broadband receiver for monitoring and measuring AM broadcast signal parameters. Because it can receive signals off-air, measurements also include performance of the transmitting antenna with its tuning and phasing circuits.

The 525 features fulltime wide measurement response, but has user-selectable audio cutoff characteristics to mitigate noise or to simulate the response of consumer radios. A phase-locked synchronous detector helps reject adjacent-channel interference and recovers only the amplitude-modulated component of IBOC 'hybrid digital' transmissions, even at full audio bandwidth.

The 525 is supplied with a large-aperture, weatherproof loop antenna. The directionality of this antenna is a further aid in rejecting interference.



# Inovonics 525

## Features and Specifications

- Maintains AM modulation measurement accuracy in the presence of IBOC digital carriers.
- Easy menu-navigated setup and operation.
- The bright LCD display shows positive and negative peaks simultaneously and may be switched to show RSSI and asynchronous noise to qualify modulation readings.
- Audio response is independent of measurement bandwidth and may be programmed in 1kHz steps between 10kHz and 2kHz.
- Front-panel alarms and rear-panel tallies for overmodulation, carrier loss and audio loss.
- Supplied with a weatherproof directional loop antenna.

### TUNING RANGE

Tunable from the front panel between 520kHz and 1720kHz in 10kHz steps; five station-memory pushbuttons.

### PEAK FLASHERS

Absolute-limit flashers (alarmed) are factory-calibrated at -100% and +125% carrier modulation. A second set of flashers may be set from the front panel in 1% increments between -70% and -100% and +70% and +140%.

### RF INPUTS

**Antenna:** This 75-ohm (F) input is specifically intended for the large aperture loop antenna provided. Cable is not included, but up to 100 feet of common RG6 TV coax may be used.

**Direct:** A high-level (BNC) input accepts a direct RF sample from the transmitter between 1V and 7V r.m.s.



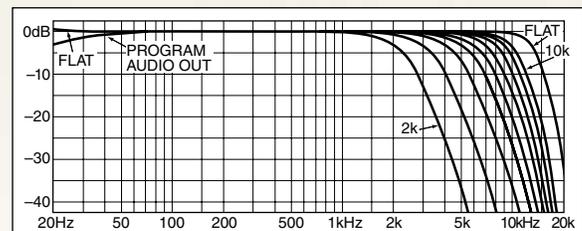
Rear view

### MEASUREMENT BANDWIDTH

Carrier amplitude demodulation extends from 20Hz to 10kHz,  $\pm 0.2$ dB. Modulation measurements are not affected by the user-selectable audio cutoff or NRSC de-emphasis.

### AUDIO RESPONSE

Audio at the program line output and headphone jack may be menu-selected for "FLAT" response, which follows the full-bandwidth modulation measurement characteristic, or restricted in 1kHz steps between 10kHz and 2kHz (-3dB point) per the graph below.



### AUDIO DE-EMPHASIS

A menu command turns NRSC 'truncated' 75 $\mu$ s de-emphasis on and off in the program audio and headphone outputs with any user-selected audio cutoff option.

### AUDIO DISTORTION

Less than 0.5%THD at 100% carrier modulation.

### AUDIO NOISE

Typically better than 55dB below 100% modulation at an S9 carrier level with 10kHz audio bandwidth and NRSC de-emphasis selected.

### AUDIO OUTPUTS— POSITIVE PEAK MODULATION

The active-balanced (XLR) program audio output delivers +4dBm at 100% modulation. A front-panel headphone jack (1/4-inch TRS) also monitors the demodulated audio.

### ALARMS

Front-panel indications and open-collector NPN transistor 'tally' outputs signal OVERMODULATION, CARRIER LOSS and PROGRAM AUDIO LOSS conditions.

### POWER REQUIREMENT

105-130VAC or 210-255VAC, 50/60Hz; 15W.

### SIZE AND SHIPPING WEIGHT

1 $\frac{3}{4}$ "H x 19"W x 8"D (1U); 9 lbs.