

2GHz Automatic FM/AM Modulation Meter



Features

- ★ Automatic Measurement from 1.5MHz to 2.0GHz
- ★ Single Input : 10mV to 1V
- ★ 3½ Digit LCD Display
- ★ Wide Variety of De-emphasis and Audio Filters

Description

Model 2042 Automatic Modulation Meter is designed to make rapid and accurate modulation measurements of FM and AM signals. Selection of function, meter range, filter and de-emphasis is made by simple push-button switches.

Applications

Model 2042 Automatic Modulation Meter simplifies testing of communication equipment. FM and AM transmitters and signal generation equipment, both in the field and in manufacturing facilities.

Specifications

FM INPUT

- Frequency Range** : 1.5MHz to 2.0GHz.
Input Impedance : 50 ohms.
Input Level : 100mV to 1V rms (typically 10mV).
Maximum Safe Input : 1 watt (7V rms).

FM MEASUREMENTS

- Modulation Freq. Range** : 50Hz to 15KHz (typically 50KHz).
Deviation Ranges : 0 - 2KHz, 2 - 10KHz, 0 - 20KHz & 20-100KHz. Measurements of positive and negative deviation can be made.
Accuracy : At 1KHz modulating frequency : $\pm 2\%$ of FS $\pm 2\%$ of reading + residual FM.

Residual FM

- : 1.5MHz to 100MHz : <20Hz/
 100MHz to 1.25GHz : increase linearly with frequency @ 20Hz per 100MHz with 300Hz - 3KHz PDBW.

Modulation Freq. Response

- : Referenced to 1KHz :
 $\pm 0.5\text{dB}$ from 50Hz to 15KHz (typically 50KHz) with 50Hz to 50KHz filter;
 $\pm 0.5\text{dB}$ from 50Hz to 15KHz with 50Hz to 15KHz filter;
 $-3\text{dB} \pm 0.5\text{dB}$ from 300Hz to 3KHz with 300Hz to 3KHz filter.

De-emphasis

- : Selectable : 50, 75, 750 μsec or off.
 Time constant accuracy : 5%.

AM MEASUREMENT

| | |
|----------------------------------|--|
| Modulation Freq. Range | : 50Hz to 15KHz (typically 50KHz). |
| AM Range | : 0 to 20% & 20% to 100% Measurements of peak or trough can be made. |
| Accuracy | : At 1KHz modulating frequency : $\pm 2\%$ of full scale $\pm 2\%$ of reading + residual AM (Input Level 100mV to 300mV (typically 1V rms)). |
| Residual AM | : <0.5% with 300Hz - 3KHz bandwidth selected. |
| Modulation Freq. Response | : ± 0.5 dB from 50Hz to 15KHz with 50Hz to 50KHz filter; ± 0.5 dB from 50Hz to 15KHz with 50Hz to 15KHz filter; -3 dB ± 0.5 dB from 300Hz to 3KHz with 300Hz to 3KHz filter. |

SIGNAL OUTPUTS

IF Output

| | |
|-----------|-----------------------|
| Connector | : Rear Panel BNC. |
| Frequency | : 420KHz approx. |
| Level | : 100mV into 50 ohms. |

AF Output

| | |
|-------------------|---|
| Connector | : Front Panel BNC. |
| Freq. Response | : Controlled by selected filter. See AM and FM frequency response. |
| Level | : 0.5V rms or 1V rms for full scale at 1KHz modulating frequency depending upon range selected. |
| Output Impedance | : 600 ohms |
| Distortion | : At 1KHz modulation frequency : <1% for 50KHz deviation <1% for 80% AM. |

GENERAL

| | |
|------------------------|--|
| Display | : 3½ digit LCD. |
| Environmental | : Specifications apply for 15° to 30°C. Operational from 0° to 40°C. Storage range : -20°C to +65°C. |
| Weight | : 5 Kg. net. |
| Dimensions (mm) | : 310 (W) x 110 (H) x 290 (D) approx. |
| Input Supply | : 230V AC $\pm 10\%$, 47-65Hz, 8VA max. |

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.



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