



**Model NM-21FFT  
Radio Noise Meter**

Model NM-21FFT radio noise meter is designed specifically for use by the power industry to make highly accurate measurements of broadcast band EMI pollution. The NM-21FFT operates at one fixed frequency and is available with a standard frequency of either 834 kHz or 1000 kHz. It is also available on special order with a fixed frequency anywhere in the range of 600–1500 kHz. Due to the single frequency capability, the instrument is inherently high in sensitivity and simple to operate. The absence of broad frequency coverage eliminates all tuning and calibration requirements. It also enables the circuitry to be designed for high image rejection, high IF rejection, low spurious response and high overall accuracy. The NM-21FFT conforms with NEMA-107 and ASA C63.2 specifications for single frequency RFI instruments and is compatible with the NM-17/27A and NM-25T for all pulse repetition rates above 50 pulses per second. The instrument is hand portable, withstands rough field use and has low (5 watt) power consumption.



**SPECIFICATIONS**

Frequency Range .....	Single frequency, crystal controlled. Standard frequencies available are 834 kHz and 1000 kHz. Other special single frequencies are available in the range of 600 to 1500 kHz.
RF Input Impedance .....	50 ohms standard, Input VSWR is less than 1.25
Bandwidth .....	The 6 dB bandwidth is 5 kHz $\pm$ 10%. The 60 dB to 6 dB overall bandwidth ration is 3.5 max.
Detector Function .....	Quasi Peak detector only. Time constant of one millisecond charge and 600 millisecond discharge.
Sensitivity, CW .....	Conducted: 50 ohm impedance $-0.10 \mu\text{V}$
Sensitivity, Broadband* .....	Conducted: 50 ohm impedance $-0.07 \mu\text{V/kHz}$ *Signal plus noise to noise ratio of one with Quasi Peak detector.
Output Meter .....	Two 5-inch scales are provided. 1 to 1000 $\mu\text{V}$ scale in Logarithmic increments 0 to 60 dB above 1 $\mu\text{V}$ linear scale, divided into 60 equal increments
Measurement Range .....	60 dB (Output meter range) in the lowest step attenuator position. An additional 60 dB of attenuation is provided in 10 dB steps for a maximum voltage of 120 dB.
Measurement Accuracy .....	$\pm 2$ dB
Oscillator Radiation .....	Less than 50 Picowatts
Shielding Effectiveness .....	80 dB min.
Image Rejection .....	Greater than 90 dB at standard frequencies
IF Rejection .....	Greater than 90 dB at standard frequencies

Other Spurious Responses ..... Greater than 90 dB at standard frequencies

Loud Speaker..... A small loud speaker with front panel level control is provided

Recorder Output ..... 1.5 VDC across a 1500 ohm resistive load at full scale meter deflection.  
Recorder output is proportional to meter deflection.

IF Amplifier ..... Operates at 455 kHz

Size ..... 152.44 H x 279.4 W x 304.8 D mm (6 H x 11 W x 12 D in)

Weight ..... Approx. 5.4 kg (12 lbs)

Power Supply ..... AC Power supply standard

AC Line Voltage ..... 105/125 Volt, 50 to 70 Hz

Power Consumption ..... 5 Watts

Options

1. Frequency. See ordering instruction below.

Ordering Instruction (frequency)

Please specify the Model NM-21FFT operation frequency desired by adding the frequency in kilohertz to the model number. For example, if you wish an operation frequency of 1000 kHz, specify a Model 21FFT-1000. Standard frequencies available are 834 and 1000 kHz. Other frequencies are available in the range of 600 kHz to 1500 kHz at no additional charge.