

### FEATURES

- 18 - 54 GHz Frequency Coverage in Two Compact Units
- High Output Power
- External Leveling
- Waveguide Outputs

### INTRODUCTION

The ME-811 Frequency Extender is a low-cost instrument which provides signal generation capabilities from 18 GHz to 54 GHz. It is recommended for use with the Micro-Tel SG-811B Signal Generator, but can be used with other signal sources when adding the option 1 Power Supply. The extender uses doubling and tripling techniques which retain the modulation capabilities (AM, FM or Pulse) of the source generator over the extended frequency range.

### DESCRIPTION

The multiplication technique employed by the ME-811 converts a 0 dBm, 9-13.25 GHz input to an 18-26.5 GHz output at a minimum output level of -3 dBm. For a 26.5-40 GHz output range, an 8.83-13.33 GHz, 0 dBm input signal is converted resulting in a minimum output level of -6 dBm. To achieve a 40-54 GHz output range, the necessary input signal is 13.33-18 GHz. A 0 dBm input level will provide a minimum -10 dBm output.

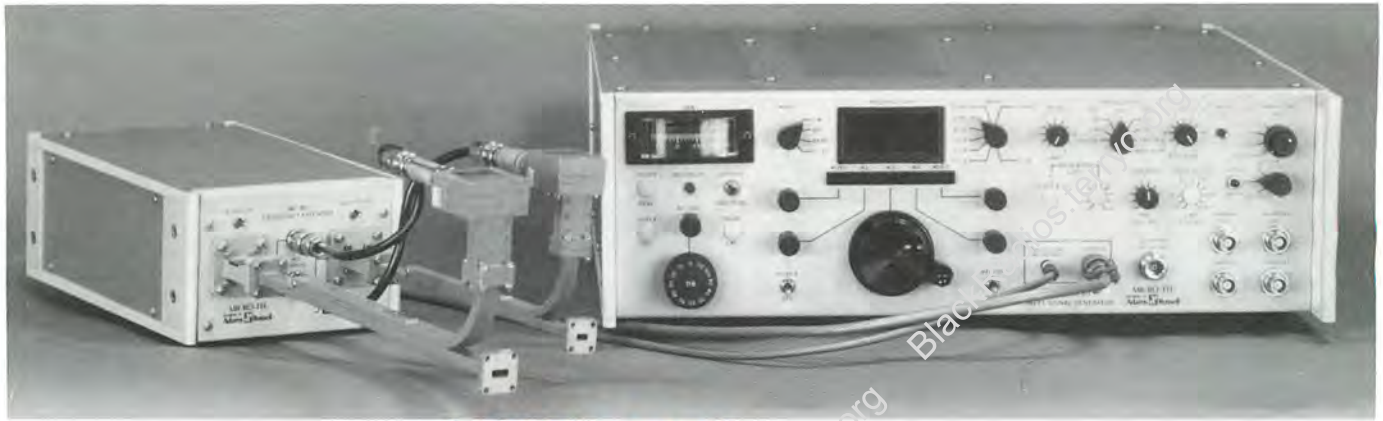
This multiplication technique provides the same types of modulation and sweep capabilities possessed by the signal generator used to drive the ME-811. The FM deviation is doubled in the 18-26.5 GHz band and tripled in the 26.5-40 and 40-54 GHz bands. Pulse performance is also transferred from the signal generator to the extender output via the multiplication process. Also, if the source is frequency synthesized, the 18-54 GHz signal will be synthesized.

DC power is obtained via a pendant cable which connects to Micro-Tel SG-811 Signal Generators with Option 11 (provisions for extended frequency range). The SG-811 controls the frequency from .01-54 GHz and displays it in 1 MHz increments to 40 GHz. Above 40 GHz, the SG-811 will display an output frequency which is  $\frac{1}{3}$  the actual value.

The option 1 power supply allows the ME-811 to be operated with older SG-811 generators or other microwave generators.

Another option available is external coupler/detector combinations which allow the signal generator to be leveled at the waveguide outputs. Switching of the automatic leveling control (ALC) signals is accomplished internal to the ME-811.

The small size of the ME-811 solves the difficult operational problem of mounting the Frequency Extender close to and in a convenient plane for waveguide connection.



## SPECIFICATIONS

### Frequency Output:

K Band	18-26.5 GHz
Ka Band	26.5-40 GHz
U Band	40-54 GHz

### Frequency Input:

K Band	9.0-13.25 GHz
Ka Band	8.83-13.33 GHz
U Band	13.33-18.00 GHz

### Frequency Display:

Up to 40 GHz	Direct on SG-811B
40 GHz - 54 GHz	1/3 Frequency Output
	0 dBm

### Power Input

### Power Output:

K Band (18-26.5GHz)	-3 dBm (min. Leveled)
Ka Band (26.5-40GHz)	-6 dBm (min. Leveled)
U Band (40-54GHz)	-10 dBm (min. Leveled)

### Harmonic Output

### Non-harmonic Output

### Input Connector

### Output Connectors:

K Band	WR-42 (UG-595/U)
Ka Band	WR-28 (UG-599/U)
U Band	WR-19 (UG-383/U modified)

### Temperature Range (°C)

### Cooling

### Size

### Weight

### DC Power In

### AC Input

0 to 50
Convection
3 1/2" x 5 3/4" x 10 1/2"
4 1/2 lbs.
+ 15 VDC at 750 ma
115/230 VAC ± 10%
(Option 1)

## ORDERING INFORMATION (Please see latest price list.)

### ME-811K

### Frequency Extender

18 to 26.5 GHz

- Option 1  
 Option 2A

External Power Supply  
 K Coupler/Leveling  
 Detector

### ME-811Ka

### Frequency Extender

26.5 to 40 GHz

- Option 1  
 Option 2B

External Power Supply  
 Ka Coupler/Leveling  
 Detector

### ME-811K/Ka

### Frequency Extender

18 to 40 GHz

- Option 1  
 Option 2A & B

External Power Supply  
 K/Ka Couplers/Leveling  
 Detectors

### ME-811U

### Frequency Extender

40-54 GHz

- Option 1  
 Option 2

External Power Supply  
 (required)  
 U Coupler/Leveling  
 Detector

## WARRANTY

All Micro-Tel products are unconditionally warranted for a period of one year except for physical damage, provided the equipment is returned to the plant in Hunt Valley.