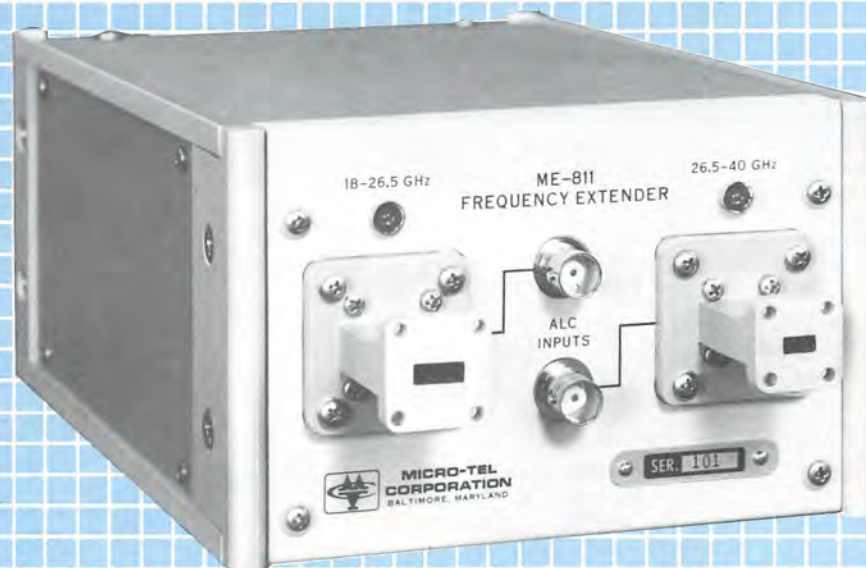


MICRO-TEL & REACTION INSTRUMENTS



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.

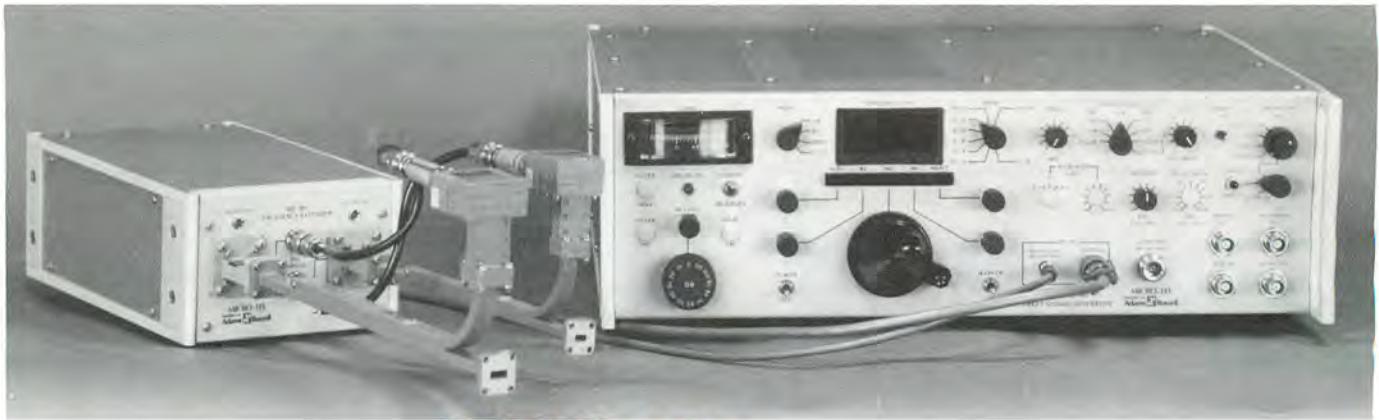
This multiplication technique provides the same types of modulation and sweep capabilities possessed by the signal generator used to drive the ME-811. The FM deviation is doubled in the 18-26.5 GHz band and tripled in the 26.5-40 and 40-54 GHz bands. Pulse performance is also transferred from the signal 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

Power Input

0 dBm

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

-15 dBc max.

Non-harmonic Output

-20 dBc max.

Input Connector

SMA Female

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)

0 to 50

Cooling

Convection

Size

3 1/2" x 5 3/4" x 10 1/2"

Weight

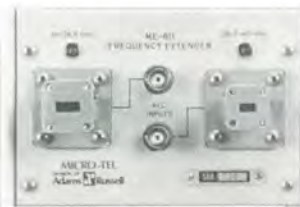
4 1/2 lbs.

DC Power In

+15 VDC at 750 ma

AC Input

115/230 VAC ± 10%
(Option 1)



ORDERING INFORMATION (Please see latest price list.)

ME-811K Frequency Extender 18 to 26.5 GHz	<input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2A	External Power Supply K Coupler/Leveling Detector
ME-811Ka Frequency Extender 26.5 to 40 GHz	<input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2B	External Power Supply Ka Coupler/Leveling Detector
ME-811K/Ka Frequency Extender 18 to 40 GHz	<input type="checkbox"/> Option 1 <input type="checkbox"/> Option 2A & B	External Power Supply K/Ka Couplers/Leveling Detectors
ME-811U Frequency Extender 40-54 GHz	<input type="checkbox"/> Option 1 <input type="checkbox"/> 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.