

SECTION I

INTRODUCTION

1-1. SCOPE OF MANUAL.

1-2. This manual provides descriptive data, operating instructions, theory of operation, maintenance instructions, schematics, and a parts list for the Model 25A Power Meter Calibrator.

1-3. PURPOSE AND USE OF EQUIPMENT.

1-4. The Model 25A is a precision, solid-state instrument designed to provide accurate 1 MHz signal levels required in the calibration of all Boonton RF microwattmeters, Model 41 and 42 series. Full scale and incremental values for each range are provided,

allowing verification and calibration of both full scale and down scale indications.

1-5. TRACEABILITY.

1-6. The Model 25A is factory calibrated using instrumentation whose accuracy is traceable to the National Bureau of Standards. Periodic calibration of 0 dBm and -9 dBm outputs is accomplished using thermal transfer techniques. The accuracy of other full scale and down scale ranges is determined by precision attenuators which are tested at the factory and should not require periodic calibration.

TABLE 1-1. PERFORMANCE SPECIFICATIONS

Parameter	Specifications
Power Ranges:	
Full Scale	-60, -50, -40, -30, -20, -10, 0, ± 10 , ± 20 dBm
Down Scale	0 to -9 dB in 1 dB steps
Output Power Accuracy:	± 0.05 dB (at 25°C ± 5 °C for 90 days, 15 minute warm-up)
Temperature Influence:	± 0.001 dB/°C from 0 to 50°C
Harmonic Distortion:	<0.15% total harmonic distortion
Output Frequency:	1 MHz, crystal controlled
Output Impedance:	50 ohms $\pm 0.5\%$
Temperature:	
Operating	0 to 50°C
Non-operating	-20 to 75°C
Input Power:	100, 120, 200, 240 VAC $\pm 10\%$ 50 to 400 Hz, 7 VA
Dimensions:	5.2" high (without feet), 8.3" wide, 11.5" deep (132 x 211 x 292 mm)
Weight:	7.75 lbs. (3.6 kg)