SECTION I
INTRODUCTION AND GENERAL DESCRIPTION

1-1. SCOPE OF MANUAL

This manual describes the Models 751A, 1001A, and 1751 Power Sources manufactured by Elgar Corporation. It provides operating, maintenance, and adjustment instructions; circuit descriptions; schematic diagrams; and parts lists.

1-2. INTRODUCTION

The Elgar Power Sources described in this manual provide AC power at precise frequencies for testing, motor operation, and frequency conversion. The basic power amplifier consists of two DC supplies and a direct coupled amplifier driving a tapped output transformer. Nominal output voltages of the three units are; 1001A, 0-65, 0-130, 0-260 VAC; 751A and 1751, 0-32, 0-130 and 0-260 VAC. Total available output power for the three units respectively is, 1000VA, 750VA and 1750VA at full rated output voltage. Output power at less than full rated voltage is derated as illustrated in Figure 1-1. Figure 1-2 illustrates a typical harmonic distortion curve. Input power for the Model 1751 is 115/200V three phase 47-63 Hz or 230V delta. The Models 1001A and 751A may be wired for either 115 or 230V input power, 47-63 Hz single phase.

Output power frequency is established by a plug-in oscillator. Output frequency range for these units is 45 Hz to 5 KHz. A variety of plug-in oscillators is available, with frequency accuracies up to .0001%.

These Elgar Power Sources facilitate equipment tests to meet military-specification operating requirements over the frequency range of 47 to 63 Hz or 47 to 425 Hz. The basic power source output is single phase, however, multi-phase power may be obtained by stacking two or three power sources, all driven by one multi-phase plug-in oscillator.

1-3. GENERAL DESCRIPTION

These Elgar Power Sources are contained in standard rack mount enclosures. A meter for output voltage monitoring, a power on indicator lamp, a voltage amplitude control and a power circuit breaker that applies line power to the unit are located on the front panel. Cooling air for the power amplifier is drawn through a front panel grill and exhausted at the rear of the enclosure.

The enclosure contains heatsink assemblies which comprise a two section power amplifier. Control circuitry is mounted on a plug-in circuit board with test points and adjustment controls available at the top of the board. Output power is available at a rear panel terminal block and at front-panel binding posts.

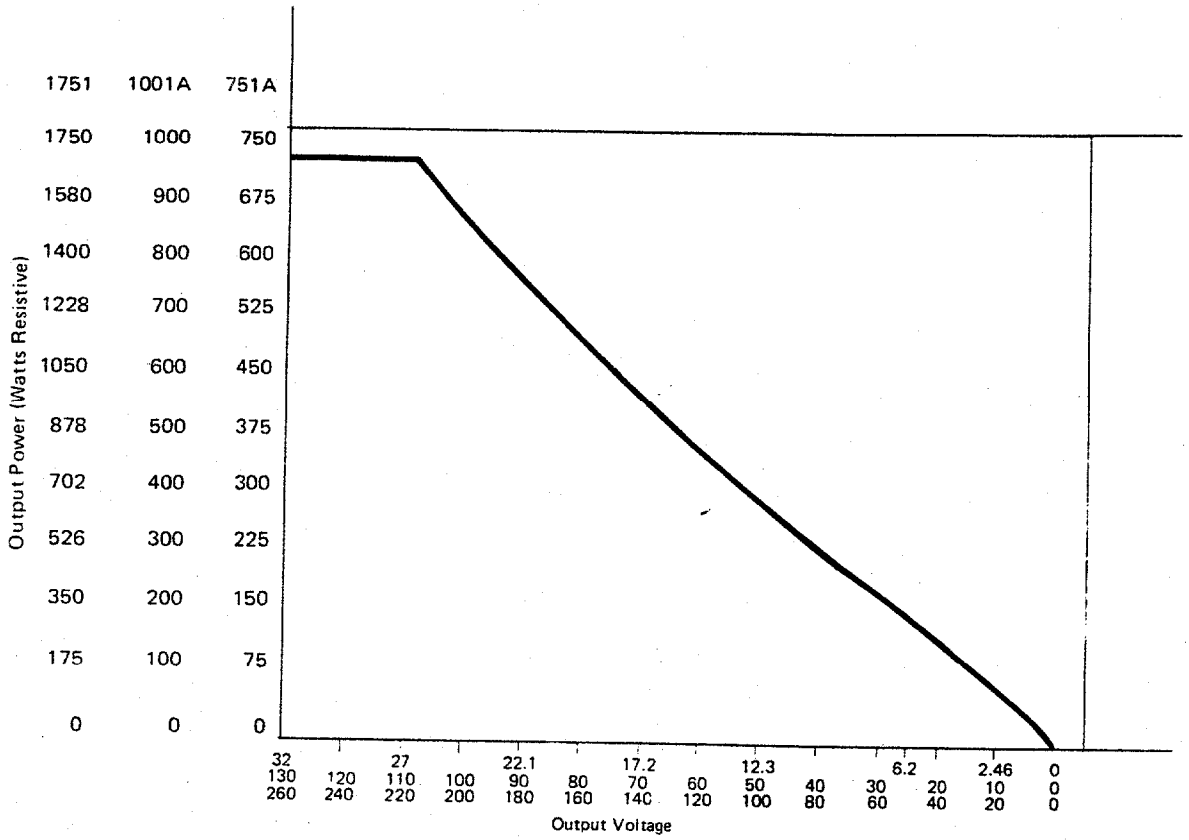

Figure 1-1. Power Output Derating

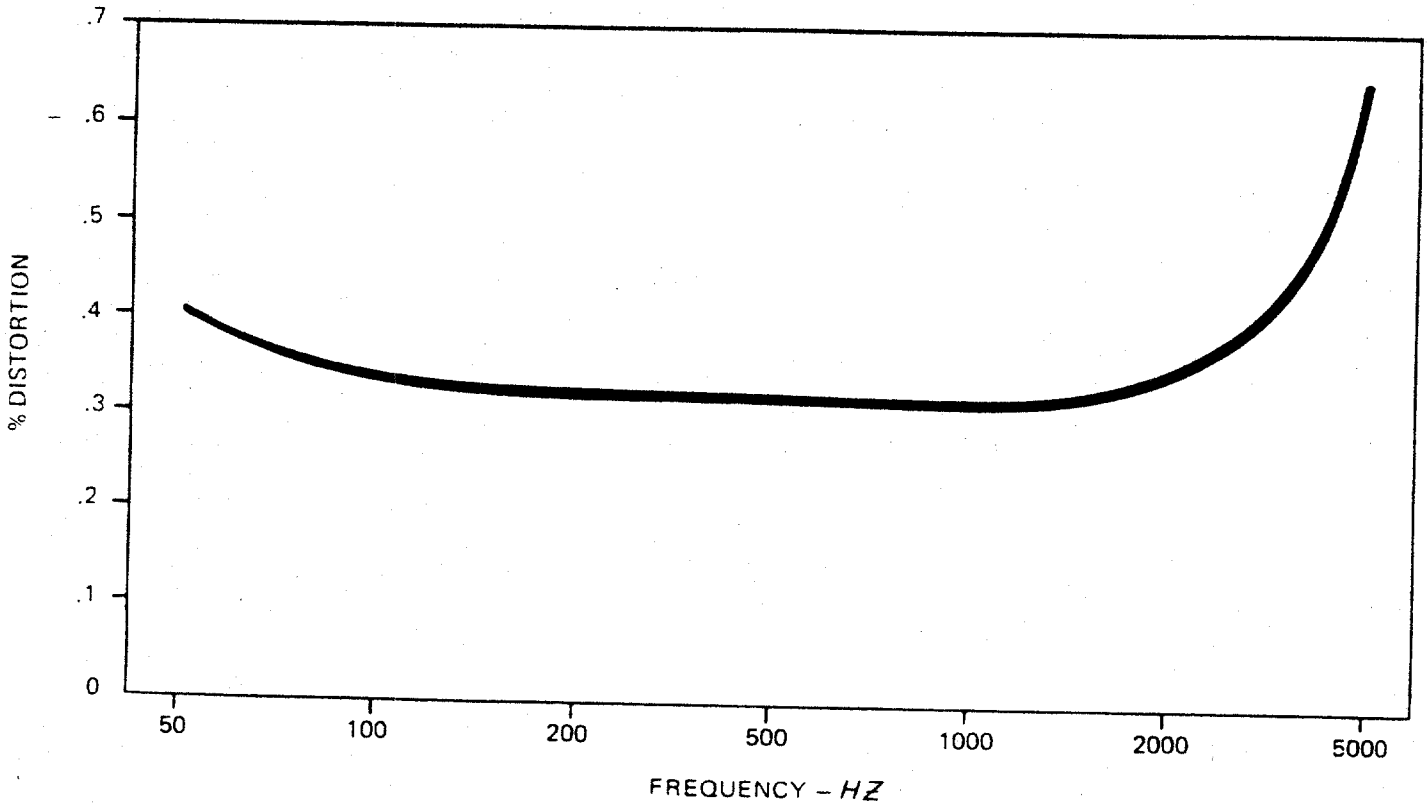

Figure 1-2. Typical Harmonic Distortion at Rated Power

SECTION II
SPECIFICATIONS

	751A	1001A	1751
Output Power	0-750VA	0-1000VA	0-1750VA
Power Factor		Unity to ±.7	
Output Voltage (adjustable)	0-32 0-130 0-260	0-65 0-130 0-260	0-32 0-130 0-260
Output Frequency Range		45 Hz – 5 KHz	
Output Distortion		Less than .9% 45 Hz – 5 KHz Less than .5% 100 Hz – 1 KHz	
Output Noise		70 Db below full output	
Load Regulation		±1%, No load to full load over frequency range, adjustable to zero for specific load and frequency	
Line Regulation		±.25% for 10% input line change	
Output Protection		Overload and short circuit protected, output recovers immediately when overload or short is removed.	
Input Power	One Phase, 115 or 230VAC. 47-63 Hz		3 phase, 230 L-L, L-N, 208-L-L
Temperature Range		0 – 50°C	
Dimensions	7" x 9" x 20" deep	12¼" x 19" x 20" deep	14" x 19" x 20" deep
Approximate Weights	120 lbs	190 lbs	225 lbs