I INTRODUCTION

1.1 Purpose of Equipment

The in-line DEKABOX® decade resistors are adjustable resistors that can be easily set to a resistance value for precision dc and audio frequency use.

1.2 Description

There are three models of Dekabox, Model DB 42 has four resistance decades, Model DB 52 has five, and Model DB 62 has six. Each unit consists of a metal case, three binding posts, and four, five, or six decade resistance switch assemblies. Figure 1-1 shows panel arrangement and dimensions of all models.

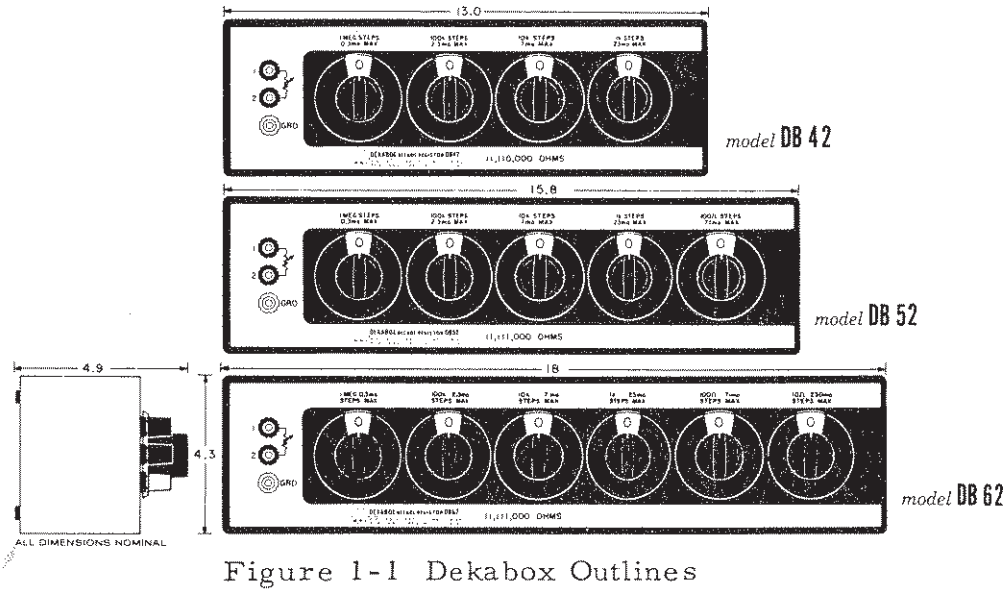

Figure 1-1 Dekabox Outlines

1.3 Specifications

INITIAL ACCURACY OF RESISTANCE CHANGE FROM ZERO SETTING: ±(0.01% + 0.0005 ohm per decade) at 23°C
LONG-TERM STABILITY: ±(0.02% + 0.001 ohm per decade) per year
APPROXIMATE ZERO RESISTANCE: 0.002 ohms per decade
RATING PER RESISTOR: See Table 1-1.
TEMPERATURE COEFFICIENT: See Table 1-1.
POWER COEFFICIENT: See Table 1-1.
NUMBER OF DECADES: DB42, four; DB52, five; DB62, six
BREAKDOWN VOLTAGE: See Table 1-1
WEIGHT: DB42, DB52, DB62 -- 4 lbs net. 10 lbs packed for shipping
MAXIMUM CURRENT PER RESISTOR: See Table 1-1

RESISTANCE PER DECADE (Ω)	RESISTANCE VALUE R* (Ω)	ACCURACY		COEFFICIENTS		MEASUREMENT DUTY MAXIMUM RATINGS		PEAK VOLTAGE (V/step)
		INITIAL (%)	LONG-TERM (%)	TEMPERATURE (ppm/°C)	POWER (ppm/mW/step)	POWER (mW/step)	CURRENT (mA)	
10 M	1 M	0.01	0.02	5	0.15	100	0 3	300
1 M	100 k	0.01	0.02	5	0.15	1000	3.2	300
100 k	10 k	0.01	0.02	5	0.15	1000	10	1500
10 k	1 k	0.01	0.02	5	0.15	1000	32	1500
1 k	100	0.01	0.02	5	0.15	1000	100	1500
100	10	0.012	0.025	15	0.45	1000	320	1500
10	1	0.03	0.07	20	0.6	1000	1000	1500
1	0.1	0.2	0.5	60	3	500	2200	1500
0.1	0.01	2	5	400	60	160	4000	1500

Table 1-1 Ratings Per Step for Each Decade

TOTAL RESISTANCE AND MINIMUM STEP RESISTANCE AVAILABLE: Shown in Table 1-2.

MODEL	TOTAL RESISTANCE	OHMS PER STEP
DB 42	111.1Ω	0.01Ω
	1,111 Ω	0.1 Ω
	11,110 Ω	1 Ω
	111,100 Ω	10 Ω
	1,111,000 Ω	100 Ω
	11,110,000 Ω	1 k
DB 52	1,111.1Ω	0.01Ω
	11,111 Ω	0.1 Ω
	111,110 Ω	1 Ω
	1,111,100 Ω	10 Ω
	11,111,000 Ω	100 Ω
DB 62	11,111.1Ω	0.01Ω
	111,111 Ω	0.1 Ω
	1,111,110 Ω	1 Ω
	11,111,100 Ω	10 Ω

Table 1-2 Total Resistance and Minimum Step Resistance