

## **671-1100 (60-230) Function Generator**

**Introduction:** A function is a mathematical concept. It is the idea that an initial value completely and utterly determines another value. Some people refer to this as ‘input and output’. An example of a function is  $2.5x$ . With this, the output is exactly 2.5 times the input value, regardless of what the initial input is. Functions are best understood using the ‘black box’ concept. This compares a function to an automated machine that converts the input into the output without any interference from the user. In essence, the function is like an oracle that automatically determines the output, without the user having to do anything more than input the initial value.

Our function generator is modeled in the black box style. It requires two students, the included cards, and a dry erase marker.

**Operation:** each function generator requires two students, and a particular function assigned by the teacher. The students sit opposite one another with the generator in between. The student in front of the unit (represented by the smooth side) is responsible for inputting the initial values and recording the output. The student at the back of the generator is responsible for applying the assigned function to the input.

The student in front of the generator should be kept unaware of the specific function assigned. It is his job to record the outputs for a variety of inputs. From this, he must decipher what the function being used is. The student should write an input on one side of a dry erase card and place it in the top slot of the generator.

The student behind the generator is responsible for applying the function to the input values. When a card is placed in the generator, he should write the output on the other side of the card and place it in the top slot to return it. This student is responsible for maintaining mathematical accuracy.

The generator is also useful for test review. One student can submit a question, and the other can output the answer. The teacher should check periodically for accuracy.

### **Warranty and Parts:**

We replace all defective or missing parts free of charge. Additional replacement parts may be ordered toll-free. We accept MasterCard, Visa, checks and School P.O.s. All products warranted to be free from defect for 90 days. Does not apply to accident, misuse or normal wear and tear. Intended for children 13 years of age and up. This item is not a toy. It may contain small parts that can be choking hazards. Adult supervision is required.