

# W. J. J. Hoge<sup>sm</sup>

## Electroacoustics

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## Hoge's Laws of Engineering

### Zeroth Law

$$t = \$,$$

where  $t$  is time and  $\$$  is money.

### First Law

The effective composite IQ of a committee is equal to the reciprocal of the sum of the reciprocals of the IQs of the individual members. Thus,

$$IQ_{eff} = \frac{1}{\frac{1}{IQ_1} + \frac{1}{IQ_2} + \frac{1}{IQ_3} + \dots + \frac{1}{IQ_n}},$$

where  $IQ_{eff}$  is the effective composite IQ and  $IQ_1, IQ_2, IQ_3, \dots$ , and  $IQ_n$  are the IQs of the individual members.

### Second Law

Measure with a micrometer, mark with chalk, trim with an axe.

### Third Law

For every vision there is an equal, but opposite, revision.

#### **Fourth Law**

For any set of empirical data

$$y = ax^2 + bx + c,$$

where  $x$  is the value predicted by the theoretical model,  $y$  is the actual measured value,  $a$  is the Finagle factor,  $b$  is the fudge factor, and  $c$  is the diddle constant.

#### **Fifth Law (Klipsch's Rule)**

All real world practical engineering calculations can be done using powers of two or powers of ten.

#### **Sixth Law (Bloogin's Rule)**

Twenty percent of the people drink eighty percent of the beer.

#### **Seventh Law (Finagle's Law)**

The perversity of the Universe tends toward a maximum. (Note: Murphy's Law is an optimistic statement of this principle.)

#### **Eighth Law (First Law of Thermodynamics)**

There's no such thing as a free lunch.

#### **Ninth Law (Second Law of Thermodynamics)**

In order for something to get cleaned up, something else must get even dirtier.

#### **Tenth Law (Harrison's Law)**

For every problem there is a solution that is simple, obvious, and wrong.

### **Eleventh Law (Niven's Law)**

Part A: Never throw rocks at a man with a gun.

Part B: Never stand next to someone throwing rocks at a man with a gun.

### **Twelfth Law (The "Boxcars" Principle)**

A. You can't win. (First Law of Thermodynamics)

B. You can't break even. (Second Law of Thermodynamics)

C. It's the only game in town, and you have to play. (Zeroth Law of Thermodynamics)