Russ,

Here is a short summary that should help:

A **copyright** is a protection provided to an original work, published or not. Copyrights can extend to literature, plays, printed music, sound recordings, photographs, drawings, films, computer programs, etc. A copyright *does not* protect a fact, idea, procedure, concept, or method of operation. Another way to say it is that a copyright protects the *particular expression* of an idea, *not* the idea itself. The specific artwork for a printed circuit board can be copyrighted; so can the "artwork" of a particular schematic. However, there is nearly always more than one way to design a printed circuit board or draw a schematic for a given device, especially a simple one that is made up of common sub-circuits and circuit fragments that can be found in textbooks and product notes. Bottom line: *Copyright of a schematic provides no protection for the circuit or circuits it shows. Drawing a new schematic of an existing device does not violate a copyright.*

A **patent** is a property right issued to an inventor. It excludes others from making, using, duplicating, or selling the invention. Just an idea or suggestion for an invention cannot be patented; the complete, actual invention must be described. Electronic devices designed by assembling circuit designs and common circuit fragments from sources such as publications and manufacturers' recommended implementations and application notes (these are things that fall under the catchall term "prior art") cannot be patented if the combinations of those circuits and their resulting function are "obvious" to a person with "ordinary skill"—ordinary knowledge, creativity, and common sense, including professional education—in electronics. "Predictability" is important here: Can a person with an "ordinary" education in electronics "predict" how the device will work simply by looking at the schematic? If so, it probably cannot be patented.

A **trademark** is a word, name, symbol, or device which identifies the source of a product to distinguish it from other products. (A **servicemark** does the same thing for a service.)

A **trade secret** is information about an idea or process that is held confidentially by the owner of that information. It remains a secret only as long as the owner can prevent the information from being disclosed. Once it has been revealed, it is no longer a trade secret. A device that can be purchased and "reverse engineered" (i.e., taken apart and a schematic drawn from the components and the circuit board) is not protected as a trade secret. Removing or painting over part numbers, or encasing entire assemblies in resin or plastic (called "potting"), or making enclosures difficult to open with ordinary tools all can be defeated.

This also addresses "cloning". Feel free to pass it along to your friends.

Diane