HERE ARE SOME BASIC TERMS USED WHEN DEALING WITH AND SELLING ELECTRICAL:

AMPS: Unit of electrical measurement commonly used to rate power requirements of the equipment. For example, your laptop requires 3.36 Amps. Typical commercial electrical wall outlets are wired for 20 Amp service. Older buildings may have the older standard/ residential 15 Amp service.

CIRCUIT: Individual circuits feed off the main service to the building, carrying electrical power through the circuits to each room. A commercial circuit is typically rated at 15 to 20 Amps each, depending on the application or need.

HARD WIRE: Electrical connection of power feed supplying furniture and equipment to building power source. Requires a certified electrician to install a hardwire connection. Usually hardwire connections are used for multiple circuit access from the power source.

WIRE MANAGER: Wire manager is a generic term used to describe organization of electrical, voice and data cables in furniture.

JUNCTION BLOCK: Duplex unit which holds the modular circuit receptacles.

UNDERWRITERS LABORATORY - U.L.: The mother of all electrical standards-see special section on Byrne UL 183, Dekko UL 962 for specifics.

JUMPER: Modular link connecting power between furniture. Sometimes referred to as daisy chaining.

HOT, NEUTRAL AND GROUND: Terms used to describe the different types of wires used in electrical schematics.

Hot: Each circuit requires a hot wire to carry the electrical power. Hot circuits can be shared or isolated.

Neutrals: The neutral is also required to complete the circuit. It is the return portion of the circuit and carries the electrical power back to the ground in effect completing the circuit.

Grounds: This wire is a safety net in the event a hot or neutral fails. It creates a safe path back to the ground versus sending the energy through the utility (e.g. computer).

MODULAR CONECTION: Another term used in place of jumpers.

POWER STRIP: Power plug rated at 15 amps. Allow user to plug several pieces of equipment into one power tap. (Note it is not kosher by NEC standards to daisy chain power strips.)

CATEGORY 3: Commonly used in phone equipment. Lowest rating in terms of speed of transmission of communication and therefore is not used in high-speed modem communication. Typically CAT-3 is a modular connection system.

CATEGORY 5: High-speed communication, usually hard wired to allow maximum communication speed. CAT 5's has a rating of 100 megabytes of information transfer per second.

POWER IN FURNITURE

Since our focus is on open plan and private office, we will move forward to the present and the explosion of technology and current trends and their uses. Their uses include training, teaming, conference, and education. STAKS is expected to assist technology, communication and the movement of data. Incorporating power and data into the products we sell has been accomplished. All we need to do is understand it and be able to explain our power and data systems to our customers.

The standard equipment found in workstations or cubicle in Corporate America consist of a Computer, Laptop, CPU Monitor, Clock Radio, Cell phone, Battery Charger, IPod, IPad, task light, calculator, and lamp. Below is a list of common items or equipment used in the modern day open plan or private office/conference rooms. These items are shown with the amount of AMPS required.

Laptop Computer/CPU (depends on size)	2-4 Amps	Fax	1 Amp
Monitor	2-2.5 Amps	Focus Machine	3-5 Amps
Printer-DeskJet	4 Amps	Overhead Projector	1.5-3 Amps
Printer-LaserJet	6.5 Amps		

UL UNDERWRITERS LABORATORY CODES

There are three main standards that UL has established and apply to power distribution for the office: (Byrne) UL 183 and (Dekko) UL 962.

UL 183: UL 183 standards were developed for modular components used on equipment and in our case tables. UL 183 category can be hardwired, single or multi circuit, single or three phase designs. The standard requires that the electrical system comply with UL standards, but it has no bearing on the furniture. Thus, while the electrical system is considered in compliance, it is up to the furniture manufacture to secure the electric to its product in a safe manner.

PLANNING - RULES OF THUMB

The planning section will help you understand how to help your clients with the correct power requirements. In most cases it comes down to asking these simple questions and then making the right recommendations.

1. What are you going to be using in the office or open plan?
2. Are we dealing with new construction or existing building specs?
3. Where is the power in the room? Is it flexible-under floor access?
4. Will we need surface power access?
5. How will data be handled? Surface mounted or underneath the surface?
6. Are there any particular local codes or constraints to deal with, such as in NY or Chicago.

The typical project will include a spec from an architect or designers drawing. These drawings will have several rectangles positioned in a creative configuration. Such creative expression often does not lend itself well to reality. That is where you come into the picture.

1. Sell standard product if you can. Sometimes customizing product or changing electric circuits will cause the table not to meet UL codes or BIFMA Standards. Understand the UL Codes we work with in.

2. Over Power the work surface: ask the questions from above. Count the number of computers in each open plan and multiply by the AMPS required for each computer. This will tell you how much power the row will require. The NEC has certain rules facilities must abide by. Computers in use for more than 3 hours must down load the capacity of the power supply by 20%. Therefore an eighty AMP hardwire power feed would only be rated at Sixty four amps.

- First Office recommends 5 Amps of power per workstation.
- 3 workstations per circuit is the general rule.
- 6 workstations per 4-wire infeed (based on 5 Amps per workstation).
- 12 workstations per 8-wire infeed (based on 5 Amps per workstation).