



Center for Exhibition Industry Research

INDUSTRY INSIGHTS SERIES

Demystifying Electrical Services for the Exhibitor

Updated edition by: Richard P. Curran

Original author: Steve Hagstette, Sr.



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CEIR extends special thanks to Richard Curran, CEO and President of Expo Convention Contractors and Immediate Past President of ESCA, and Steve Hagstette, Sr., SVP, Freeman, retired.



Ordering electrical services for trade show exhibits can be very confusing and somewhat overwhelming. When ordered correctly, the appropriate amount of power is provided in the appropriate location. When ordered incorrectly, higher costs, delayed installation, unsightly power cords and, perhaps, inefficient power for your exhibit may result. With a little knowledge and preplanning, you can have a smooth set up and save your company money as well.

Typically, there is an electrical services contractor, but it is the exhibitor's responsibility to coordinate the service. The key to demystifying the process is to know how to answer these questions:

- How much power do I need?
- Where do I need it located in my booth?
- Who has the jurisdiction to what?

How Much Power Do I Need?

First, create a list of all the elements in your exhibit that require power. Think about the exhibit itself – any lighting, a/v equipment, computer equipment, product that is being displayed, etc. Do not forget the lead retrieval machine, cell phone chargers and any electrical appliances you might be renting from catering. If it needs to be powered in your exhibit, you need to include it in your list.

Next, determine the wattage needed for each item on the list. This can be obtained from the instruction manual of each item or on the information plate on the rear or bottom of each item.

When you do not have access to that information, use the following as a guide:

- 120 volt power is the standard requirement for home and office equipment.
- Standard lighting is 110/120 volt and the wattage used should be noted on the light bulb.
- 208 and 480 volt power is generally used for machinery. European equipment requires 380 volt power and therefore a transformer to convert it from 480 volt.
- If your equipment requires 220 or 230 volts you should check with your company's electrician or engineer to determine if the unit will function properly with 208 volt power before ordering.

An extensive list of average wattage requirements for typical exhibit elements is provided in the appendix entitled "Wattage Usage Guide" found at the end of this article.

What if it only states the amperes and voltage on the plate? Many times the wattage will not be stated but if you remember a simple formula, AVW (ampere x voltage = wattage) you can determine the answer.

Once you have listed all the items that require power and the associated wattage, you are ready to start the ordering process. Following are a couple of examples.

EXAMPLE 1:

2 lights @ 100 watts each	=	200 watts
1 lead retrieval	=	100 watts
1 laptop computer	=	<u>200 watts</u>
Total Power Required	=	500 watts

This exhibitor should order one 500-watt outlet.

EXAMPLE 2:

8 lights @ 60 watts each	=	480 watts
1 desktop computer	=	500 watts
1 printer	=	<u>400 watts</u>
Total Power Required	=	1380 watts

This exhibitor should order one 1500-watt outlet.

When the wattage exceeds an outlet listed on the rate sheet, round up to the next available option on the order form, as in the second example above.

Note that if any individual elements in your exhibit require 208 or higher voltage, it must be treated as a separate connection and not combined into the other elements.

When Do I Need Power?

In many facilities power is turned on a ½ hour before show opening and turned off a ½ hour after show closing. If you require power outside the above hours, you must order 24 hour power. For example, refrigerators, aquariums, appliances, computers or machinery that require power to maintain memory require 24 hour power. Prices for 24 hour power are usually double the outlet price listed on the order form, so you can save money by ordering a separate circuit for those items that do require 24 hour power.

Where Do I Need Power?

Power cords and electrical boxes should be unnoticeable in the exhibit once the show is open – either hidden under carpet or behind the exhibit. Therefore, your electrical requirements must be installed before other work begins and it is very difficult (and costly) to make adjustments once the carpet has been laid. Therefore, unless the only requirement is a simple plug-in at the back of an inline booth, it is imperative that the exact location of power within the booth is well thought out, documented and provided to the electrical services contractor in advance of move-in.

Start with the list of items that require power and a piece of paper – graph paper is best. On the floor plan, provide your booth number and mark the front and back of your booth as well as any other information such as aisle locations so that the electrician has the proper orientation and installs the power accurately.

Draw your exhibit space to scale and mark the locations and wattage required in the exhibit. Be specific - provide the distance you want the outlet from the back or front of the booth as well as either side so the electrician can place outlets exactly where you want them.

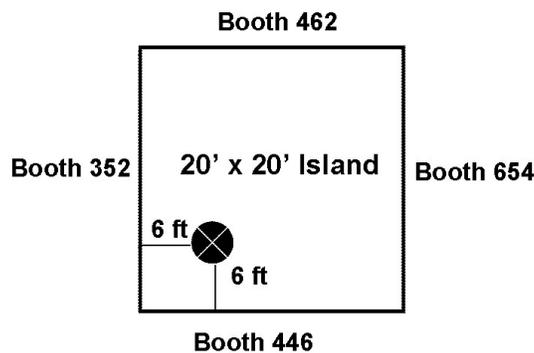
If you have multiple elements in one location and require more than one receptacle to plug into, you must order a power strip or tri-plug (depending on the facility). Some facilities do not allow tri-taps and require power strips with a 15 ampere circuit breaker.

EXAMPLE: If you had 3 items that needed 500 watts each at one location, it would be less expensive to order 1 – 1500 watt drop with a power strip or tri-tap than to order 3 – 500 watt outlets to the same location.

EXAMPLE: Where will my power be located?

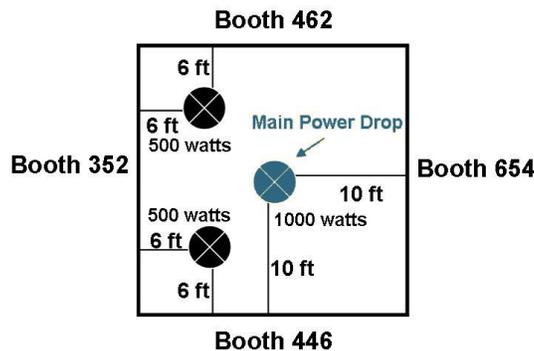
Depending on the facility, the power will come from overhead catwalks, columns or floor ports. In-line and peninsula booths will find their main power source on the floor at the rear of their booth. Island booths need to submit a floor plan noting the location (with dimensions from both sides of the booth) and quantity of the power. The surrounding aisle or booth numbers should also be indicated to provide orientation of the booth.

20 x 20 Peninsula 	10 x 10 In-line 	
	Power will be at rear drape line	



EXAMPLE: If power is typically provided at the back of an island exhibit, how do I get power to the center of my booth where it is required? What if I have multiple power locations?

Exhibitors requiring power within their exhibit space must submit a floor plan indicating the preferred location of the outlet(s). If multiple locations are requested, the plan should indicate which location is the main power source and the location of all other outlets with the specific power requirement for each. Satellite outlets are always distributed from a main power source. The surrounding aisle or booth numbers should also be indicated so that the orientation of the booth can be determined.



It is important to note that the location chosen for the main power source will have distribution equipment required to deliver power to other locations, typically a dog house, plug strip or depending on the order, a larger distribution box. The exhibitor will likely want to hide the distribution equipment under a counter or in a closet. Often the best location for a main power source depends on whether the power is dropped from the ceiling or comes from the floor.

Once the power is installed, is additional labor required? Who has jurisdiction?

Electrical services are generally under the jurisdiction of union labor. In some cases, it is necessary to hire electricians to install and plug in electrical elements. Depending on the city and complexity of the exhibit elements, the jurisdiction of “who does what” can be confusing. To avoid costly delays, it is important for you to be familiar with the work rules associated with the city in which the event is being held.

Typically, exhibiting company representatives are able to plug their own equipment into standard outlets.

It is typically necessary to order electrical labor for:

- All orders for 208 volt or higher
- Wiring and/or installation of electrical or rotating signs
- Forklift service required to set an electrical header/rotating signs
- Assembly and hanging of all static lighting on truss
- The inspection of exhibitor’s power panels
- To provide more than one drop location in their booth from overhead
- 208 volt or higher equipment that has been pre-wired to plug into the electrical contractor’s equipment.

In many facilities, exhibitors requiring 208 volt or higher connections to machinery may call the electrical services contractor in advance and request the required make and model of the cord connector. The connector may be hard wired to the machinery in advance so, at show site, the electrician simply checks phases and then plugs in the equipment thus saving show site labor costs.

In most facilities, exhibitors may bring their own extension cords but they must be at least 14 gauge 3 wire with a ground and multi-outlet devices (plug strips) that have circuit protection. Zip cords (household extension cords) with 2 wires and no ground wire are not allowed to be used on the convention floor.

Extension cords under the carpet are usually required to be flat. Due to the fire safety issue, many facilities require an electrician to lay all extension cords under carpet. In some facilities, this work can be performed by the installation & dismantle labor installing the booth for the exhibitor.

Electrical labor may also be required in some facilities to:

- Install lighting or other electrical equipment
- Assemble and hang all static lighting on truss. If lighting is attached to a dimmer board this may be the jurisdiction of stagehand labor. In advance, check with the general service contractor or the electrical contractor to determine the appropriate jurisdiction
- Balance the load in the booth if the combination of all outlets exceeds 2000 watts or 20 amps
- Hang monitors, TV plasmas or other electrical equipment. Check with the general service contractor concerning jurisdiction for video walls and coordinated images

When do I need electrical labor?

Labor for machinery connections or working in the booth (labor for equipment other than providing outlets or installing extension cords under carpet) cannot usually be guaranteed except for 8:00 AM starts. Exhibitors are serviced on a first come basis. Labor ordered for a time later than 8:00 AM may be delayed if all labor has already been assigned to the 8:00 AM start times. Labor for later reserved times will be assigned to those jobs once the labor has been released from the previous jobs. If you don't know specifically when you will need your labor, still order in advance for a "will call" time as you will usually be billed at the advance labor rate when pre-ordering the service.

Dismantle labor is usually charged at 50% of the installation labor since much of the work performed is after the booth is dismantled, the carpet rolled up, and the exhibitor has already departed.

Saving Time and Money

Setting up an exhibit can be very exhausting, frustrating and costly. By following a few recommendations you minimize most of the above for a smooth installation.

- Determine the individual wattage for all the electrical apparatuses that are going to be used in your exhibit area.
- Order the required electrical for your booth prior to the deadline date.
- Make sure to send in an electrical floor plan prior to the deadline designating where each outlet should be placed in the booth with exact dimensions and labeled with the quantity of electrical and main drop location, if appropriate.
- Call the electrical contractor with any questions you might have if they don't call you first.
- Order any labor for connections or hanging of electrical items prior to the deadline with a "will call" status if you are unsure of the time you will need the labor. This should qualify your order for the advance labor price.
- Don't forget to contact the electrical desk or service desk several hours prior to needing your electrical labor for connections or hanging of electrical apparatuses so they can try to have your labor available when you need it.
- Don't forget to order labor for disconnects and removing items from the booth at the close of the show when you sign-out your labor during installation.
- Finally, don't forget to look over your invoice for mistakes prior to the break of the show.

By following the above suggestions you should save money on your electrical services and have a smooth show.

About the Author

Richard P. Curran, President and CEO of Expo Convention Contractors and Immediate Past President of ESCA updated the current edition of this report, originally authored by Steve Hagstette, Sr., SVP, Freeman, retired.

APPENDIX

The following wattages are approximate and are provided to help you estimate your power usage. The exhibitor is still responsible for double-checking their equipment and ordering the appropriate amount of power to avoid an interruption of service at the event.

Approximately 100 WATTS = 1 AMP

<u>ITEM</u>	<u>WATTS</u>
Blender.....	1000
Can Opener	500
Card Reader	100
Cash Register	100 - 200
 Coffee Pot	
Household size.....	1200
Large Brewer	1500 - 2000
 Computers	
Desk Top (monitor & CPU).....	200 - 900
Lap Top	150 - 300
Monitor (independent)	50 - 200
 Computer Printer	
Dot Matrix	100 - 500
Laser Printer	400 - 1000
Crock Pot.....	200 -1000
Electric Frying Pan.....	1200 - 2000
Food Processor.....	500 - 2000
Glue Gun.....	300
Griddle.....	1500
Hair Dryer.....	1000 - 1900
Heat Lamps (per lamp)	250
 Hot Plate	
Single.....	1000
Double	1500 - 2000

<u>ITEM</u>	<u>WATTS</u>
Iron.....	700 - 1100
 Juicer	
Single.....	500
Double	1000
Laminator	2000
Microwave Oven.....	500 - 2000
Mixer.....	500 - 1000
Small Pizza Oven (30 amp connection)	
Popcorn Maker	2000
 Refrigerator	
Small	100
Regular	700
Meat Slicer	500 - 1000
Steamer.....	2000
Stereo (amplifier)	100 - 500
Television.....	100 - 500
Toaster	1000
Toaster Oven.....	1500
Typewriter	100
Vacuum Cleaner	1500
VCR	



Center for Exhibition Industry Research

12700 Park Central Drive
Suite 308
Dallas, TX 75251 USA

info@ceir.org
www.ceir.org

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