Features List - Detailed

DraftLogic Electrical has been designed from the ground up by building electrical systems design engineers working with software engineers. Herein we list our robust feature set & the benefits to you. Please contact us to get further detail on any of these features or to discuss how DraftLogic Electrical can help your company.

Automated Circuiting

DraftLogic Electrical's patent-pending Automated Circuiting provides building systems designers optimized circuiting of luminaires, receptacles, heaters, and motors. Automated Circuiting runs fast--circuit a 50,000 square foot job in under about two minutes! DraftLogic Electrical removes the repetitive and tedious part of circuiting but still gives the designer complete control over the results of circuiting.

The designer controls what happens during Automated Circuiting with fourteen Project Library parameters, the 'Panels' settings in the Design Parameter Library, and with the circuit sharing settings in the Room Library.

DraftLogic Electrical comes with default values for the parameters and expansive numbers of definitions ready-to-go in the Libraries. The designer can thus exercise as much or as little personal control as they desire over the Automated Circuiting process.

Automated Circuiting Setup

The designer exercises as general or as detailed a level of decision-making as they desire for the automated circuiting process through their choice of quantities and types of service areas.

- The designer selects areas to circuit to different destination panels/panel rooms
- Circuiting service areas can be any size and shape--for example: enclosing all floors, a single floor, part of a floor, a variety of rooms, a single room, or part of a room
- Select circuiting service areas by individual system or mix them; the designer can thus have receptacles, for example, circuiting to forty panel rooms throughout the project whereas luminaires circuit to twenty different panel rooms
- Select specific designer-placed panels to circuit each area to or select panel rooms for DraftLogic Electrical to automatically place panels in for circuiting devices to
- The numbers of circuiting service areas and destination panels/panel rooms are not limited
- The designer decides on a number of parameters that control the circuiting process; panel sizes and mounting style for automatically placed panels, for example

Automated Circuiting Processing

- Circuits will share into neighboring rooms if the designer allows & there is sufficient capacity remaining on the circuit
- Circuits are assigned in phase groups to encourage neutral sharing and efficient branch circuit wiring
- Circuit ordering in rooms is optimized for efficient branch circuit wiring
- Circuits are assigned in service areas on a room-by-room basis with the rooms ordered using a shortest path algorithm to ensure sensible circuit use from room to room

- Circuit sizes and composition are controlled by designer specified parameters about the allowable protection of receptacle circuits and luminaire circuits, and how much (up to code limitations) the designer wants to load their circuits. For example, the user may specify 20A circuits for luminaire circuits loaded to 100% of that allowed by code, whereas they may specify 15A circuits loaded to 90% for receptacles.
- The designer controls the desired treatment of both large and small motors--large motors can circuit individually to compatible MCCs, the MDP, or power panels. Small motors can be allowed to mix in receptacle circuits, allowed to circuit together but not with receptacles, or be made to circuit individually.
- Panels will have circuits filled up to the limits allowed by two designer controlled parameters: panel maximum fill % and panel minimum spare slots with breakers required. This happens whether the panel was placed in advance by the designer or is being placed as needed by DraftLogic Electrical
- Panels placed automatically by DraftLogic Electrical are placed progressively around the walls of the panel room identified by the designer during the circuit service area specification process; the designer can rearrange them as desired anytime & voltage drop effects will recalculate each time a report or schedule relying on distance to panel parent is relied upon
- DraftLogic Electrical will fill lighting circuits to left or top of mixed-service type panels based on a designer controlled setting, leaving receptacle/motor circuits to the right or to follow after lighting

Intuitive & Comprehensive Manual Circuiting Tool
DraftLogic Electrical includes the Circuit Manager, which gives you complete control over the circuits in your project in an easy-to-use dialog. You can individually add and remove objects to circuits, select protection sizes, select protection types, and create parent / child relationships between power tree members.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=45

Automated Distribution & Motors Protection and Conductor Calculations

DraftLogic Electrical's patent-pending Automated Distribution & Motors Protection and Conductor Calculations provide building systems designers quick and accurate selection of protection and conductors for their entire project. DraftLogic Electrical removes the tedious table-searching part of protection/conductor/kVA selection but still gives the designer complete control over the protection and conductors used throughout the distribution network of their project.

Reports Always Use Fresh Data
DraftLogic Electrical recalculates all loads and resulting protection and conductors required on all distribution equipment & motors each time a report is requested by the

user that includes any such equipment. Transformer kVA is also calculated. By recalculating in this manner, the report is assured of having accurate data to rely upon each time it is run.

The calculations start at the branch circuit panels and work their way up through the power distribution network. The entire power distribution network is thus refreshed for each report that relies upon it. One of the 'users' of the data, the Single Line Diagram, shows all the distribution equipment relationships & the calculated protection, conductors, protection type, grounding/bonding conductors, feeder lengths, transformer kVA, and large motors.

Designer and Electrical Code Control Results

The calculations take a comprehensive set of data into account, all either driven by electrical code requirements or designer selection:

- electrical code to apply (CEC or NEC)
- ampacity corrections due to conductor congestion
- ambient temperature modifiers
- feeder safety factor to apply
- user settings for voltage drop allowable & calculate for conductor upsizing effects where allowable voltage drop is exceeded
- conduit fill limitations to set conduit size
- wire sizes you want to allow
- diversity settings (CEC) or demand factors (NEC)—can be applied the same over the entire project or specified at each individual panel
- minimum bus and protection desired by designer
- threshold to use aluminum conductors
- threshold to use fused disconnects
- threshold to apply parallel feeders
- apply bonding conductors to all conduit or in-slab only
- bonding conductor to match conductor material (CU/AL) or always copper
- in-slab conduit type
- Section 8 adjustment (CEC only)
- conductor routing for each distribution member (overhead versus in-slab)
- transformer full load or actual load used for sizing distribution network feeding each transformer and its parents
- motor protection and conductors sized based on MCA, MOCP, FLA, HP, or wattage—whichever is available and highest priority
- future/existing wattage—for the designer to use on renovation jobs to represent existing wattage on a panel or to provide a buffer of distribution capacity for future distribution needs

Suite Derating and Reporting Automatically Occurs

When the project includes apartments or suites, the suite derating rules for each of CEC and NEC as applicable are applied; complete suite derating schedules are produced as part of the panel schedules reporting (suite load calculator, meter center schedule, and suite derating schedule for any new aggregation of suites).

User Overrides to Exercise Your Design Discretion
Every branch circuit panel, distribution device (distribution panels, transformers, etc.), and motor has attributes on it that allow you to exercise ultimate control over the protection and conductors that are selected for it, regardless of what DraftLogic Electrical calculates. This complete set of overrides allows the designer to specify protection amperage, protection type, conductors, bonding/ground, bus, and kVA of their liking to be used instead of calculated values.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=140

Automated Fault Levels Calculation

The term "fault level" refers to what magnitude of current (amps) will flow in an electrical circuit under the worst conditions i.e., a short is created between phase wires or phase to neutral or phase to ground. Usually the worst case is phase to phase which can result in the largest current flowing. Your organization may refer to these calculations as 'fault current calculations'.

Whenever a schedule or diagram that displays the fault levels for any members of the panel trees is requested by the user, the fault levels are automatically freshly calculated by DraftLogic Electrical. This includes the Bill of Materials (where fault levels for all protection are detailed), the Panel Schedules, and the Single Line Diagram.

Calculation Method
DraftLogic Electrical uses the Cooper Bussmann method of fault level calculation, which includes accommodation for motor contributions to fault level. Even when the utility does not supply you with fault current, DraftLogic Electrical can still calculate fault levels using any base value you select: utility fault current, utility transformer specifications, or MDP protection size.

Calculation Details
Each time the fault levels calculation takes place, a detailed log file is generated so that you can review the data behind the fault levels numbers for each individual member of the distribution network.

Presentation of Results
The results of the fault levels calculations are shown on the Single Line Diagram, the Panel Schedules top section, in the Bill of Materials listing of panels and the protection for circuits installed on them, and in the symbol attributes of power tree members. The fault level required for each breaker/fuse is one of the items that protection is sorted by on the summary of protection at the bottom of the Bill of Materials, giving you an easy order list for your protection supplier.

Benefits

- Gets the project done faster by saving users: A) a large number of complex calculations, an error in any one of which would ripple throughout the entire power tree (aka Single Line devices); and B) many keystrokes to enter data into the Panel Schedules / Single Line Diagram / Bill of Materials.
- Increases the appeal of the engineering firm's work to its clients by allowing for accurate fault levels to be included in all deliveries.
- Save clients' money by specifying protective devices based on accurate fault levels calculations instead of skipping the calculations and estimating high to save time on the job but cost more for protective devices.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=56

Automated Branch Circuit Wiring

The Automated Branch Circuit Wiring is the most complex portion of our expert system--for us to design and create, not for you to use! An expert system is when the knowledge and decision making of professionals in a realm of knowledge is absorbed into a software application that uses the knowledge.

DraftLogic Electrical's patent-pending Automated Branch Circuit Wiring performs in minutes what would take an electrical designer days of work to complete. In addition to the immense amount of time required to do branch circuit wiring manually, the probability of errors creeping in is high. This is due to the volume of linework to be drawn and wire counts to determine and place—especially when multicircuit home runs are used.

DraftLogic Electrical Automated Branch Circuit Wiring quickens project completion by saving users hundreds to thousands of: A) clicks to place lines/wire count objects; and B) repetitive low value decisions to be made. The automation further makes certain branch circuit wiring is accurate by carrying out thousands of repetitive engineering calculations error free, no human error factor creeping in. DraftLogic Electrical uses the circuiting information from the devices in your drawing to perform all the steps of Branch Circuit Wiring (BCW) that you would normally have to do yourself.

Branch Circuit Wire Processing

- Decides which circuits to group together for home runs based on a user selected maximum;

- Draws the lines to connect devices in each home run group with conduit, armored cable, or nonmetallic dry cable based on user selection; such connections are drawn in different styles depending on the conductor medium and the distance between the devices;
- Calculates and records connection distance with proper modifications where it is different than the 2D connecting lines represent (i.e. virtualizes the 3D connection path to extrapolate a reasonably accurate distance);
- Calculates wire sizes for each circuit based on load and electrical code being applied (NEC or CEC);
- Applies bonding conductors as required by code or further by user specifications;
- Determines the wire counts and marking the lines with wire counts;
- Determines the home run location for each home run group;
- Places a home run arrow and home run wiring information on the floor plan;
- Accommodates for the affects of voltage drop, ambient temperature, ampacity correction due to conductor congestion, application of CEC Section 8 (CEC projects only); and
- Determines conduit size in compliance with your maximum conduit fill requirements.

Automation Under Designer Control
Each of these steps is controlled by over twenty parameter values that you control, such as the minimum conductor size to be used for Automated Branch Circuit Wiring.

Tools To Make Adjustments or Perform Branch Circuit Wiring Tasks Manually
In most cases, the expert system automation will serve your purposes as-is. In situations where you need to branch circuit wire an object in a special manner, or to branch circuit wire an object that is not supported for automatic branch circuit wiring in this version, DraftLogic Electrical provides semi-automated and manual tools for adding and removing branch circuit wiring lines.

DraftLogic Electrical includes the Branch Circuit Wire Manager, which gives you complete control over the branch circuit wiring in your project in an easy-to-use dialog. For each individual interconnection, you can: add, change, and remove wires; select conduit and wire sizes; specify each wire's purpose; and override the calculated distance.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=44

Automated Generation of Schedules and Floor Plans

The days of taking as long to create the panel schedule as you took to do the circuiting are over! DraftLogic Electrical creates your floor plans and schedules completely automatically in seconds or minutes.

The end products of the many hours you spend on an electrical design project are the floor plans & schedules you deliver to the client. The accuracy, completeness, and professionalism of the floor plans & schedules thus determine how the client is going to judge whether the fees paid to you were well spent or not. Design reviewers and engineers at electrical design firms spend untold hours checking the work of their peers to ensure that errors don't go out to clients. Even with a high degree of diligence, however, errors still creep out since we are all just human.

DraftLogic Electrical never counts wrong, never adds wrong, and never plugs the numbers into a formula the wrong way. Your schedules will always be accurate, complete, and professional…and better yet, they will take seconds to generate instead of hours!

We have spoken with electrical design firms that stopped including things like luminaire counts on their luminaire schedule, simply for fear of providing the wrong count. Fear no longer.

DraftLogic Electrical generates a broad number of schedules fully automatically. Here is a list with short descriptions, click on the links for more information about each individual schedule (see our website for more details and pictures of output at http://www.draftlogic.com/cms_pages.php?id=108):

Single Line Diagram
A visual representation of the entire power tree in a project (i.e. the branch circuit panels, large motors, and the distribution devices and their interrelationships). Bus, breaker, feeder, and fault levels are reported for all applicable devices. Devices of the same voltage service are grouped in columns to be easily distinguished from others.

Panel Schedules
A circuit by circuit schedule for all panels and 'panel-like' distribution equipment including main distribution panels, branch circuit panels, central distribution panels, motor control centers, and all other panel-like devices; includes loads reported by phase and by load type with unique diversities applied to each load type; bus / breaker / bonding conductor or ground, and feeder are all automatically calculated.

Luminaire Schedule
A listing of all fixtures in the project, grouped by fixture type including total project quantities for each type; the type code is the same as used in the drawing in fixture tags.

Luminaire Catalogue
A project specific catalogue for the luminaires used in the drawing including all beneficial data from the fixture database and the image that has been assigned to each fixture.

Floor Plans
Viewports are automatically created for each floor individually with layers selected as per the type of floor plans requested (there are six types of floor plans to choose from). Move the viewports as you please to consolidate onto fewer layouts or keep them separate and fill the surrounding space with schedules & the title block.

Bill of Materials
A complete schedule of all devices and materials used in a project. Includes wire and conduit, devices from all systems, and detail on panels and the protection installed on them for their child circuits. Breaker details include the fault level requirements for each individual one.

Suite Loads & Derating
Automated calculation and schedules for suite load derating happen automatically when suites are in a project. DraftLogic Electrical performs all derating and suite load calculations in compliance with your choice of CEC or NEC standards and automatically produces related schedules specific to those jurisdictions. Schedules include suite loads, meter centers, and a suite nexus grid to perform a suite load derate at any point a new collection of suites is made. The panel schedules and single line diagram absorb the derated suite loads into their calculations.

Legend of Symbols
Gone are the days when you paste in that monstrosity of hundreds of symbols, most unused, into each and every project. DraftLogic Electrical generates a legend of symbols in either single column portrait style or four column landscape style that includes only the symbols actually used in the drawing.

Motor & Heater Schedule
A detailed listing of all motors in the project with location, operating specifications, protection, feeder, controls information, and your remarks about each one. You can also opt to include the heaters in your project on this schedule.

Kitchen Schedule
DraftLogic Electrical supplies special versions of its receptacle and junction box symbols to be used for devices in kitchens. When you request a Kitchen Schedule to be generated, DraftLogic Electrical finds all of these kitchen devices and reports them individually in the Kitchen Schedule, including the detail you need about each device. This includes such things as location, specifications, feeder, connection type, protection, and your remarks about each one.

Lighting Wattage Per Square Foot
The lighting total wattage, square feet of the space, and wattage per square foot reported by room, floor, and overall project. A required reporting item for LEED and other energy efficient building projects.

For pictures and more information, please see our summary of reports and schedules:
http://www.draftlogic.com/cms_pages.php?id=108

Automated Systems Placement

How many electrical design products have you see perform automatic electrical device layout? The answer is either one (if you have seen DraftLogic Electrical) or none! There is good reason for this--DraftLogic Inc. holds an awarded patent for the automated placement of building systems.

A few keystrokes and the entire drawing is serviced by lighting and receptacles. Using our block cluster symbols and configurable rules database, you can also place other systems like communication ports. Once DraftLogic Electrical has placed devices based on the rules you decide for each room type, you can add devices, move devices, modify load and the other attributes of devices, or remove devices. Our high volume move and copy tools make these operations much faster than in raw AutoCAD.

Automated Placement Driven by Room Library Expert System Database
DraftLogic Electrical will place fixtures in rooms based on user specified foot-candles requirements and fixture types, and/or by user-selected rules that place lights in relation to objects in rooms (like workbenches or tables) or content elements (like room center). The lights will be assigned switch groups in patterns that you control, and switches will be placed by the doors in each room.

DraftLogic Electrical will place receptacles around the perimeter walls of each room based on user specified spacing requirements and/or by user-selected rules that place receptacles in relation to objects in rooms (like counters or desks) or content elements (like beside the doorway).

For both luminaires and receptacles Automated Placement, DraftLogic Electrical looks to the Room Library expert systems databases for detail on how you want that type of room serviced.

You have complete control over what room type is assigned to the rooms in your floor plan and also the specific settings for each type of Automated Placement in the Room Library: room perimeter receptacles, rule-based receptacles. zonal cavity luminaires, and rule-based luminaires.

Support for Other Systems
DraftLogic Electrical includes symbols for devices from all systems that you need to complete your building electrical systems design project. All systems gain the benefits of our specially designed productivity aids for building electrical systems designers. All systems are also represented in the automated schedules where applicable, for example the bill of materials.

Today, we have full automated placement support for lights and receptacles and partial support for other systems using our block clusters options. In future versions, automated placement will support more and more systems.

Benefits
Accelerates project completion by saving the user hundreds to thousands of: clicks to place objects, keystrokes to populate attributes, and repetitive low value decisions. DraftLogic electrical performs thousands of calculations and measurements to give you your specified placement of lights and receptacles throughout the project.

Increases electrical systems layout accuracy by executing repetitive engineering calculations without error.

Luminaire Placement

DraftLogic Electrical will place luminaires in your floor plan fully automatically or will assist you in placing them manually. There are two methods by which luminaires are placed fully automatically:

1) The zonal cavity method of placing a type of luminaire you specify in a quantity sufficient to light a space to a foot candle level you specify

2) By applying rules that place a luminaire in specific reference to a floor plan location or other object in the room.

Zonal Cavity Lighting

To determine the number of luminaires needed to achieve the foot candles of light desired for a room, DraftLogic Electrical retrieves the wall, floor, and ceiling reflectances from the room, determines the volume of the room, and gathers the required information (e.g. lumens) for the luminaire specified for this room type from the Luminaire Library database.

All of this information is then run through the zonal cavity lighting formula to arrive at the quantity of the specified luminaire that need to be spread throughout the room to achieve the desired foot candles of lighting. Once the quantity of luminaires is known, DraftLogic Electrical examines the shape of the room and determines the pattern to place the lighting in. Factors affecting this decision are whether there is a T-bar grid or not, and if the luminaires have been specified as needing to be placed in end-to-end fashion in the room library record for this room type.

In a recent comparison of the results of DraftLogic Electrical's lighting calculations versus those arrived at by AGI32, the number of luminaires placed by both applications was the same for standard spaces. You can thus use DraftLogic

Electrical for determining luminaire requirements and placement for all but spaces that you desire to use specialized lighting treatments in.

Rule-Based Lighting
DraftLogic Electrical provides a number of lighting placement rules for you to select for execution with each room type you desire. When executed during the Automated Placement function in DraftLogic Electrical, the rule looks for its reference location or object and places the specified luminaire. For example, the Workbench Chain Hung Fixture Placement rule places a spread of luminaires along the length of any workbenches found in the room. An unlimited number of lighting placement rules can be added to our database.

Luminaire Tags
After the lights are placed, DraftLogic Electrical will determine where luminaire tags need to be placed to ensure readers of the plotted floor plan will be able to determine which luminaire is which…but not so many tags that the floor plan is cluttered with them. The amount of tags, density of placement, and amount of buffer around each tag are all controlled by the designer with setting in our project parameters.

Switch Groups and Switches
Once the luminaires are placed, DraftLogic Electrical will retrieve the switching pattern specified for this room type from the Room Library database and assign switch groups based on: the switching pattern desired for the room, the allowable wattage per circuit in this project for luminaire circuits, and the physical location of the luminaires relative to the others in the room. Switches will be placed by the doors showing the required number of switches and assigned the switch groups for the room.

Receptacles Placement

DraftLogic Electrical will place receptacles in your floor plan fully automatically or will assist you in placing them manually. There are two methods by which receptacles are placed fully automatically: 1) the room perimeter method of placing a type of receptacle at locations around the room in order to provide service to a maximum linear wall spacing you specify, and 2) by applying rules that place a receptacle or block cluster (which can include receptacles and/or symbols from other systems like communications) in specific reference to a floor plan location or other object in the room.

Room Perimeter Receptacles
To determine the number of receptacles needed to ensure that there are receptacles on the room perimeter within the maximum receptacle spacing distance you specify for a room, DraftLogic Electrical takes several steps…all completed in milliseconds. DraftLogic Electrical retrieves the wall, window, door, and counter locations from the floor plan, determines the spaces around the room

that a receptacle can or cannot be placed (e.g. not behind counters and door swings), and gathers the required information (e.g. receptacle type, wattage, spacing) for this room type from the Receptacle Library database.

All of this information is processed to arrive at the quantity of the specified receptacle that need to be spread throughout the room to achieve the desired receptacle spacing and the eligible places for receptacle placement. Receptacles are placed in allowable locations to provide the service spacing that was desired without placing too many receptacles and unnecessarily increasing construction costs.

Rule-Based Receptacles
DraftLogic Electrical provides a number of receptacle placement rules for you to select for execution with each room type you desire. When executed during the Automated Placement function in DraftLogic Electrical, the rule looks for its reference location or object and places the specified receptacle or block cluster. For example the 'Photocopier', 'Fax', and 'Shredder' rules place a receptacle directly behind the object's location and assign them a suitable load. The 'Above Counter GFI Receptacle' rule places a GFI receptacle at the end of each counter found along the walls of the room. An unlimited number of receptacle and block cluster placement rules can be added to our database.

Additional Systems Placement

Today, you can have devices from any system be included in block clusters that will be automatically placed by lighting or receptacle rules. For example, we have a block cluster for hospital bed headboards that includes a variety of receptacles, data ports, telephone port, and nurse call symbols. Our development team is hard at work creating complete expert systems support for other systems like fire initiating, fire signaling, and security. Until we release Automated Placement support for additional building electrical systems in a near future version, DraftLogic Electrical will assist you in designing for them with its tools to accelerate drafting, which work today for all systems.

Existing Support for Other Systems
Several DraftLogic Electrical schedules already support all systems—which you gain the benefit from by using the DraftLogic Electrical blocks to place all of your devices.

So the nurse call, security, fire, and all other devices, regardless of which system they belong to, will all have their quantities reported on the Bill of Materials (see the Bill of Materials page for more information).

The Legend of Symbols will include devices from all systems—but only those used in the project (see the Legend of Symbols page for more information).

There are six different floor plans, one of which is for the systems other than lights, receptacles, and motors (see the Floor Plans page for more information).

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=82

Manual Placement Assistance

From time to time, you will encounter a room that does not lend itself well to Automated Placement of luminaires and/or receptacles. An executive boardroom and presentation room, for example, may require several different lighting systems with special controls. In these cases, or in cases where the architect has supplied the lighting pattern, DraftLogic Electrical will still make your work easier and with reduced probability of errors.

Device Specific Placement Automation
DraftLogic Electrical knows what sort of placement each type of luminaire requires. Each device type thus gets the help needed to make your systems placement work easier:

- Wall-mounted luminaires will find the nearest wall location, snap to it, and rotate to its angle to match that of the wall.
- Strip fluorescents will find a T-bar gridline to snap and rotate to.
- Recessed fluorescents will snap into a T-bar cell.
- Wall-mounted receptacles will find the nearest wall location, snap to it, and rotate to its angle.
- A floor or ceiling receptacle will go where you place it and not look for walls to snap to.
- Fire pullstations will find the nearest wall location, snap to it, and rotate to its angle.
- A ceiling motion sensor will go where you place it and not look for walls to snap to.
- Wire count symbols find the nearest branch circuit wire line to snap their center to and then rotate to perpendicular to provide optimum plotting visibility.
- And so on…each device type minimizes your work by snapping and rotating.

Call Switch Group Assignment and Placement as Desired
Once you have placed your luminaires, each of the switch group and switch placement and luminaire tags functions can be called to do their work for the luminaires you manually placed.

Unique Identifiers for Devices Automatically Generated and Assigned
Devices that require a unique identifier, like panels or motors for example, automatically provide you unique identifier names in a format of your choosing using a mix of letters and numbers, some static some cycling. No more accidentally using the same identifier for multiple objects or struggling to remember the last sequence letter or number you used for a particular device.

Auto Reload to Speed Multiple Placements
The Auto Reload feature places another of the same block you have just placed on your cursor and carries over any attribute values you have set, all of which is designed to reduce the number of clicks and keypresses you need to make for placing electrical systems devices.

Saves the Designer Time and Effort
All of these manual placement aids add up in reducing your work: where you may normally have to perform a hundred or more clicks and keypresses to place ten luminaires to light a room and specify the attributes of each, DraftLogic Electrical will empower you to achieve the same result with only fourteen clicks and keypresses, a savings of over 700%! Where you may normally have to perform eighty or more clicks and keypresses to place ten receptacles around the perimeter of a room and specify the attributes of each, DraftLogic Electrical will empower you to achieve the same result with only thirteen clicks and keypresses, a savings of over 600%!

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=52

Drawing Compare

Designers have to deal with frequent changes in the architectural floor plan, sometimes without any help from the architect regarding what has changed that is relevant to the electrical design work. DraftLogic Electrical includes the Drawing Compare feature to identify each and every difference between two drawings. This includes, but is not limited to: new entities, moved entities, deleted entities, and visible/invisible attribute changes.

Indication of changes is made by providing you with summary layers for each of same, changed, new, and deleted entities. You have the option of having any of these bolded or clouded. The changed/moved entities can also have arrows showing where they were in the source drawing versus the new drawing.

This feature set offers a number of benefits to designers: quickly and accurately identify differences between architect floor plan versions, automatically cloud electrical design changes between deliverables to other consultants and electrical contractors, and enable

design team leaders to isolate changes made between design team member's drawing versions.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=49

Automated Ceiling Grid Generation

In the early stages of a project, the architect may not supply ceiling grid but it is desired for early electrical design deliveries. It is thus up to the electrical designer to supply ceiling grid.

DraftLogic Electrical's ceiling grid tool gives the designer the ability to generate ceiling grids within any closed polyline or for all room boundaries in the project that have specified 'Tbar' for their ceiling type. Thus, for example, the inner perimeter of a room can be used as the grid extents, a bulkhead line can be used, or the designer can draw an arbitrary polyline wherever desired.

The grid DraftLogic Electrical draws will have cell sizes and cell angle specified by the designer. The starting point of the grid can be defaulted to the space/room center point or be centered on a point that the user selects.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=50

Symbol Library & Layers Specifically For Electrical Design

Including building system blocks and other blocks used for schedules and the single line diagram, DraftLogic Electrical supplies over 350 symbols 'out of the box'.

There are also over 60 layers, including system specific layers plus the layers that DraftLogic Electrical uses to manage its automation.

The breadth of the symbols and layers enables you to design each individual system and have it differentiated both in appearance and in plots and other reports.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=143

Automated CAD Standards Compliance

All symbol placement code in DraftLogic Electrical places system blocks and branch circuit wiring lines on the layers designated for that specific system, making system specific plots a snap.

Both the automated placement of blocks and lines and the manual tools provided have CAD Standards intelligence built-in to place blocks and branch circuit wiring lines on the correct system specific layers.

Annotation can stay on the same layers as their respective devices or be split out to annotation-specific layers.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=51

Annotation Organizer

The Annotation Organizer function will go through your project symbol by symbol and move the annotation for each symbol into a location that does not conflict with other objects that will be plotted to the same sheets for your clients. The few locations where satisfactory locations could not be found will be marked for your review. You can run the Annotation Organizer on as few as one symbol or as many as the entire project contents. Depending on how many symbols you have selected for the Annotation Organizer to run on, all of the annotation will be moved to best possible locations within seconds or minutes.

The Annotation Organizer is both smart and flexible. You have the choice of orienting annotation for wall mounted devices to the same orientation as the device or keeping such annotation horizontal. When you do orient annotation to match device rotation, you have the option of running the text toward the top or bottom of the plot. Also, you can have the Annotation Organizer look for surfaces away from the room inner perimeter to use as orientation references, so the orientation for receptacles mounted on walls in the middle area of a space can still be auto-oriented to match the receptacle rotation angle. Finally, you choose whether to have the Annotation Organizer make best efforts to also avoid annotation collisions with xref'd entities or not.

You Are Still In Control

The Annotation Organizer Settings dialog puts you in complete control. Use one of our supplied set of template values, create your own reusable templates to share with everyone using DraftLogic Electrical in your office, or select one-time use values.

You select the symbols for the annotation organizer to act upon, the size to change the annotation to, and some tolerances for how close you want to allow the annotation to be placed relative to the parent symbol and to other annotation from the same symbol.

You also specify the buffer distance you desire between the annotation and any drawing elements that should be considered & the DraftLogic Electrical Annotation Organizer makes best efforts at finding an annotation location that fits your requirements.

You can have switch ID's run with different settings than all other annotation if you want, for example you might want the switch IDs to be placed closer to each other and their parent symbol than you would like other symbols' annotation to be placed.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=139

Automatic Drawing Validation

After working with a variety of DraftLogic Electrical users for some time, it became apparent that certain issues in the drawings were much more common than any others. These are issues related to room and floor boundaries & duplicate symbols. In order to minimize the time that these issues cost our users, DraftLogic Inc. has added an automatic drawing validation tool to DraftLogic Electrical.

What is Checked?

Most of the ways that a room or floor boundary can go wrong are checked, things like unclosed polylines, overlaps, missing or too many floor match symbols and room IDs. Including these and other checks that are done, there are well over twenty conditions checked in this first release of the automated drawing validation tool.

Does the Automatic Drawing Validation Tool Do More Than Identify Issues?

In addition to checking for common issues, the automatic drawing validation tool will resolve issues that have only one possible resolution, saving you immense time in tracking down and fixing this type of issues. So things like unclosed polylines, zero length lines, zero length segments in polylines, and completely duplicate blocks are all automatically dealt with and reported to you.

When Does the Automatic Validation Happen?

The automatic validation happens on load of any DWG and also at critical points in the reporting process, for example before the single line diagram or panel schedules are

created. You can trigger it anytime you want using the 'Check Blocks & Polys' tool from near the bottom of the Drawing Discovery tool group on the Command tool palette.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=155

Electrical Estimating

DraftLogic Electrical already stands apart from other electrical design software in the way that it vastly accelerates productivity through patented and patent-pending automation of all of: device placement, circuiting, branch circuit wiring, floor plan creation, and schedule generation. In addition to accelerating electrical design, DraftLogic Electrical also accelerates electrical estimating!

For the fastest estimates, use DraftLogic Electrical in conjunction with ConEst IntelliBid 7.0. Using this combination, electrical estimators can focus on the important work of determining and optimizing their estimate since there is NO counting, NO scaling, NO measuring, and NO take off work for line voltage systems!

For those who want to accelerate their estimating work but do not use ConEst IntelliBid 7.0, DraftLogic Electrical still includes a complete Bill of Materials to base estimates from.

The Only Complete Electrical Design Export into Estimating Software
Go from architectural floor plan to completed electrical design and estimate up to fourteen times faster! DraftLogic Electrical is now the only electrical design software available in the world that is able to completely automatically feed all line voltage elements of an electrical design into electrical estimating software. Using DraftLogic Electrical and ConEst IntelliBid 7.0 together, an electrical designer/estimator can go from an architectural floor plan to a completed electrical design and estimate up to fourteen times faster than designing outside DraftLogic Electrical and manually entering their raw data into estimating software.

Completely Automatically Feed All Elements

With just a few mouse clicks, DraftLogic Electrical users can send all elements of their electrical design into ConEst IntelliBid's count sheets. After the handful of minutes export process is complete, all devices, for example luminaires, receptacles, and motors, are in their count sheets with associated detail. This alone saves immense amounts of estimator time in counting and data entry, but is nowhere near the extent of DraftLogic Electrical & IntelliBid integration. Panel schedules for every panel and every circuit are populated. Every interconnection from every Branch Circuit wiring run is populated, including support for DraftLogic Electrical's multiple circuit home run groupings, saving

the estimator from any take-off and scaling work. Vast detail about each piece of switch gear, motor, and feeder is fed into their respective count sheets, saving thousands of keystrokes.

Bill of Materials Schedule Included in DraftLogic Electrical

DraftLogic Electrical also comes complete with an exhaustive Bill of Materials report that includes all conduit, wire, and cables for both distribution feeders and for branch circuits. Design-build and electrical contracting companies can use the Bill of Materials as the basis for an estimate of construction costs.

For pictures and more information, please see our website page:
http://www.draftlogic.com/cms_pages.php?id=150