



Design Program Manage Integrate

UNITY

Lighting Control Software™

USER GUIDE



Lighting Control & Design

LIGHTING CONTROLS

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Overview

Unity Software is a tool which allows a project to go from electrical design to the construction phase to final system management of a lighting control system.

The Consulting Specifying Engineer uses simple pull down menus to describe relay panels, digital switches - all of the components of a complete lighting control system. The description of each digital component is stored in a separate schedule. All of the schedules for a complete system are saved to a single job file. Job files may be modified or updated as the design process moves forward.



Unity Software allows the engineer to print the schedules, and once complete output the entire lighting control system to CAD (.dxf format). Unity Software will output all schedules, a single line drawing, and a specification summary.

Design Program Monitor Integrate

During the construction phase, the engineering department of LC&D can update the job file as design criteria change.

Once ready for final shipment, the manufacturing department of LC&D will upload the Unity Software to the newly manufactured lighting control system during final burn in and testing.

Once the lighting control system is installed in the new facility, Unity Software may be used as lighting management software.

[2] Getting Started

LIGHTING CONTROL & DESIGN

Downloading Unity Software

1. Point your browser to <http://www.lightingcontrols.com/unity>
2. Fill out the registration form and submit it.
3. Download the Unity Software to your desktop.

Starting a New File

1. Double click on the Unity Software Icon on your desktop.



2. Fill out the appropriate portions of the opening page (job name, etc).



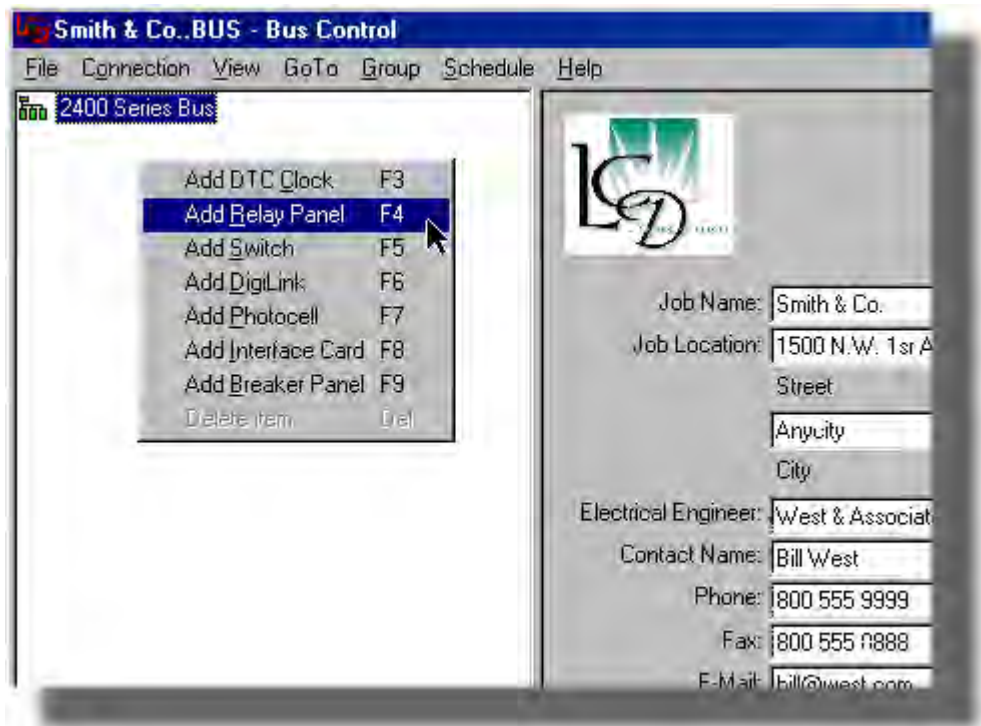
Introduction to Schedules

Unity Software uses pre-made “schedules” to define the various digital devices.

There are separate schedules for each digital device. Schedules also exist for time clock schedules, as well as “groups”.

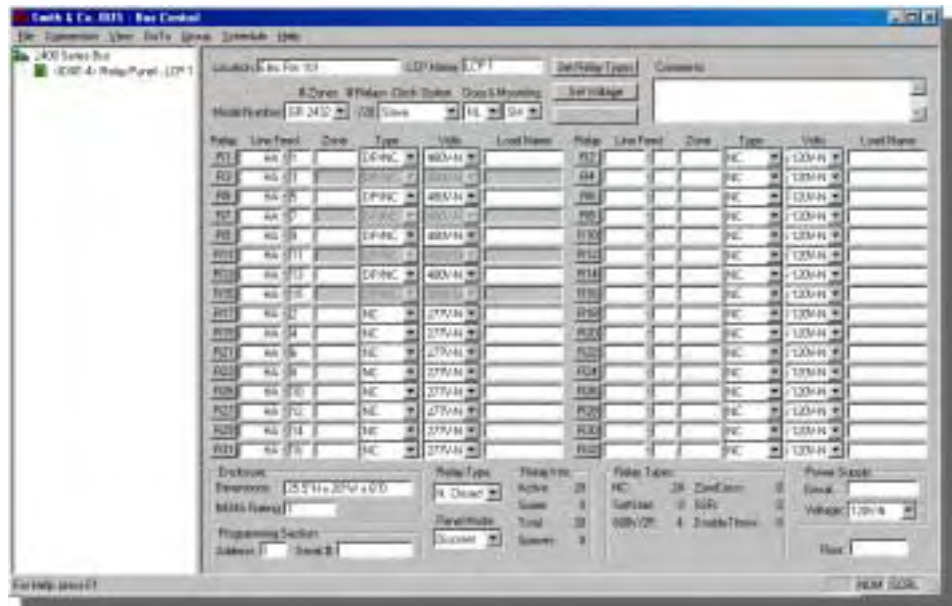
During the design process, the Consulting Specifying Engineer may elect to fill out all or none of the information inside the schedules. LC&D will still generate single line drawings, schedules, and a specification regardless of how much detail is included.

1. To start a new schedule, point your mouse to the left “window” and **RIGHT** click. A pull down menu will appear.



Relay Panel Schedules

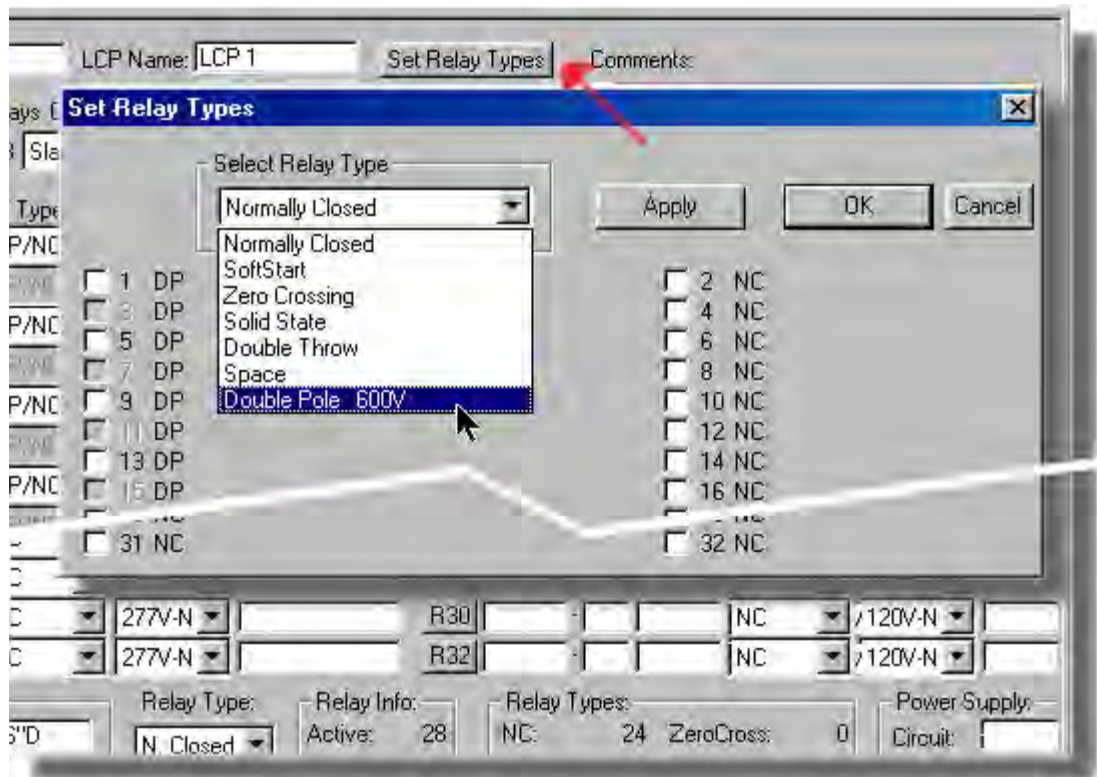
1. Select the device you want to add. In this example, a relay panel with 32 relays was selected.



Relay Panel Schedule

set relay types

LC&D offers a variety of relays. Use the “Set Relay Types” button or the pull down menu under the column labeled “Type” (Default is set as normally closed).



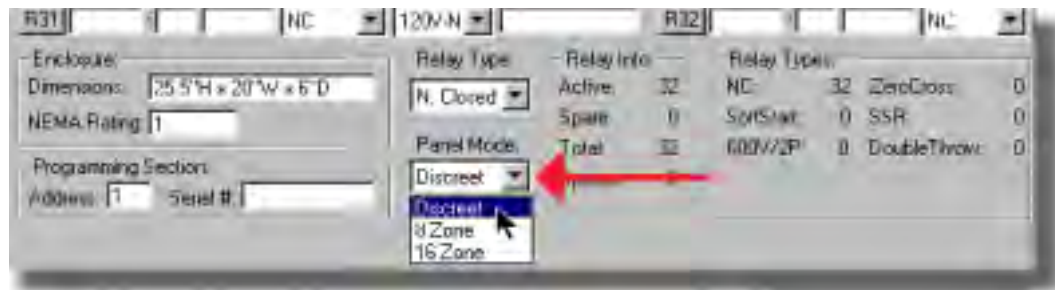
Model Number: GR 2432 /32 Slave HL SM

Relay	Line Feed	Zone	Type	Volts	Load Name
R1		Z1	NC	120V-N	
R3		Z1	NC	120V-N	
R5		Z1	SS/NC	120V-N	
R7		Z1	@Z/NC	120V-N	
R9		Z1	SCR	120V-N	
R11		Z1	DT	120V-N	
R13		Z1	///	120V-N	
R15		Z1	DP/NC	120V-N	

Relay Panel Schedule setting zones

Zoning allows relays to be grouped together, similar to contactors. When relays are zoned together, Unity Software sees them as a “single relay”. This can save time when programming or scheduling panels.

1. Set relay panel to 8 or 16 zone mode (panels will default to discreet mode).



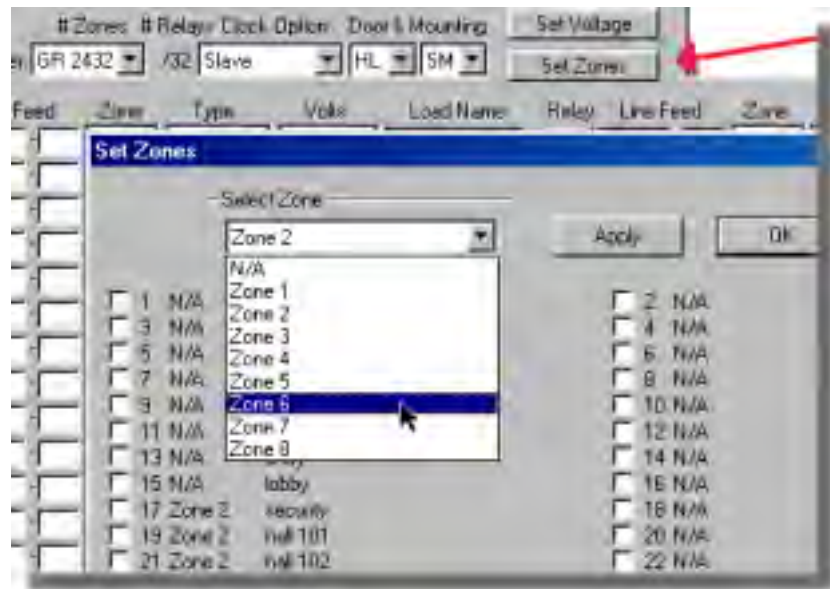
2. Use the pull down menu under the “Zone” column to add relays to any zone.

Relay	Line Feed	Zone	Type	Volts	Load Name	Relay	Line Feed	Zone	Type
R1		N/A		120V-N		R2		N/A	NC
R3		N/A	NC	120V-N		R4		N/A	NC
R5		Z1	NC	120V-N		R6		N/A	NC
R7		Z2	NC	120V-N		R8		N/A	NC
R9		Z3	NC	120V-N		R10		N/A	NC
R11		Z4	NC	120V-N		R12		N/A	NC
R13		Z5	NC	120V-N		R14		N/A	NC
		Z6	NC	120V-N					
		Z7	NC	120V-N					
		Z8	NC	120V-N					

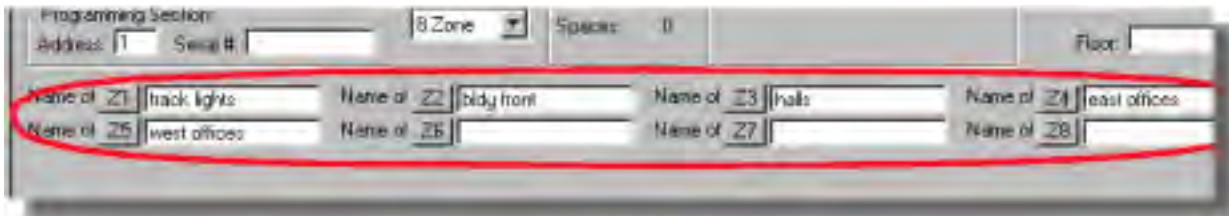
Relay Panel Schedule

setting zones

1. Click the “Set Zone” button, and a “Set Zone” pop-up menu will appear. This is a quick method of zoning an entire panel.



2. Use the pull down menu under the “Zone” column to add relays to any zone.



Switch Schedule

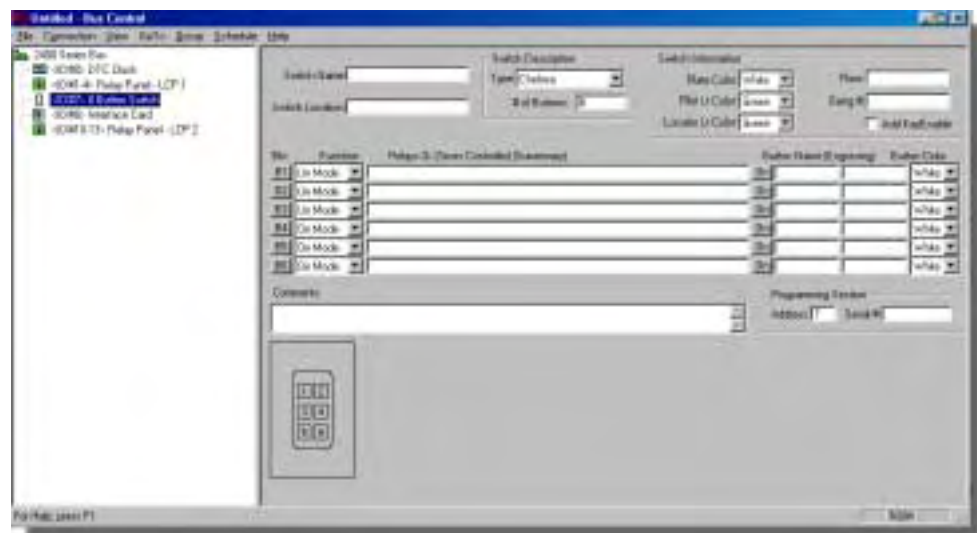
introduction

The “Floor” cell allows Unity Software to describe a multiple floor system when generating a single line drawing for CAD.

The “Gang” cell allows Unity Software to draw switches under the same cover-plate when generating a single line drawing for CAD.

The “Add KeyEnable” allows Unity Software to add a key enable switch mounted directly beside the digital switch.

Unity Software also allows the specifier to use the KB, the KeySwitch, and the captive KeySwitch, which may be selected under the “Switch Description” pull down.

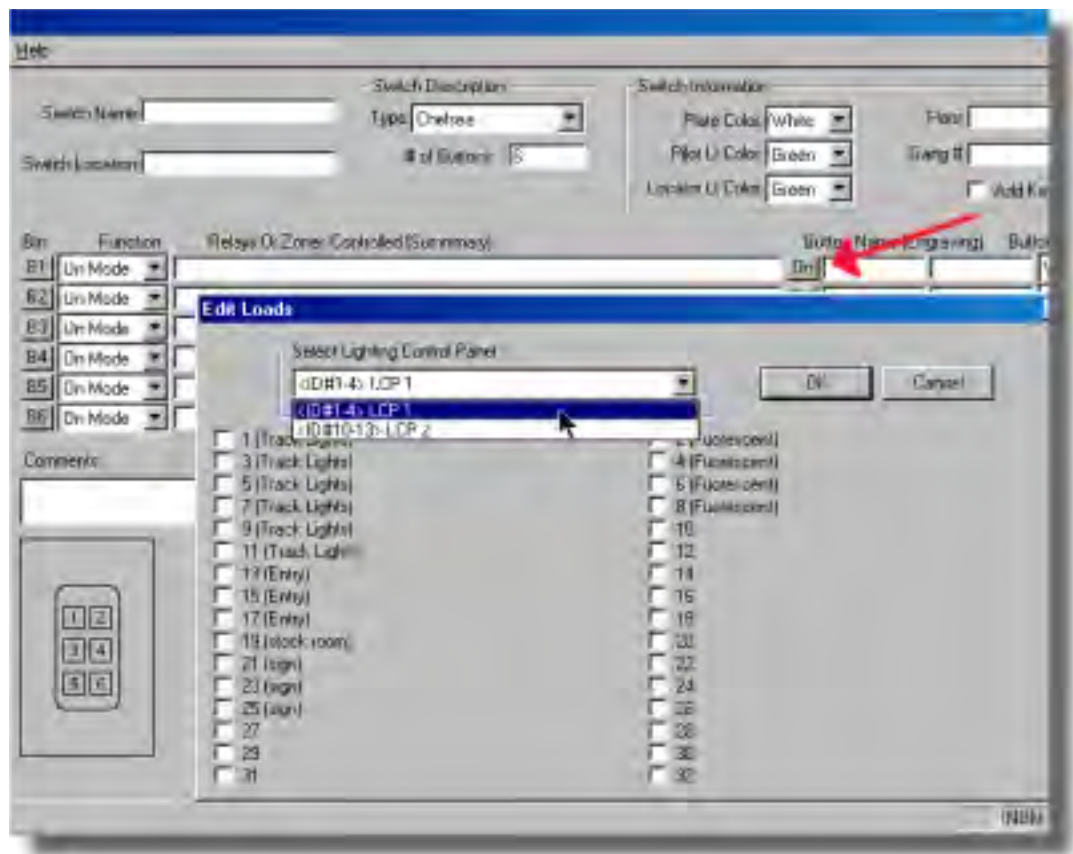


Switch Schedule

editing push buttons

LC&D uses pull-down and pop-up menus to allow the specifier to quickly navigate the system.

When specifying zones or relays to be controlled from a given button or key switch, press the “On” button, and the “Edit Loads” pop-up menu will appear. Navigate through relay panels, and select the relays or zones to be controlled.



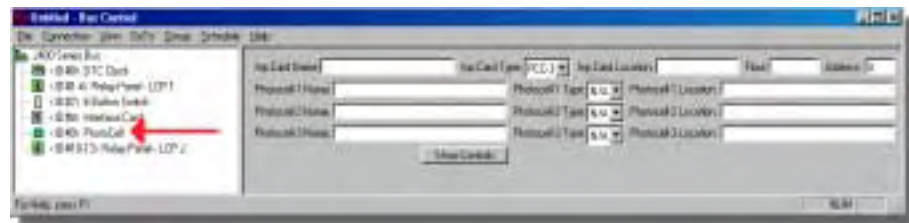
Photocell Schedule

Select the photocell card type under “Inp Card Type”. The PCC3 accepts up to 3 photocells, and the PCC1 accepts a single photocell.

Select photocell type using the “Photocell Type” pull-down menu.

The “Show Controls” allows the specifier to set exact lighting levels at which relays are to be opened or closed. this is typically set by our factory engineers, or after the system has been installed, but may be programmed at any time.

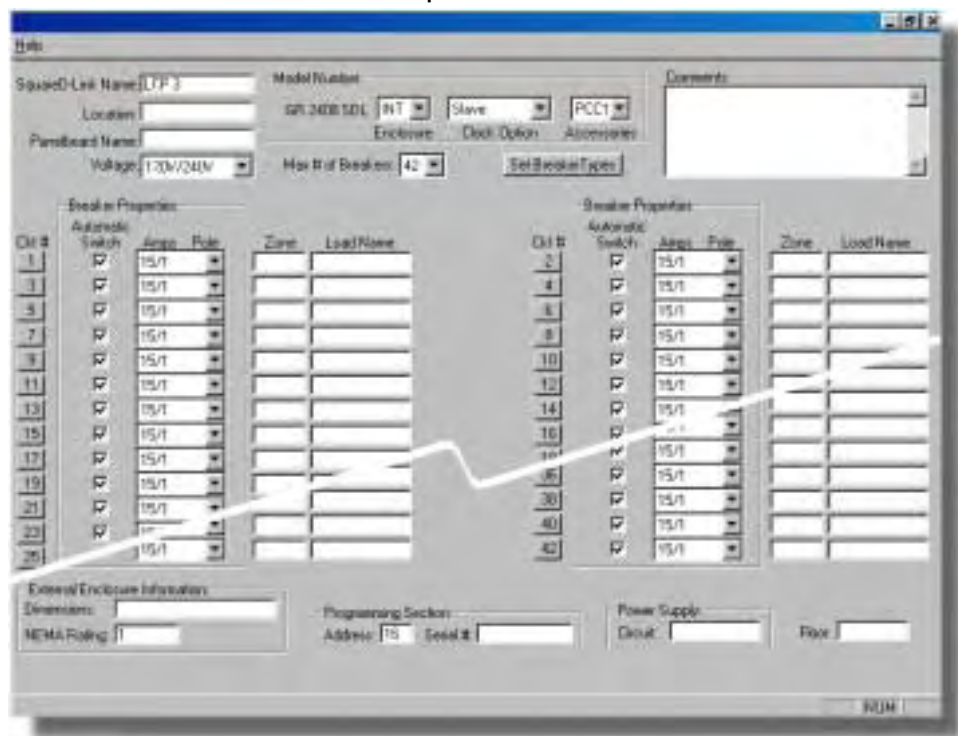
One of the very powerful features of the GR 2400 system is that each photocell may be programmed with up to 14 different triggers, meaning that at 14 different light levels, up to 14 different sets of relays be switched on or off.



Breaker Panel Schedule

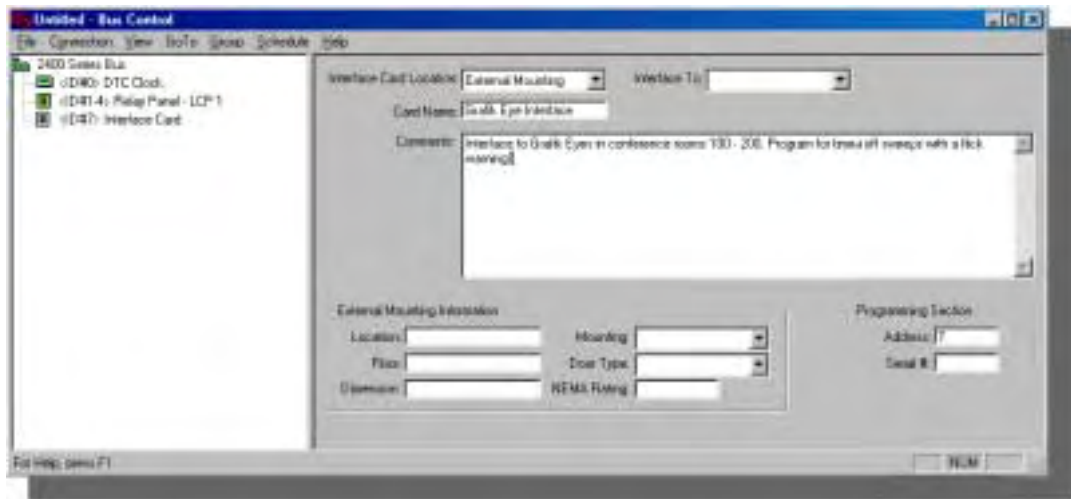
LC&D offers interfaces to a variety of products including Square D® PowerLink™.

Programming and navigating functions are very similar to a relay panel. Zoning is not available. Breakers not checked as “Automatic Switch” will not appear on the system and would typically be normal (not motorized) breakers. SquareD-Link Name and Location cells refer to the location of the actual SquareD-Link control card, which is very often mounted inside the breaker panel it controls.



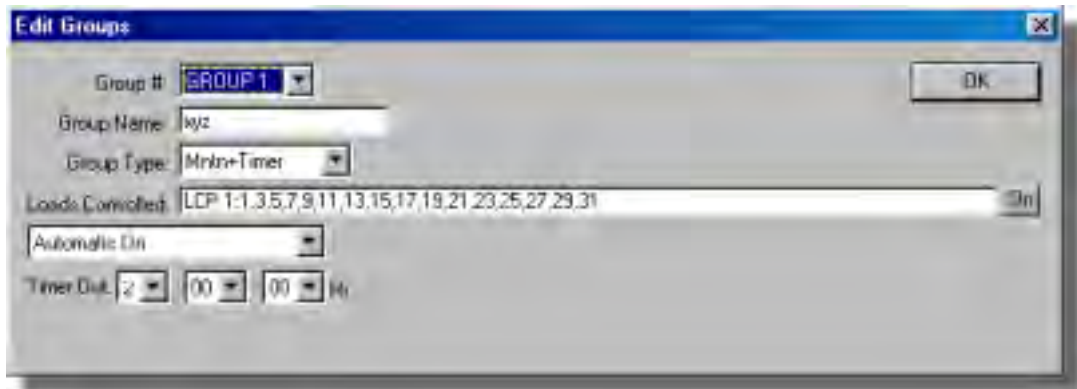
Interface Card Schedule

Select new item “Interface Card”. Use the “Interface To” pull-down for a list of available interface targets.



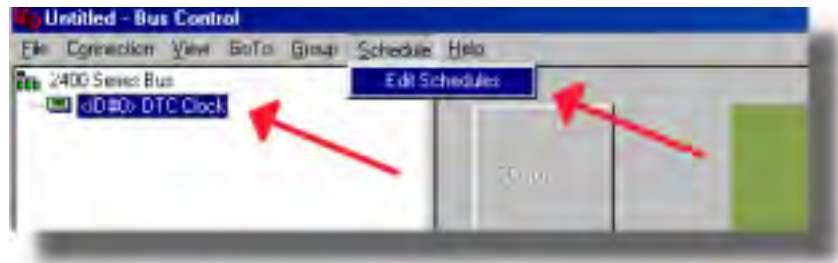
Group Schedule

GR 2400 system uses groups as a method for controlling more than 8 zones or relays or for clock/timer functions which require a flick warning prior to lighting shut off. Groups may be edited in the clock schedule, or almost any other schedule. Or use the “Edit groups” menu.



Clock Schedule

1. Add a DTC Clock (F3) then pull down “Edit Schedules” from the “Schedule” Menu. Up to 32 schedules are available once the DTC is added.



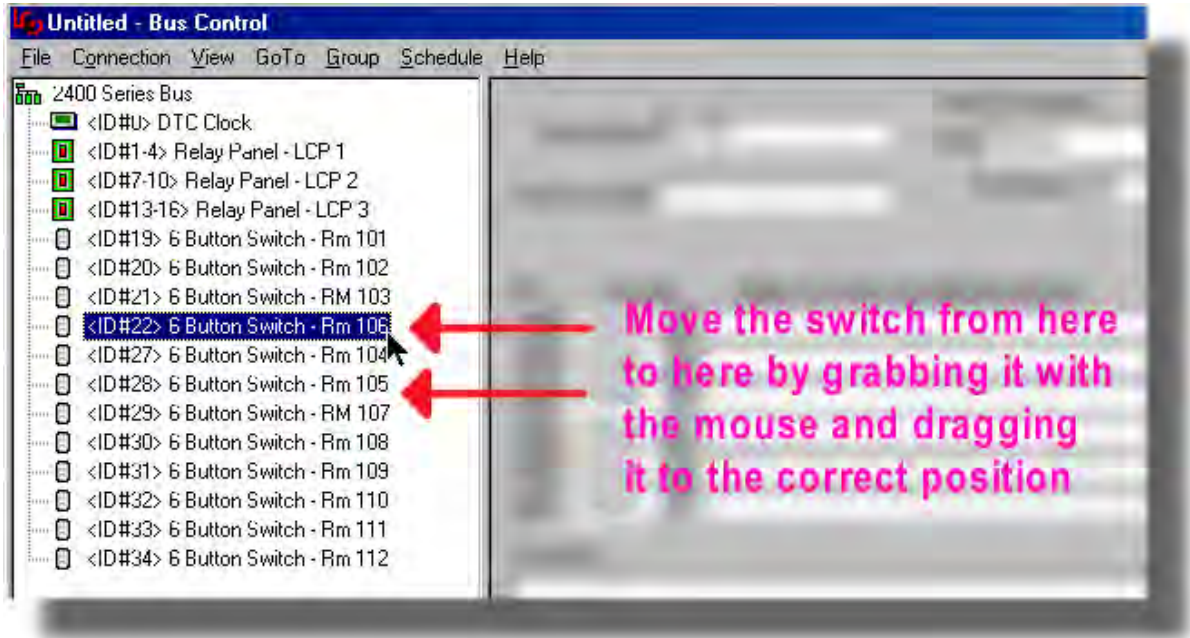
2. The clock controls all relays or other devices through Groups. Schedule Type gives the following choices: 7 day (means the same schedule for every day of the week); mon-fri,sat,sun ; and by day (different schedule possible for every day of the week).

The “from” and “to” at the bottom of the screen refers to the time of year that the schedule is enabled - ideal for schools.



Arranging Devices On the Bus

Soon to be implemented. This feature allows you to grab any device on the bus and manually position it on the bus. This is particularly useful when outputting a single line to CAD.



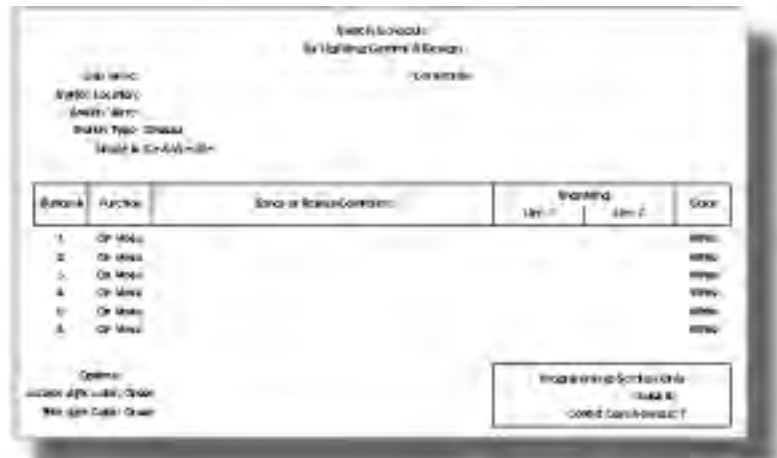
Arranging Devices by Floor

Every digital device has a “Floor” cell which allows the Unity Software to describe a multiple floor system when generating a single line drawing for CAD.



Printing Schedules

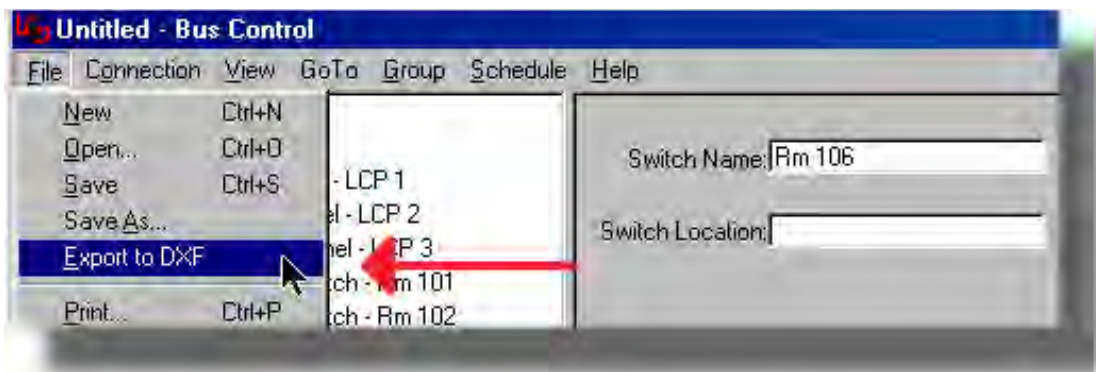
Prior to output to CAD, the specifier may find it useful to print off specific schedules for review. Under the “File” menu select PRINT or PRINT PREVIEW and print the appropriate schedules.



Output to Autocad

Under the “File” menu select OUTPUT TO .DXF. All panel schedules, clock schedules, group schedules, a single line drawing and a short spec will be generated.

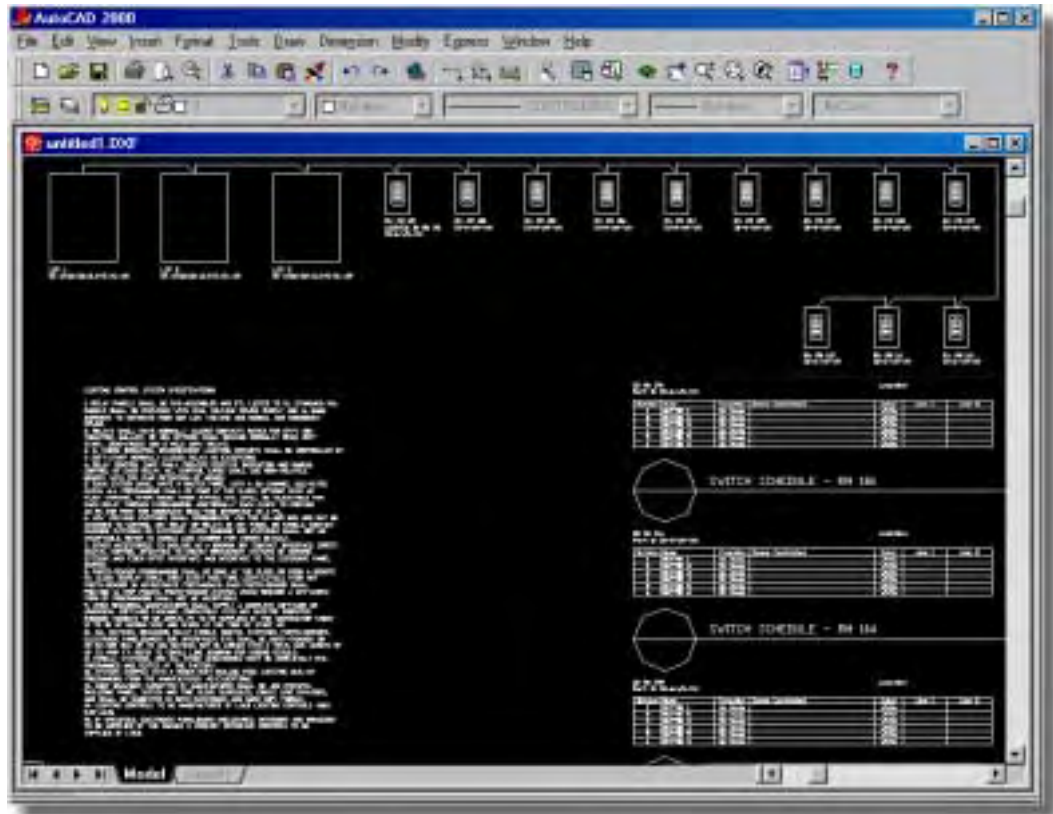
Some manipulation in CAD maybe required to fit all of the schedules into an E-Sheet. This is easily done in CAD.





Single Line Drawings

Drawings output to CAD contain: single line, all schedules, and a specification - all generated automatically.



Technical Support

Contact LC&D Technical Support for assistance with Unity Software, or visit our web site. We are happy to assist you in any way we can.

Phone: 323-226-0000

Fax: 323-226-1000

Email: support@lightingcontrols.com

Internet: www.lightingcontrols.com

Advanced Group Schedules

Grouping allows large quantities of relays to be controlled together. A single group may be controlled by multiple devices or time clock schedules.

Groups are also used for all time clock schedules due to complex requirements of many time clock schedules (flick warning, after hours timers, etc).

1. Use the “Edit Groups” pull-down menu. The Edit Groups dialog will appear with group 1 as the default starting group.

2. Use the “Group #” pull-down menu to select any group.



3. Fill in the “Group Name” with a custom name up to 16 characters.

4. Use the “Group Type” pull-down to select the appropriate function. Following is a discussion of the various group types:

- **Maintain.** While the clock is on or button is pressed lights are on. When off, the lights are off.



- **Maintain+Timer.**

Similar to Maintain. Adds a timer function to any switches controlling any relays or zones in a group if the group has been turned off with the clock.

1. Set the duration that switches may be set to when in “timer” mode with “Timer Out”.
2. Prevent the clock from turning lights on automatically and end switch “timer” mode with “Automatic On” / “Disable Automatic On”.

- **Maintain+Off Sweep.** Adds a “flick warning” feature to the “Maintain+timer” function described above.

1. Set the time-lag of the lighting shut-off after the flick-warning has been issued. factory set at 5 minutes.



Lighting Control & Design

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