



Lighting Control & Design

An *AcuityBrands* Company

GR 2400

BASIC PROGRAMMING GUIDE

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Important Note:

This programming guide covers the basics—programming switches, schedules and photosensors. Other manuals exist for more advanced programming issues. Call us if you have questions or need assistance during the programming of your system. Technical Support: 800-345-4448

INTRODUCTION

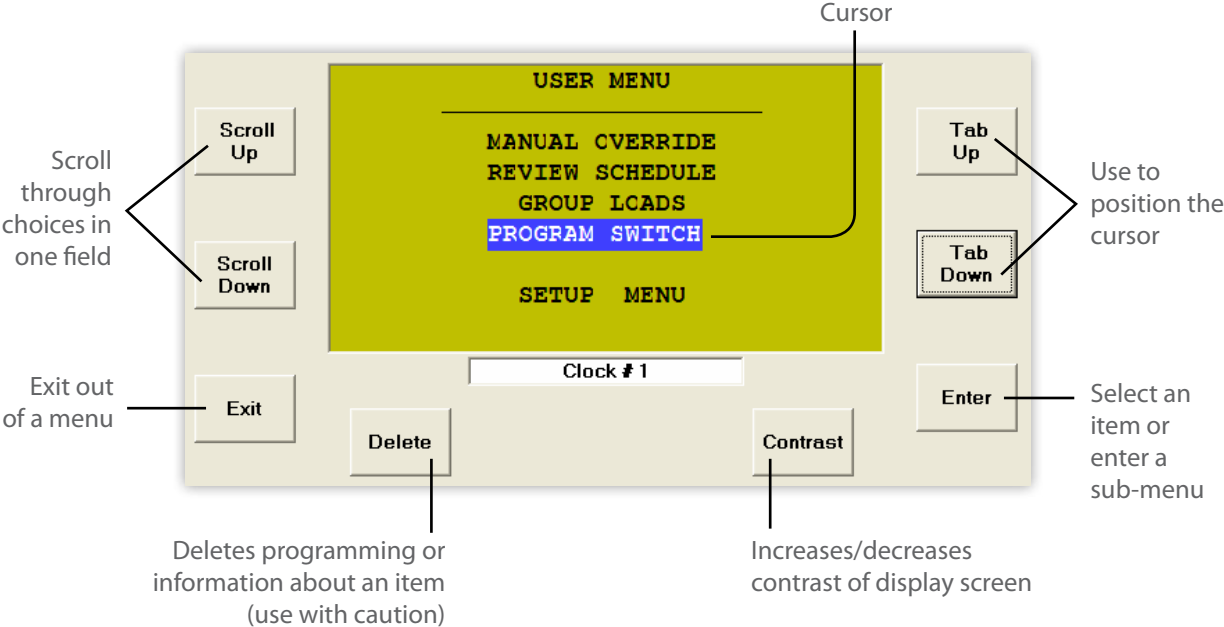
Introduction: Almost all of the devices in the GR 2400 Lighting Control System are digital, meaning they are part of a peer-to-peer network and can be programmed. It is important to understand from the outset that you effect almost any change through programming alone.

This programming guide covers the basics—programming switches, schedules and photocells. Other manuals exist for more advanced programming issues.

Additionally, help is only a call away. If equipped with a modem, we can dial into your system and program it for you, at no cost. Call us any time at: (800) 345-4448.

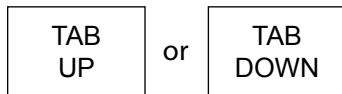
The DTC (Digital Time Clock): Most programming is done from the DTC Clock (shown below)/Programmer located in the master Lighting Control Panel (LCP).

Virtual Clock or Unity Lighting Control software allows remote connection via the internet or modem to the DTC.



NAVIGATION BASICS

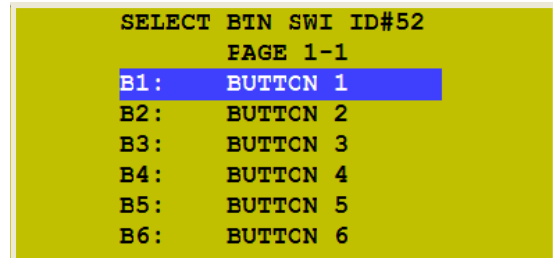
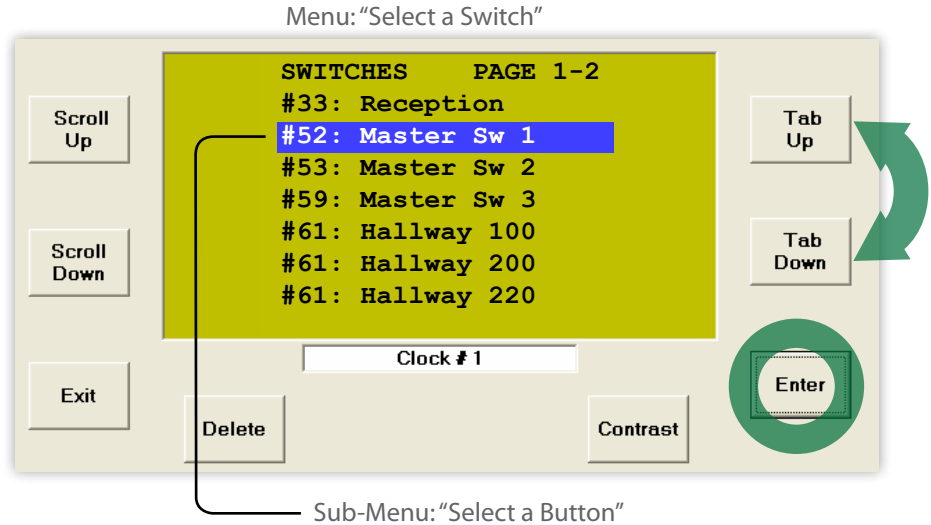
Tabbing: Use the TAB buttons to move around the display:



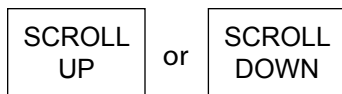
to position the cursor.



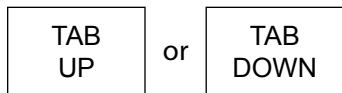
To select the item or to drop into a new sub-menu.



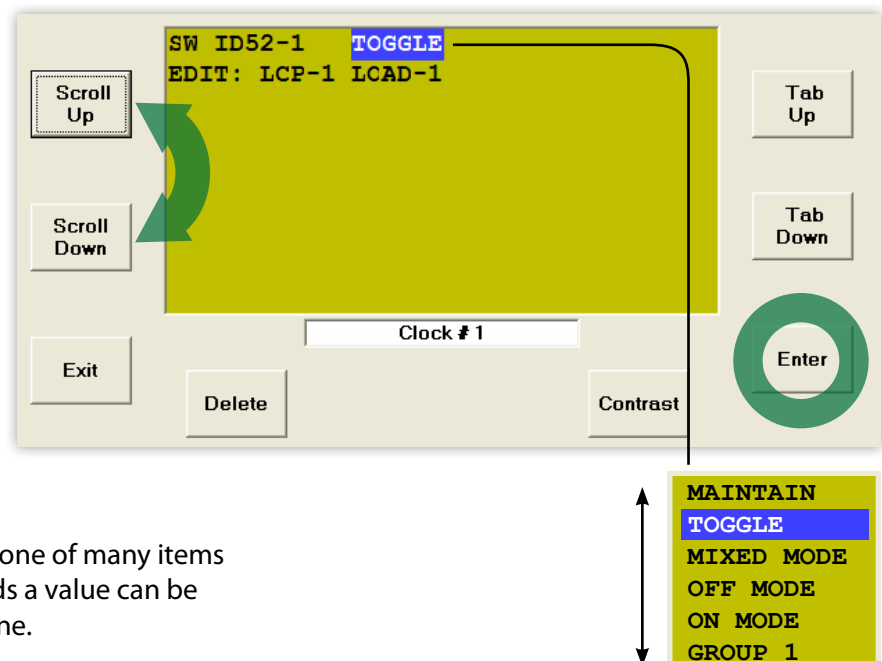
Scrolling: Use the SCROLL buttons to choose one item from a "field":



to select items within a field.



to exit the field.

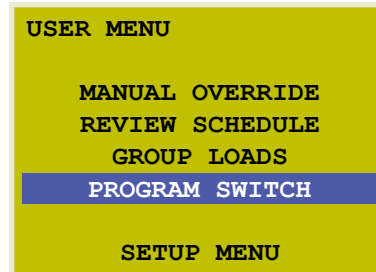


* A "field" is a display in which one of many items can be selected. In other words a value can be changed by selecting a new one.

PROGRAMMING A DIGITAL SWITCH

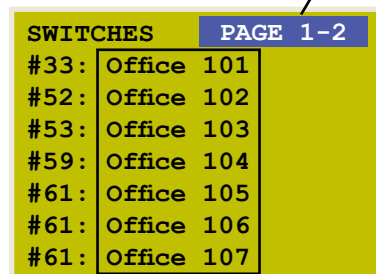
To Start:

1. TAB to start.
2. TAB to Program Switch.
3. ENTER to select.



For Multiple Pages: (more than 7 switches)

1. SCROLL to the correct page.

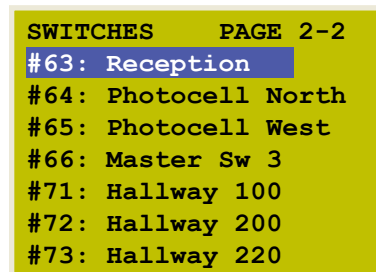


This indicates page 1 of 2:

If cursor starts here, you have multiple pages with switches on each page. You may need to navigate to the correct page.

To Select Switch:

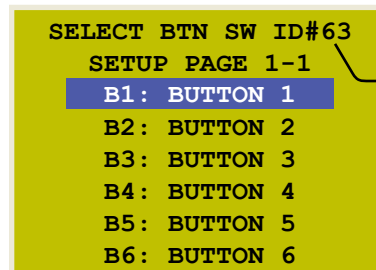
1. TAB to the correct switch.
2. ENTER to select.



NOTE: Names can be entered in the naming menu (SETUP MENU > SYSTEM > SETUP MENU > SYSTEM OPTIONS > NAMING MENU). The generated names are usually displayed.

To Select Button:

1. TAB to the correct button.
2. ENTER to select.

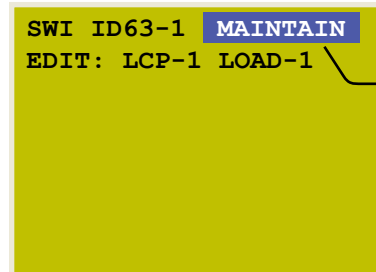


This indicates you have selected switch ID#63.

ADDING OR DELETING LOADS

Adding or deleting loads from a switch, photocell, time schedule or group is always done in the same way. Once you have navigated to the correct Button, Trigger or Group and before you add or delete loads, it is important to determine the Control Type.*

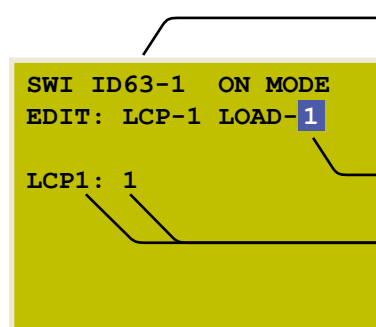
1. SCROLL to select Control Type*.
2. TAB down to LCP 1.



Indicates Control Type*
(Refer to page 10 for information on control types)

For all Control Types (except Mixed Mode)*:

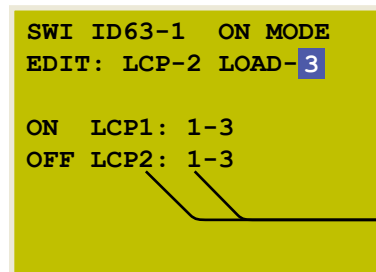
1. SCROLL to select LCP (1, 2, 3 etc.).
2. TAB to Load 1.
3. SCROLL to load you want to add or delete.
4. ENTER to select load—it will appear in the Load Summary.
5. ENTER again to delete load.
6. Repeat to add or delete more loads.
7. EXIT up to Main Menu.



Indicates switch ID#63, Button 1
Scroll selection field
Load Summary, indicates what LCPs and loads have already been selected

For Mixed Mode:

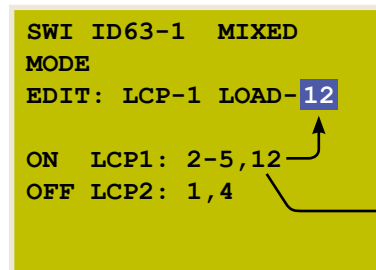
1. SCROLL to select LCP (1, 2, 3 etc.).
2. TAB to Load 1.
3. SCROLL to load you want to add or delete.
4. ENTER once to select Load On.
5. ENTER twice to select Load Off.
6. ENTER three times to delete load.
7. Repeat to add or delete more loads.
8. EXIT up to Main Menu.



Load Summary for Mixed Mode shows which loads will be switched On and which will be switched Off

To Delete a Load (from the Load Summary):

1. SCROLL to the load.
2. ENTER until the load is deleted (no longer in the Load Summary).



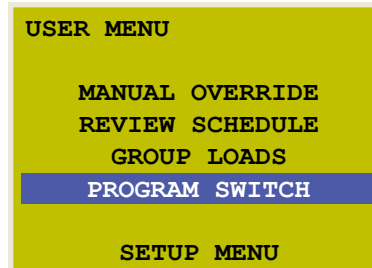
To delete LCP1:12:
• SCROLL to LCP 1
• TAB to Load
• SCROLL to Load 12
• ENTER until deleted

* For more information about control types, please refer to Control Types on page 10.

BASIC PHOTOCELL SETTINGS

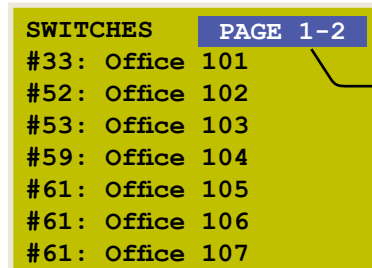
To Start:

1. TAB to start.
2. TAB to Program Switch.
3. ENTER to select.



For Multiple Pages: (more than 7 switches)

1. SCROLL to the correct page.



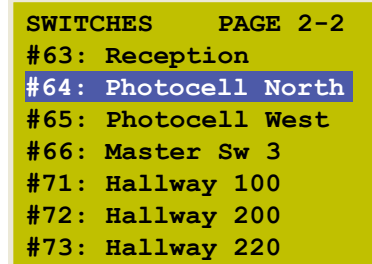
This indicates Page 1 of 2

If cursor starts here, you have multiple pages with switches on each page. You may need to navigate to the correct page.

To Select a Photocell Card:

A Photocell Card is like a digital switch.

1. TAB to the correct Switch ID.
2. ENTER to select.

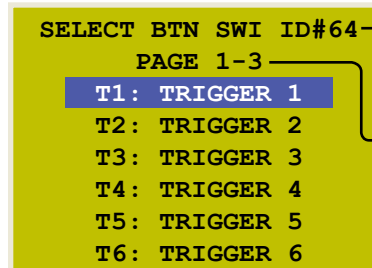


To Select Trigger:

Each Photocell Card has 14 Triggers, each of which:

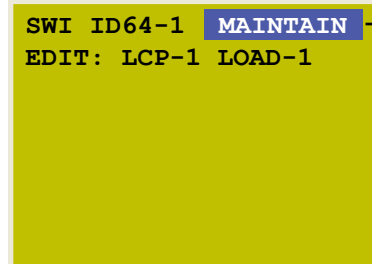
- may control its own set of loads
- may be programmed to switch loads on and off at levels analogous to foot candles

1. If needed, SCROLL to the correct page for Triggers higher than T6.
2. TAB to the correct Trigger.
3. ENTER to select.
4. SCROLL to Maintain.
5. ENTER to select the Trigger Level Menu.



This indicates you have selected Switch ID#64.

To access Triggers above T6, SCROLL the correct page and then TAB to the correct Trigger.



Select MAINTAIN as the Control Type*. Press ENTER to get to Trigger Level Menu. (For more than eight loads, refer to "Programming Groups").

BASIC PHOTOCELL SETTINGS (cont'd)

To Program a Trigger Level:

Photocell Cards come with one or three photocell inputs. Any of those photocells may be used to control the Trigger.

1. If "Analog 1" is displayed, SCROLL to select the desired photocell.
2. TAB to Time Delay.

```
SENSOR ID#64-1
Analog 1: 0050
Time Delay: TEST 5 Sec
On when light level
falls below: 0000
Off when light level
rises above: 0001
```

"Analog" followed by an integer (1, 2, 3) indicates this is a PCC3 (3 Input Photocell Card).

Analog without an integer is a PCC1 (single input).

Refer to your submittal document for quantity and location of photocells.

3. SCROLL to select Time Delay.

LC&D recommends a minimum delay of 10 minutes to prevent lights cycling on and off. SCROLL to select the desired Time Delay.

4. Tab to On Level.

```
SENSOR ID#64-1
Analog 1: 0050
Time Delay: TEST 5 Sec
On when light level
falls below: 0000
Off when light level
rises above: 0001
```

Time delay may be 1-30 minutes. Use the TEST 5 SEC option only when calibrating the photocell.

5. Scroll to desired ON level.

LC&D recommends "30" as a starting point for roof-mounted photocells facing north. Contact LC&D for assistance.

6. Tab to Off Level.

```
SENSOR ID#64-1
Analog 1: 0050
Time Delay: TEST 5 Sec
On when light level
falls below: 0030
Off when light level
rises above: 0031
```

Notice that the Off set-point cannot go above the On set-point.

7. Scroll to desired OFF Level.

LC&D recommends "40" as a starting point for roof-mounted photocells facing north.

8. EXIT to Next Menu and refer to page 5 to Program Loads.

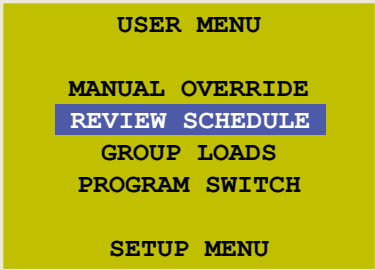
```
SENSOR ID#64-1
Analog 1: 0050
Time Delay: TEST 5 Sec
On when light level
falls below: 0030
Off when light level
rises above: 0040
```

The Off set-point is always higher than the On set-point.

EDITING TIME SCHEDULES

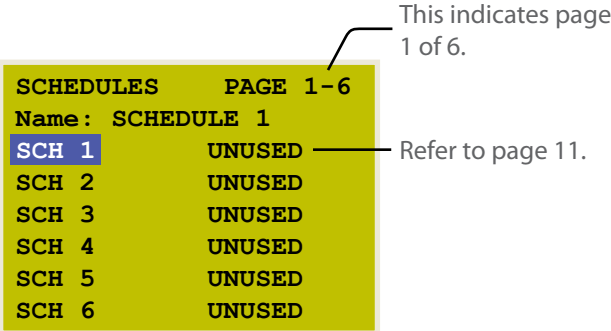
To Start:

1. TAB to start.
2. TAB to REVIEW SCHEDULE.
3. ENTER to select.



To Select the Schedule:

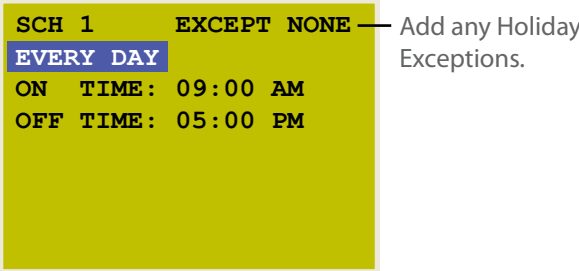
1. SCROLL to the correct page.
2. TAB to the correct Schedule (1-32).
3. ENTER to select.



To Select a Holiday List:

This portion of the menu allows you to select from any pre-existing Holiday Lists. See below to edit the Holiday List:

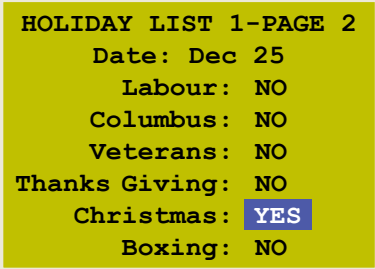
1. TAB to EXCEPT NONE.
2. SCROLL to desired Holiday Exception (if any).
3. TAB to the correct Schedule (1-32).
4. ENTER to select.



To Edit Holiday Lists:

Two separate holiday lists may be created and edited. Create custom holidays on "page 3."

1. Follow this path: USER MENU > SETUP MENU > SYSTEM SETUP MENU > EDIT HOLIDAYS.
2. SCROLL to select page.
3. TAB to the Holiday.
4. SCROLL to Yes to select.

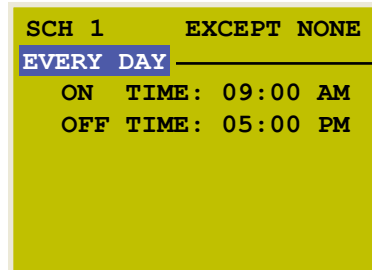


SCHEDULE TYPES & TRIGGER EVENTS

1. SCROLL to the desired schedule type.

Every Day (7-day schedule):

1. TAB to ON TIME and SCROLL to select Trigger Event.
2. TAB to the hour and SCROLL to select.
3. TAB to minutes and SCROLL to select.

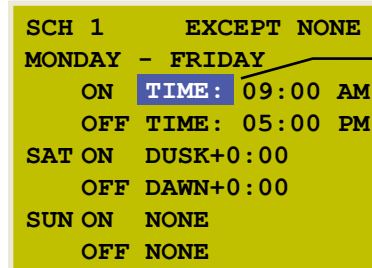


Schedule Type:

- EVERY DAY—7 day schedule
- Mon-Fri, Sat, Sun
- BY DAY unique for each day

Mon-Fri, Sat, Sun:

1. TAB to ON TIME and SCROLL to select Trigger Event.
2. TAB to the hour and SCROLL to select.
3. TAB to minutes and SCROLL to select.
4. Tab to each day set and repeat.



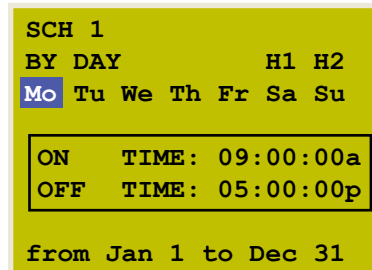
Trigger Event:

- TIME means a specific time of day in hrs./mins.
- "DAWN (or DUSK) + or -" means minutes and seconds before/after dawn or dusk
- NONE means none

By Day (unique for each day):

This Schedule Type allows On and Off times to be edited to the nearest second, and allows a schedule to start and end on specific dates.

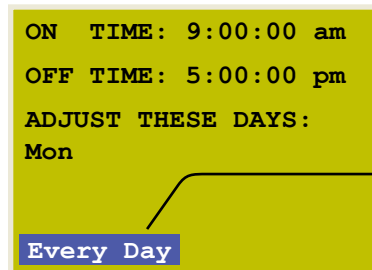
1. Tab to desired day and ENTER to edit.
2. TAB to the hour and SCROLL to select.
3. TAB to minutes and SCROLL to select.
4. TAB to seconds and SCROLL to select.



This is the summary of the Monday Schedule.

To link other days to this schedule:

1. TAB to Every Day.
2. SCROLL to desired days or day sets and ENTER to select.
3. EXIT to edit more days.



This is the Edit Schedule for Monday.

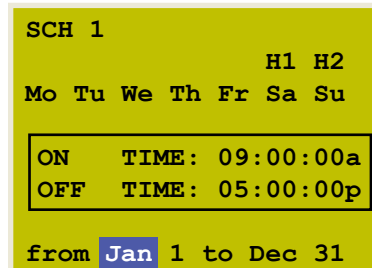
To select schedule start and stop date.

1. TAB to Jan and SCROLL to select.
2. Repeat to set start and stop dates.

Link Other Days:
To save programming time, link other days using the same schedule.

To Exit this Schedule and Add Loads:

1. EXIT when complete.
2. TAB down once to edit the group and add loads to this schedule (refer to Group Editing Section).



CONTROL TYPES & GROUP TYPES

Control Types: "Control Types" describes how loads are controlled.

TOGGLE	Toggle up to 8 loads On or Off.
ON MODE	Up to 8 loads On only.
OFF MODE	Up to 8 loads Off only.
MIXED MODE	Also known as an "interlock"—this turns one set of loads On and another set of loads Off.
MAINTAIN	Loads are On during a closure and Off when the closure is opened; similar to a wall switch—used by photocells.
GROUPs (1-32)	To control more than 8 loads, or when programming a time schedule, always use GROUPs.

Group Types: When controlling more than eight loads or when controlling any loads from a time schedule, groups are required. GROUPs describe what loads are controlled and how they are controlled.

MOMENTARY ON	"On Mode" more than 8 loads.
MOMENTARY OFF	"Off Mode" more than 8 loads.
MOMENTARY MIXED	"Mixed Mode" more than 8 loads.
MAINTAIN	Used by time schedules and photocells controlling more than 8 loads. When the GROUP is On, the loads are On, and when the GROUP is Off, the loads are Off.
MAINTAIN + TIMER	Usually used only with Time Schedules. When the GROUP is On, the loads are On. When the GROUP is Off, any switch controlling any loads within the GROUP may only turn those loads On for a programmed time.
MAINTAIN + BLINK	Uses all of the features of the MAINTAIN + TIMER and adds a "blink warning" prior to shutting loads off.

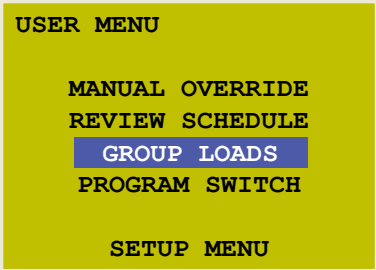
PROGRAMMING GROUPS

To Access the Group:

Within the DTC, there are two paths you can use to access a group for programming purposes:

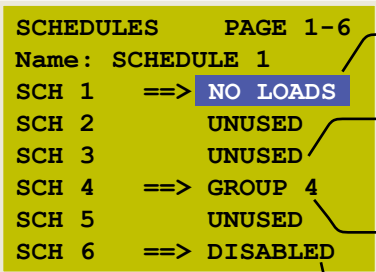
A) From USER MENU:

1. TAB to start.
2. TAB to GROUP LOADS.
3. ENTER to select.



B) From the SCHEDULE MENU:

1. EXIT schedule when complete.
2. TAB to NO LOADS.
3. ENTER to select.



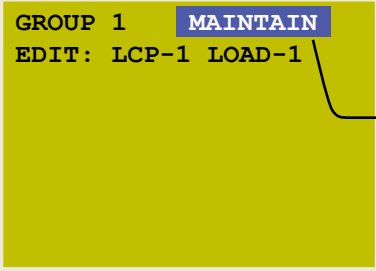
SCHEDULE 1 is programmed and has no loads.

SCHEDULE 3 is not programmed.

SCHEDULE 4 is programmed and controls GROUP 4.

SCHEDULE 6 is programmed, has loads, but is disabled.

1. SCROLL to select Group Type (see page 10 for selecting group types).
2. Add or delete loads (see page 5 for adding or deleting loads).



Refer to page 10 for information on Group Types.

NOTE: If using MAINTAIN + TIMER or MAINTAIN + BLINK, press ENTER when highlighted to set parameters.

For more extensive data on programming the GR 2400 system, download the complete manual from the CD that came with the system or from www.lightingcontrols.com/downloads.



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