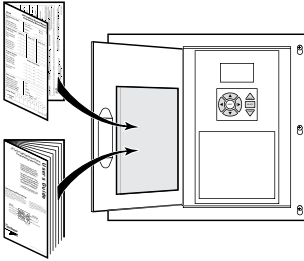


# LP Series Lighting Control Panel Programming Instructions

This guide leads you through programming the LP8 and LP24 series lighting control panels. Use this guide with the LP8 Programming Record Sheet to keep track of system operation and programmed parameters.



Keep this manual in the panel enclosure cover door pocket for future reference, along with the completed Programming Record Sheet / Relay Schedule and any other manuals or drawings that apply to the lighting panel installation.

For panel hardware installation, see the Quick Start Installation Guide.

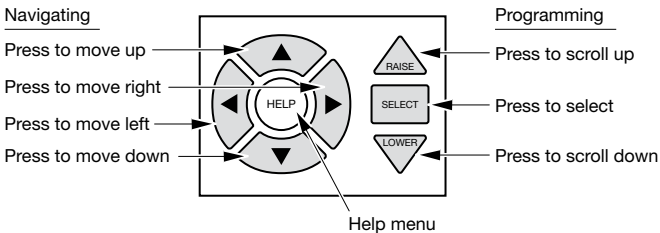
For wiring instructions, see the Installation and Wiring Reference.

More information can be found on line at [www.wattstopper.com](http://www.wattstopper.com).

## THE USER INTERFACE KEYPAD

The left side of the keypad is for navigating around the screen. This guide will instruct you to move to the right, left, up, or down as required. You can press HELP at any screen for guidance in making selections.

The right side of the keypad is for scrolling through choices and making selections. This guide will instruct you to scroll through choices and to make a selection.

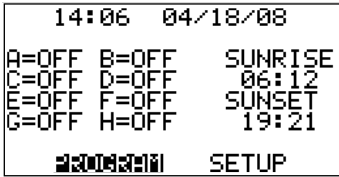


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**To get started**

Press any button on the user interface to illuminate the Main Screen.



When the LP8 leaves the factory each relay is assigned to one of the 8 channels.

Channel. Relay	Channel. Relay
A..... 1	B..... 2
C..... 3	D..... 4
E..... 5	F..... 6
G..... 7	H ..... 8

**OVERRIDING CHANNELS**




















When using the panel's default programming (as shipped from the factory) overriding a channel will override one relay. The default channel/relay mapping is shown above. To change channel/relay associations use the clock SETUP screen called "Assign Relays/Channel."

To cycle a channel ON/OFF from the user interface keypad use the following procedure.

Display	Description	Press
	Use the navigation arrows to highlight the status ON/OFF next to the desired channel	
	Use the programming arrows to cycle the channel ON/OFF	




























# SET TIME AND DATE - SETUP

Use this feature to set the current time and date.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 PROGRAM <b>SETUP</b>           </pre>	With SETUP flashing	  
<pre> <b>Set Time and Date</b> Daylight Saving Time Program Holidays Select Location Assign Relays/Channel Clear All Memory Show Firmware Version MAIN MENU           </pre>	With SET TIME AND DATE flashing	  
<pre> Set Time and Date Time: <b>13</b>:13 Date: 04/30/08 Wednesday SAVE ABORT           </pre>	Set the HOUR → Set MINUTES → Time in the LP8 is entered in Military or 24 hour format where 13 hours equals 1:00 PM.	  then   
<pre> Set Time and Date Time: 13:13 Date: <b>30</b>/30/08 Wednesday SAVE ABORT           </pre>	To set the MONTH → To set the DAY → To set the YEAR →	  then   
<pre> Set Time and Date Time: 13:13 Date: 04/30/08 Wednesday <b>SAVE</b> ABORT           </pre>	With SAVE flashing	  

# DAYLIGHT SAVINGS TIME (DST) - SETUP

Note that the LP8 ships with Daylight Savings Time enabled for the United States. Follow the steps below to change DST settings.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 PROGRAM 8:00                     </pre>	With SETUP flashing	 then  then 
<pre> Set Time and Date Daylight Saving Time Program Holidays Select Location Assign Relays/Channel Clear All Memory Show Firmware Version MAIN MENU                     </pre>	With DAYLIGHT SAVING TIME flashing	  
<pre> Daylight Saving Time Follow DST? Yes Use Auto Dates? Yes Begins: 2nd SUN MAR Ends: 1st SUN NOV Begins on: 03/09/08 Ends on: 11/02/08 SAVE ABORT                     </pre>	To tell the clock to follow Daylight Savings Transitions (DST), YES or NO	   then   
<pre> Daylight Saving Time Follow DST? Yes Use Auto Dates? Yes Begins: 2nd SUN MAR Ends: 1st SUN NOV Begins on: 03/09/08 Ends on: 11/02/08 SAVE ABORT                     </pre>	To tell the clock to put the transition dates in automatically (Use Auto Dates?), Yes or No	   then   
<pre> Daylight Saving Time Follow DST? Yes Use Auto Dates? No Begins: 2nd SUN MAR Ends: 1st SUN NOV Begins on: 03/09/08 Ends on: 11/02/08 SAVE ABORT                     </pre>	If you select NO ...	
<pre> Daylight Saving Time Follow DST? Yes Use Auto Dates? No                     </pre> <pre> Begins on: 03/09/08 Ends on: 11/02/08 SAVE ABORT                     </pre>	Change the beginning and ending dates on this screen. To set the MONTH → To set the DAY → To set the YEAR →	   then   
<pre> Daylight Saving Time Follow DST? Yes Use Auto Dates? Yes Begins: 2nd SUN MAR Ends: 1st SUN NOV Begins on: 03/09/08 Ends on: 11/02/08 SAVE ABORT                     </pre>	With SAVE flashing	  

# PROGRAM HOLIDAY DATES - SETUP

Holiday scheduling allows the LP8 to operate a different schedule on a specific date or range of dates. This is to accommodate different scheduling for holidays and special occasions. When a programmed holiday date occurs, instead of executing all channel schedules according to the day of the week, the LP8 will execute them based on the holiday schedule entered.

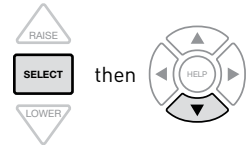
**If a holiday date is entered ALL channels will execute the schedule entered. If left blank the channel will not turn on.**

Display	Description	Press
---------	-------------	-------

```

08:43 05/05/08
A=OFF B=OFF SUNRISE
C=OFF D=OFF 05:54
E=OFF F=OFF SUNSET
G=OFF H=OFF 19:34
PROGRAM
    
```

With SETUP flashing



```

Set Time and Date
Daylight Saving Time
Program Holidays
Select Location
Assign Relays/Channel
Clear All Memory
Show Firmware Version
MAIN MENU
    
```

With PROGRAM HOLIDAYS flashing

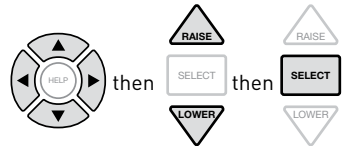


Enter dates on which the Holiday Schedule should run rather than the regular daily schedule.

```

Holiday 1-12 Setup
01/01/03 02/17/03
05/30/03 07/04/03
12/25/03 01/01/04
02/16/04 **/**/**
**/**/** **/**/**
**/**/** **/**/**
SAVE RANGE ABORT →
    
```

Set the MONTH →  
 Set the DAY →  
 Set the YEAR →



Enter holiday dates as required. Note that you can enter up to 36 dates. However, you must SAVE each screen of 12 before advancing to the next group of 12.

```

Holiday 1-12 Setup
01/01/03 02/17/03
05/30/03 07/04/03
12/25/03 01/01/04
02/16/04 **/**/**
**/**/** **/**/**
**/**/** **/**/**
SAVE RANGE ABORT →
    
```























With SAVE flashing



**Enter holiday dates as required. You can enter up to 36 dates. However, you must SAVE each screen of 12 before advancing to the next group of 12.**

# PROGRAM HOLIDAY DATE RANGE - SETUP

For holiday periods you may enter ranges of dates rather than individual dates.

Display	Description	Press
<pre> 08:43 05/05/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:54 E=OFF F=OFF SUNSET G=OFF H=OFF 19:34 PROGRAM           </pre>	With SETUP flashing	  then  
<pre> Set Time and Date Daylight Saving Time PROGRAM HOLIDAYS Select Location Assign Relays/Channel Clear All Memory Show Firmware Version MAIN MENU           </pre>	With PROGRAM HOLIDAYS flashing	  
<pre> Holiday 1-12 Setup **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** SAVE RANGE ABORT →           </pre>		    
<pre> Holiday 1-12 Setup **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** SAVE RANGE ABORT →           </pre>	With SAVE flashing	
<pre> Holiday 1-12 Setup **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** **/**/** SAVE RANGE ABORT →           </pre>	With RANGE flashing	  
<pre> Holiday Range Setup **/**/** to **/**/** **/**/** to **/**/** **/**/** to **/**/** **/**/** to **/**/** **/**/** to **/**/** **/**/** to **/**/** SAVE ABORT           </pre>	Set the MONTH → Set the DAY → Set the YEAR →	 then   then   

Display

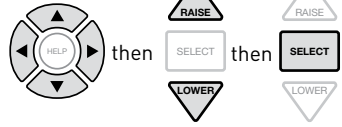
Description

Press

```

Holiday Range Setup
12/23/03 to 01/02/04
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
SAVE      ABORT
    
```

Set the MONTH →  
 Set the DAY →  
 Set the YEAR →



```

Holiday Range Setup
12/23/03 to 01/02/04
02/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
SAVE      ABORT
    
```

When finished setting ranges



```

Holiday Range Setup
12/23/03 to 01/02/04
02/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
**/**/** to **/**/**
SAVE      ABORT
    
```

















With SAVE flashing































# SELECT LOCATION FOR ASTRONOMIC CLOCK - SETUP

Setting the correct geographic location is important when using the astronomic function. You can enter the location by selecting the closest city from a list of States, Provinces, Countries, and Cities or enter it manually using global coordinates. To manually enter the coordinates you must know the latitude, longitude, and hours ahead or behind GMT (Greenwich Mean Time) for the panel's location.

Display	Description	Press
<pre> 08:43 05/05/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:54 E=OFF F=OFF SUNSET G=OFF H=OFF 19:34  PROGRAM           </pre>	With SETUP flashing	  then  
<pre> Set Time and Date Daylight Saving Time Program Holidays select location Assign Relays/Channel Clear All Memory Show Firmware Version MAIN MENU           </pre>	With SELECT LOCATION flashing	  
<pre> Location Setup State:Alabama City:Birmingham Latitude: 34N Longitude: 087W Hours Behind GMT 06  SAVE ABORT           </pre>	To change State: with ALABAMA flashing, scroll up or down to view States, Provinces and Territories	  
<pre> Location Setup State:California City:Anaheim Latitude: 34N Longitude: 118W Hours Behind GMT 08  SAVE ABORT           </pre>	To set City: with the first city in the selected State flashing, scroll up or down	  
<pre> Location Setup State:California City:San Diego Latitude: 33N Longitude: 117W Hours Behind GMT 08  SAVE ABORT           </pre>	With SAVE flashing	  

# ASSIGNING RELAYS TO CHANNELS - SETUP







Group relays into a Channel that will follow the same Schedule. Schedules control Channels; they do not control relays directly. See the Installation & Wiring Reference for instructions on grouping relays for Smartwired switch control.

Display	Description	Press
<pre> 08:43 05/05/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:54 E=OFF F=OFF SUNSET G=OFF H=OFF 19:34  PROGRAM <b>SETUP</b>           </pre>	With SETUP flashing	  then  
<pre> Set Time and Date Daylight Saving Time Program Holidays Select Location <b>Assign Relays/Channel</b> Clear All Memory Show Firmware Version MAIN MENU           </pre>	With ASSIGN RELAYS/ CHANNEL flashing	  
<pre> Assign each Relay 1-8 to a Channel below  RELAY 1 2 3 4 5 6 7 8 <b>A</b> B C D E F G H CHANNEL SAVE ABORT           </pre>	With relay 1 channel flashing, RAISE or LOWER to desired CHANNEL (A-H)	  then   
<pre> Assign each Relay 1-8 to a Channel below  RELAY 1 2 3 4 5 6 7 8 A <b>B</b> C D E F G H CHANNEL SAVE ABORT           </pre>	The display automatically advances to the next relay channel each time you press SELECT. To move to a specific relay channel, use the navigation keypad.	  then   
<pre> Assign each Relay 1-8 to a Channel below  RELAY 1 2 3 4 5 6 7 8 A A <b>B</b> C D E F G H CHANNEL SAVE ABORT           </pre>	Repeat above sequence as required for all relays	 then   then   
<pre> Assign each Relay 1-8 to a Channel below  RELAY 1 2 3 4 5 6 7 8 A A A <b>B</b> C D E F G H CHANNEL <b>SAVE</b> ABORT           </pre>	With SAVE flashing	  

# CLEARING THE MEMORY - SETUP

This feature allows you to clear all memory in the LP8 clock and reset data to factory defaults.

 **CAUTION!**   
**PERFORMING THIS FUNCTION WILL COMPLETELY CLEAR ALL DATA IN THE CLOCK'S MEMORY.**

Display	Description	Press
<pre> 10:35 05/08/08 A=OFF B=OFF  SUNRISE C=OFF D=OFF   05:52 E=OFF F=OFF  SUNSET G=OFF H=OFF   19:36 PROGRAM  2:00                     </pre>	With SETUP flashing	 then 
<pre> Set Time and Date Daylight Saving Time Program Holidays Select Location Assign Relays/Channel <b>Clear All Memory</b> Show Firmware Version MAIN MENU                     </pre>	With CLEAR ALL MEMORY flashing	
<pre> You are about to Clear all Memory Use the SELECT key to clear all memory and return to main menu CLEAR  2:00                     </pre>	To abort this procedure: With ABORT flashing	
<pre> You are about to Clear all Memory Use the SELECT key to clear all memory and return to main menu CLEAR  2:00                     </pre>	To clear memory: With ABORT flashing	
<pre> You are about to Clear all Memory Use the SELECT key to clear all memory and return to main menu 2:00 ABORT                     </pre>	To clear memory: With CLEAR flashing	
<pre> Memory has been cleared! PRESS ANY KEY                     </pre>	To return to main menu: PRESS ANY KEY	



## PRE-PROGRAMMED CONTROL SCENARIOS

Scheduling is simplified through an occupied/unoccupied approach. Lighting events happen based on whether the area is scheduled to be occupied or unoccupied at any given time. For exterior lighting, ON/OFF events may also depend on whether or not it is "dark" outside.

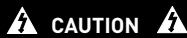
### Summary of Lighting Control Scenarios

Each channel may be assigned one of the seven scenarios described in the following sections for each day of the week, plus holidays. Following is a list of the scenarios and the options that are programmable for any particular day and channel.

Scenario Name	Programmable Options
Manual On/Sched Off	<ul style="list-style-type: none"><li>• Occupied times for each day and holiday</li><li>• Blink before off (Yes/No)</li><li>• Time delay override time (1-240 min)</li></ul>
Scheduled On/Off	<ul style="list-style-type: none"><li>• Same as above</li></ul>
AS Manual On/Auto Off	<ul style="list-style-type: none"><li>• Occupied times for each day and holiday</li><li>• Sweep interval (Repeating off) (1-240 min)</li></ul>
AS Auto On/Off	<ul style="list-style-type: none"><li>• Occupied times for each day and holiday</li><li>• Sweep interval (Repeating off) (1-240 min)</li></ul>
Photocell On/Off	<ul style="list-style-type: none"><li>• No additional data. Connect #EM24-A2 photocell to LP8 panel.</li></ul>
Photo & Sched On/Off	<ul style="list-style-type: none"><li>• Occupied times for each day and holiday</li><li>• Connect #EM24-A2 photocell to LP8 panel</li></ul>
Astronomic On/Off	<ul style="list-style-type: none"><li>• SETUP Location (state/province/city or global coordinates and time zone)</li><li>• Minutes (0-120) before or after sunset = "dark" (same # of minutes after or before sunrise = "light")</li></ul>
Astro & Sched On/Off	<ul style="list-style-type: none"><li>• Same as Astronomic, plus Occupied times for each day and holiday</li></ul>

The type of scenario chosen for each channel depends on how the space in the building is used. Questions to ask when selecting scenarios include:

- Is it an interior or exterior space?
- Should occupants turn lights on when they arrive, or should lights turn on automatically?
- Do occupants need to be warned when lights are about to turn off?
- Should exterior lighting stay on all night, or turn off after the building is closed?



**DO NOT USE THE BLINK WARNING FOR OUTPUTS CONTROLLING HID LAMPS,  
AIR CONDITIONING, FANS AND OTHER SIMILAR LOADS.**

## Switched and Scheduled Interior Lighting Options

The following pre-programmed control scenarios are commonly used in interior lighting applications. These scenarios are ideally suited for applications where occupants need manual or other local control options such as switches, occupancy sensors or other signaling devices, as well as automated functions provided according to schedules.

### Manual ON/Scheduled OFF (Interior Lights) \_\_\_\_\_ Program: page 18

A channel assigned this scenario does not turn on its relay(s). The relays must be turned on by one of the local control switch device options illustrated in the Installation & Wiring Reference manual. Relays are automatically turned off at the end of scheduled occupancy.

A relay can be overridden ON or OFF, regardless of occupancy, at any time throughout the day. If turned OFF the relay will remain off until its turned back ON. If a relay is turned on by a device outside of the occupancy time, the relay remains on for the length of the Time Delay. It is important to program a Time Delay for every day, otherwise relays that are overridden ON will remain on until manually switched off or until the next scheduled end of occupancy. To ensure that an override time limit is always active, enter a Time Delay for every day of the week and holiday. For days when occupancy is not expected, program a schedule with an occupancy time of Open/On 00:00 thru 00:00 and enter a Time Delay of at least 10 minutes.

You can enable a Blink Warning that momentarily turns off the relay, then immediately turns it back on, to alert occupants 5 minutes before the lights are turned off. If switch is activated within the 5 minutes, the relay will remain ON for the Time Delay period.

Data required by the Clock:

- A Occupancy times by day of week
- B Override time delay (in 10-minute increments, up to 240 minutes)
- C Blink before off? Yes/No

### Scheduled ON/OFF (Interior Lights) \_\_\_\_\_ Program: page 20

A channel assigned this scenario turns on its assigned relay(s) whenever the building is scheduled to be occupied. It turns them off when the building is scheduled to be unoccupied. Operation during unoccupied time periods and Time Delay programming requirements are the same as Manual ON/Scheduled OFF.

Data required by the Clock:

- A Occupancy times by day of week
- B Override time delay (in 10-minute increments, up to 240 minutes)
- C Blink before off? Yes/No

### AS Manual On/Auto Off (Interior Lights with AS-100 Switch) \_\_\_\_\_ Program: page 22

In this scenario, lighting is turned on manually using AS-100 Automatic Control switches. During the scheduled unoccupied times, a Sweep OFF function is active. The Sweep OFF is programmed by entering a Sweep Interval (Repeating off) time (1-240 minutes) for each day. With "Blink before off?" set to yes, each time the Sweep OFF (Repeating off) triggers, the channel turns off its relay(s) for one second, then back on. This brief power interruption blinks the lights and signals each AS switch on the branch circuits to begin a 5-minute delay off countdown. During this countdown, occupants can press their AS switch to keep the lights on until the next OFF sweep. If the switch button is not pressed during the 5-minute delay countdown, the switch automatically turns the lights off at the end of the countdown. With "Blink before off?" set to no the relays will receive a 5 second power interruption which turns off the lighting.

If the area controlled by the channel is normally unoccupied the entire day (e.g., weekends), a schedule with a Sweep Interval value must be programmed for that day even though there may not be an occupancy time entered (Open 00:00 thru 00:00). If a Sweep Interval time is not entered, the relay turns off at midnight of the last scheduled day and the AS-100 switches will not be able to turn the lighting on until midnight of the following scheduled day.

Data required by the Clock for **AS Manual On/Auto Off**:

- A Occupancy times by day of week
- B Sweep interval (Repeating off) — the time from one OFF sweep to the next (in 10-minute increments, up to 240 minutes)
- C Blink before off? Yes/No

**AS Auto On/Off (Interior Lights with AS-100 Switch) \_\_\_\_\_ Program: page 24**

In this scenario, lighting is turned on automatically by the AS switch after receiving a signal from the panel. During the scheduled occupied times, the lighting can be controlled ON/OFF by the occupant using the button on the AS switch. All other functionality and programming requirements are same as AS Manual On/Auto Off.

**Photocell Control Options**

If an EM24-A2 Photocell is connected to the system, the following exterior lighting scenarios may be used.

**Photocell ON/OFF (Exterior Lights — Security) \_\_\_\_\_ Program: page 30**

A channel assigned to this scenario turns on its relay(s) when the photocell signals it is dark outside. It turns off the relay(s) when the photocell signals it is light.

No additional data is required by the clock.

**Photocell and Schedule ON/OFF (Exterior Lights) \_\_\_\_\_ Program: page 31**

A channel assigned this scenario turns on its relay(s) when the building is scheduled to be occupied and the photocell signals that it is dark outside. It turns off the relay(s) either when the building is scheduled unoccupied or when the photocell signals it is light.

Data required by the clock:

- A Occupancy times by day of week.

**Astronomic Control Options**

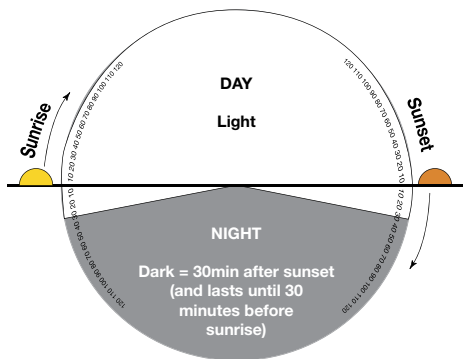
Using the LP8's built-in timeclock, the Astronomic functions automatically calculate sunrise and sunset times according to the panel's location as programmed in SETUP — Select Location.

**Astronomic ON/OFF (Exterior Lights — Security) \_\_\_\_\_ Program: page 26**

A channel assigned this scenario turns on its assigned relay(s) when it is dark outside and turns them off when it is light. "Dark" is defined by the user as a number of minutes before or after sunset. The sunrise darkness threshold mirrors the sunset programming, meaning that if you set dark for 20 minutes BEFORE sunset, the morning light begins 20 minutes AFTER sunrise. No compensation is made for rainy or overcast days.

Data required by the Clock:

- A Building location (nearest city/state/province or geographic coordinates, entered in SETUP screen)
- B Time before or after sunset that the lights should turn on (in 10-minute increments, up to 120 minutes). The lights will turn off the number of minutes before or after sunset and the same number of minutes after or before sunrise — example: 30 minutes after sunset / 30 minutes before sunrise (see illustration).



**Astronomic & Scheduled ON/OFF (Exterior Lights) \_\_\_\_\_ Programming: page 28**

A channel assigned this scenario turns on its relay(s) when it is dark outside and the building is occupied. It will turn off when the building is scheduled to be unoccupied. Generally, lights turn on in the evening, off at night when the building is not occupied, then back on in the early morning until it becomes light.

Data required by the Clock:

- A Building location (nearest city/state or province, entered in SETUP screen)
- B Occupancy times by day of week
- C Time in minutes before or after sunset that the lights should turn on

**Sample Scenario Application**

An office building is used for the sample application illustrated in the Programming Record sheet on the next page. In this application, the LP8 panel contains two relays controlling open office space lighting. Two relays control hallways and common area lighting. Another relay controls the branch circuits to individual office lighting, with Automatic Control Switches in those offices. There is also a relay for exterior security lighting and two for parking lot lighting and signage.

The sample Programming Record Sheet on the next page summarizes the data required by the Clock for each channel in our sample application.

Channel **A** is assigned a Manual ON/Sched OFF scenario for the open office areas. The lights will be turned ON by occupants using a switch. They can be turned off by the occupant using a switch or automatically per the time schedule. Overrides will be in effect if the occupant manually turns lighting on at the switch during unoccupied times.

Channel **B** is assigned a Scheduled ON/Scheduled OFF scenario for corridors and common areas. The lighting turns on and off per the times scheduled. Overrides will be in effect if the occupant manually turns lighting on at a switch during unoccupied times.

Channel **C** is assigned an AS Manual On/Auto Off scenario for multiple private offices. Occupants use the AS-100 switch to turn on the lights in their offices. During unoccupied times, the LP8 panel periodically blinks the lights, starting a 5-minute delay off countdown at the AS-100 switches. If no occupant overrides it, the AS switch will turn off the lights. The sweep off scenario is repeated at the programmed sweep interval until the scheduled occupied time.

Channel **D** is assigned an Astro ON/OFF scenario for exterior security lighting. The on and off times are based on the clock's astronomical function which determines sunrise and sunset according to geographical location. Note: A similar operation can be achieved by connecting an exterior photocell to the LP8 and programming a Photocell On/Off scenario.

Channel **E** is assigned an Astro and Scheduled ON/OFF scenario for parking lot lighting and exterior building lights. The time this lighting turns on is based on the clock's astronomical function as above, but the lights will turn off at a scheduled time. The lights will turn back on in the early morning if it is scheduled to turn on and the astronomical function determines that it is still dark. Note: A similar operation can be achieved by connecting an exterior photocell to the LP8 and programming a Photo & Sched On/Off scenario.



# Sample Operation Summary and Programming Record Sheet

Following is the Operation Summary for the relay and channel schedules and the Programming Record Sheet for the sample application.

## Operation Summary

### Relay Schedule

Relay	Supply	Load Description
1	L- 3	Open office west
2	L- 4	Open office east
3	L- 5	Lobby lighting
4	L- 6	Corridor lighting
5	L- 9	Private offices, Breakroom lighting
6	L- 12	Exterior # Pole security lights
7	L- 14	Exterior building lights
8	L- 16	Parking lot pole lights

### Channel Schedule

Chan.	Description	Relays
A	Open office lighting	1, 2
B	Lobby & Corridor lighting	3, 4
C	Private offices, Breakroom lighting	5
D	Exterior security lighting	6
E	Exterior building, parking lighting	7, 8
F		
G		
H		

## Programming Record Sheet

### PROGRAM Channel Automation Scenarios

Chan.	Day(s)	Automation Scenario (check one)	Schedule Times	Data
A	M-F	<input checked="" type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0700 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
A	Saturday	<input checked="" type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0700 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
A	Sunday Holiday	<input checked="" type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0000 Off/ thru: 0000 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
B	M-F	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0600 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
B	Saturday	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0600 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
B	Sunday Holiday	<input checked="" type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0000 Off/ thru: 0000 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
C	M-F	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0600 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
C	Saturday	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: 0000 Off/ thru: 0000 On/ Open: thru:	Blink before off? <b>No (Yes)</b> Time Delay/Sweep Interval: 1 10 min. On ____ min. after before Sunset
D	M-F	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input checked="" type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: thru: Off/ thru: On/ Open: thru:	Blink before off? <b>No Yes</b> Time Delay/Sweep Interval: ____ min. On 30 min. after before Sunset
D	S-S	<input type="checkbox"/> Manual On/Sched Off <input checked="" type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input checked="" type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: thru: Off/ thru: On/ Open: thru:	Blink before off? <b>No Yes</b> Time Delay/Sweep Interval: ____ min. On 30 min. after before Sunset
E	M-F	<input type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input checked="" type="checkbox"/> Astro & Sched On/Off	On/ Open: 0600 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No Yes</b> Time Delay/Sweep Interval: ____ min. On 30 min. after before Sunset
E	Saturday	<input type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input checked="" type="checkbox"/> Astro & Sched On/Off	On/ Open: 0600 Off/ thru: 1800 On/ Open: thru:	Blink before off? <b>No Yes</b> Time Delay/Sweep Interval: ____ min. On 30 min. after before Sunset
		<input type="checkbox"/> Manual On/Sched Off <input type="checkbox"/> Scheduled On/Off <input type="checkbox"/> Man On/AS Sweep Off <input type="checkbox"/> Photocell On/Off <input type="checkbox"/> Photo & Sched On/Off <input type="checkbox"/> Astronomic On/Off <input type="checkbox"/> Astro & Sched On/Off	On/ Open: thru: Off/ thru: On/ Open: thru:	Blink before off? <b>No Yes</b> Time Delay/Sweep Interval: ____ min. On ____ min. after before Sunset

















PROGRAM

# MANUAL ON/SCHEDULE OFF - PROGRAM









Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

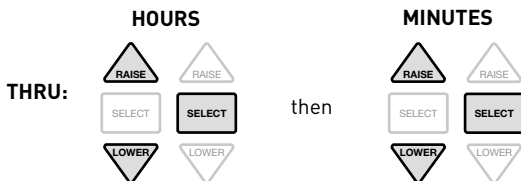
Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 ██████████ SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: █ Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  then   
<pre> Channel: A Day: █Monday█ Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  then   
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing	  

Programming the LP8 is simplified using a building Open/Closed approach. Lighting events happen based on whether the area is scheduled to be Open (occupied) or Closed (unoccupied) for any given time. For exterior lighting, ON/OFF events may also depend on whether or not it is Dark outside (see photocell and astronomic Program Scenarios on page 15).

<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	<p>OPEN:</p>   	then	  
--	--	------	---

```

Channel: A
Day: Monday
Manual On/Sched Off
OPEN:00:00 thru:00:00
      00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? No
SAVE COPY ABORT
  
```



Repeat for second schedule OPEN/THRU period or continue to next step. If entering two on and off times for the day, enter the earliest on/off time on the first row. If only using one on/off time then enter it on the first row.

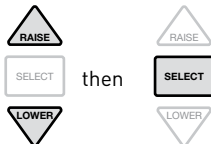
```

Channel: A
Day: Monday
Manual On/Sched Off
OPEN:00:00 thru:00:00
      00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? No
SAVE COPY ABORT
  
```

**TIME DELAY:**

**To select number of minutes**

Time delay is the number of minutes a relay stays ON after being turned on by a switch during unoccupied periods



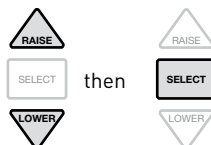
```

Channel: A
Day: Monday
Manual On/Sched Off
OPEN:00:00 thru:00:00
      00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? No
SAVE COPY ABORT
  
```

**BLINK BEFORE OFF?**

**YES or NO**

Time delay is the number of minutes a relay stays ON after being turned on by a switch during unoccupied periods



If this schedule will be used for multiple days, proceed to the **COPYING A SCHEDULE** section. If you are making adjustments to one day's schedule or the other days are different, continue.

```

Channel: A
Day: Monday
Manual On/Sched Off
OPEN:00:00 thru:00:00
      00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? No
SAVE COPY ABORT
  
```

With SAVE flashing









































# SCHEDULED ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF  SUNRISE C=OFF D=OFF   05:59 E=OFF F=OFF  SUNSET G=OFF H=OFF  19:30 23002300 SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  then   
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  then   
<pre> Channel: A Day: Monday Scheduled On/Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to SCHEDULED ON/OFF	  then   
<pre> Channel: A Day: Monday Scheduled On/Off ON: 00:00 thru:00:00 ON: 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	ON:	<p style="text-align: center;"><b>HOURS</b></p>   then    <p style="text-align: center;"><b>MINUTES</b></p>   then   
<pre> Channel: A Day: Monday Scheduled On/Off ON: 00:00 thru:00:00 ON: 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	THRU:	<p style="text-align: center;"><b>HOURS</b></p>   then    <p style="text-align: center;"><b>MINUTES</b></p>   then   

Repeat for second schedule OPEN/THRU period or continue to next step. If entering two on and off times for the day, enter the earliest on/off time on the first row. If only using one on/off time then enter it on the first row.

**Display****Description****Press**

```

Channel: A
Day: Monday
Scheduled On/Off
ON: 00:00 thru:00:00
ON: 00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? Yes
SAVE COPY ABORT
  
```

**TIME DELAY:****To select number of minutes**

Time delay is the number of minutes a relay will remain ON after being turned on by a switch during unoccupied periods



then



```

Channel: A
Day: Monday
Scheduled On/Off
ON: 00:00 thru:00:00
ON: 00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? Yes
SAVE COPY ABORT
  
```

**BLINK BEFORE OFF?****YES or NO**

then



If this schedule will be used for multiple days, proceed to the **COPYING A SCHEDULE** section.  
 If you are making adjustments to one day's schedule or the other days are different, continue.

```

Channel: A
Day: Monday
Scheduled On/Off
ON: 00:00 thru:00:00
ON: 00:00 thru:00:00
Time Delay: 000 Min.
Blink before off? Yes
SAVE COPY ABORT
  
```

























**With SAVE flashing**

# AS MANUAL ON/AUTO OFF - PROGRAM















Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 20002000 SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  
<pre> Channel: A Day: Monday AS Manual On/Auto Off ON: 00:00 thru:00:00 ON: 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to AS MANUAL ON/AUTO OFF	  
<pre> Channel: A Day: Monday AS Manual On/Auto Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 000min Blink before off? No SAVE COPY ABORT                     </pre>	OPEN:	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>HOURS</p>      </div> <div style="text-align: center;"> <p>MINUTES</p>      </div> </div>
<pre> Channel: A Day: Monday AS Manual On/Auto Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 000min Blink before off? No SAVE COPY ABORT                     </pre>	THRU:	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>HOURS</p>      </div> <div style="text-align: center;"> <p>MINUTES</p>      </div> </div>




Repeat for second schedule OPEN/THRU period or continue to next step. If entering two on and off times for the day, enter the earliest on/off time on the first row. If only using one on/off time then enter it on the first row.

**Repeating off** is the number of minutes that the LP8 panel will wait before automatically pulsing the AS Switches again. This will repeat until the Channel once again enters an OPEN (occupied) time period. **IMPORTANT:** if you want the sweep to continue through the night and until the next OPEN time, make sure that a schedule that includes a sweep interval (Repeating off) is programmed for the next day as well.

Display	Description	Press
<pre>Channel: A Day: Monday AS Manual On/Auto Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 120min Blink before off? No SAVE COPY ABORT</pre>	<p><b>REPEATING OFF:</b> To select number of minutes</p>	   <span style="margin-left: 20px;">then</span>   
<pre>Channel: A Day: Monday AS Manual On/Auto Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 120min Blink before off? YES SAVE COPY ABORT</pre>	<p><b>BLINK BEFORE OFF?</b> YES or NO</p>	   <span style="margin-left: 20px;">then</span>   

**Yes** indicates that you will be using the 5 minute blink timer built into the AS Switch which is the recommended mode. If **NO** is selected, the relay(s) will turn off at the indicated time with no prior warning. Refer to the AS Switch Installation Instructions for more information.

**If this schedule will be used for multiple days, proceed to the COPYING A SCHEDULE section. If you are making adjustments to one day's schedule or the other days are different, continue.**







































<pre>Channel: A Day: Monday AS Manual On/Auto Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 120min Blink before off? Yes SAVE COPY ABORT</pre>	<p>With <b>SAVE</b> flashing</p>	  
--	----------------------------------	--

# AS AUTOMATIC ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF  SUNRISE C=OFF D=OFF   05:59 E=OFF F=OFF  SUNSET G=OFF H=OFF   19:30 23002300  SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  then   
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  then   
<pre> Channel: A Day: Monday AS Auto On/Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Repeating off: 120min Blink before off? Yes SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to AS AUTO ON/OFF	  then   
<pre> Channel: A Day: Monday AS Auto On/Off ON: 00:00 thru:00:00      00:00 thru:00:00 Repeating off: 001min Blink before off? No SAVE COPY ABORT                     </pre>	ON:	<p style="text-align: center;"><b>HOURS</b></p>   then    <p style="text-align: center;"><b>MINUTES</b></p>   then   
<pre> Channel: A Day: Monday AS Auto On/Off ON: 00:00 thru:00:00      00:00 thru:00:00 Repeating off: 001min Blink before off? No SAVE COPY ABORT                     </pre>	THRU:	<p style="text-align: center;"><b>HOURS</b></p>   then    <p style="text-align: center;"><b>MINUTES</b></p>   then   

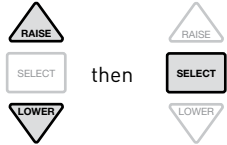
Repeat for second schedule OPEN/THRU period or continue to next step. If entering two on and off times for the day, enter the earliest on/off time on the first row. If only using one on/off time then enter it on the first row.



Display	Description	Press
---------	-------------	-------

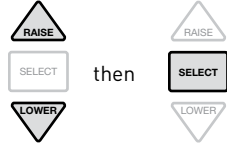
```
Channel: A
Day: Monday
AS Auto On/Off
ON: 00:00 thru:00:00
00:00 thru:00:00
Repeating off: 120min
Blink before off? No
SAVE COPY ABORT
```

**REPEATING OFF**  
**(Sweep Interval):**  
**To select number of minutes**



```
Channel: A
Day: Monday
AS Auto On/Off
ON: 00:00 thru:00:00
00:00 thru:00:00
Repeating off: 120min
Blink before off? Yes
SAVE COPY ABORT
```

**BLINK BEFORE OFF?**  
**YES or NO**



**Yes** indicates that you will be using the 5 minute blink timer built into the AS Switch which is the recommended mode. If **NO** is selected, the relay(s) will turn off at the indicated time with no prior warning. Refer to the AS Switch Installation Instructions for more information.

---

**If this schedule will be used for multiple days, proceed to the COPYING A SCHEDULE section. If you are making adjustments to one day's schedule or the other days are different, continue.**

---

```
Channel: A
Day: Monday
AS Auto On/Off
ON: 00:00 thru:00:00
00:00 thru:00:00
Repeating off: 120min
Blink before off? Yes
SAVE COPY ABORT
```


































**With SAVE flashing**



# ASTRONOMIC ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 20082001 SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	   <span style="margin-left: 20px;">then</span>   
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	   <span style="margin-left: 20px;">then</span>   
<pre> Channel: A Day: Monday Astronomic On/Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to ASTRONOMIC ON/OFF	   <span style="margin-left: 20px;">then</span>   
<pre> Channel: A Day: Monday Astronomic On/Off  ON 000 min after set and before rise SAVE COPY ABORT                     </pre>	To set MINUTES 0 - 120 minutes before or after sunset = Dark, or leave at 000 default	   <span style="margin-left: 20px;">then</span>   
<pre> Channel: A Day: Monday Astronomic On/Off  ON 000 min after set and before rise SAVE COPY ABORT                     </pre>	To set BEFORE or AFTER	   <span style="margin-left: 20px;">then</span>   

If this schedule will be used for multiple days, proceed to the COPYING A SCHEDULE section. If you are making adjustments to one day's schedule or the other days are different, continue.

Display

Description

Press

```
Channel: A
Day: Monday
Astronomic On/Off

ON 000 min after set
and before rise
SAVE COPY ABORT
```

With SAVE flashing




































# ASTRONOMIC AND SCHEDULED ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

Display	Description	Press		
<pre> 13:13 04/30/08 A=OFF B=OFF  SUNRISE C=OFF D=OFF   05:59 E=OFF F=OFF  SUNSET G=OFF H=OFF   19:30 22002200 SETUP                     </pre>	With PROGRAM flashing	  		
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  	then	  
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  	then	  
<pre> Channel: A Day: Monday Astro &amp; Sched On/Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to ASTRO & SCHED ON/OFF	  	then	  
<pre> Channel: A Day: Monday Astro &amp; Sched On/Off Open:00:00 thru:00:00       00:00 thru:00:00 ON 000 min after set and before rise SAVE COPY ABORT                     </pre>	ON:	<p>HOURS</p>   	then	<p>MINUTES</p>   
<pre> Channel: A Day: Monday Astro &amp; Sched On/Off Open:06:45 thru:13:00       00:00 thru:00:00 ON 000 min after set and before rise SAVE COPY ABORT                     </pre>	THRU:	<p>HOURS</p>   	then	<p>MINUTES</p>   

**Display****Description****Press**

```

Channel: A
Day: Monday
Astro & Sched On/Off
Open:06:45 thru:18:00
      00:00 thru:00:00
ON 120 min after set
and before rise
SAVE COPY ABORT

```

**To set MINUTES**

0 - 120 minutes before or after sunset = Dark, or leave at 000 default



then



```

Channel: A
Day: Monday
Astro & Sched On/Off
Open:06:45 thru:18:00
      00:00 thru:00:00
ON 000 min after set
and before rise
SAVE COPY ABORT

```

**To set BEFORE or AFTER**

then



If this schedule will be used for multiple days, proceed to the **COPYING A SCHEDULE** section. If you are making adjustments to one day's schedule or the other days are different, continue.

```

Channel: A
Day: Monday
Astro & Sched On/Off
Open:06:45 thru:18:00
      00:00 thru:00:00
ON 000 min after set
and before rise
SAVE COPY ABORT

```



















**With SAVE flashing**

# PHOTOCELL ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

This scenario requires that the optional EM24-A2 photocell be connected to the panel. The photocell will use actual light level readings to tell the panel when it is DARK outside.

Display	Description	Press
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 <b>22002200</b> SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  then   
<pre> Channel: A Day: <b>Monday</b> Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  then   
<pre> Channel: A Day: Monday <b>Photocell On/Off</b> OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to PHOTOCELL ON/OFF	  then   

Yes indicates that you will be using the 5 minute blink timer built into the AS Switch which is the recommended mode. If NO is selected, the relay(s) will turn off at the indicated time with no prior warning. Refer to the AS Switch Installation Instructions for more information.

If this schedule will be used for multiple days, proceed to the COPYING A SCHEDULE section. If you are making adjustments to one day's schedule or the other days are different, continue.






















<pre> Channel: A Day: Monday Photocell On/Off       ON at Dark       OFF when Light <b>SAVE</b> COPY ABORT                     </pre>	With SAVE flashing	  
---	--------------------	---

# PHOTOCELL AND SCHEDULED ON/OFF - PROGRAM



Before you begin entering channel programming, it is important to complete the Programming Record Sheet (shipped in the panel door) for your installation. Programming is simply taking data from the sheet and entering it into the Clock.

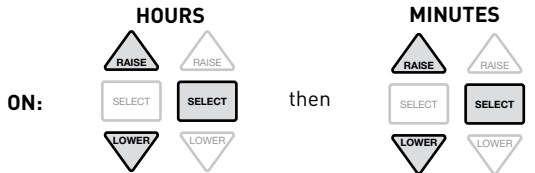
If a schedule needs to run past midnight, see **SPANNING MIDNIGHT WITH A SCHEDULE**.

Display	Description	Press		
<pre> 13:13 04/30/08 A=OFF B=OFF  SUNRISE C=OFF D=OFF   05:59 E=OFF F=OFF  SUNSET G=OFF H=OFF   19:30 <b>PROGRAM</b> SETUP                     </pre>	With PROGRAM flashing	  		
<pre> Channel: 1 Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To select a channel A-H	  	then	  
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	To change the day of the week	  	then	  
<pre> Channel: A Day: Monday Photo &amp; Sched On/Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With MANUAL ON/SCHED OFF flashing, scroll to PHOTO & SCHED ON/OFF	  	then	  

Exterior lighting will turn on only when it is dark outside and the schedule is in an OPEN period.

```

Channel: A
Day: Monday
Photo & Sched On/Off
Open: 00:00 thru:00:00
      00:00 thru:00:00
ON when Open AND Dark
SAVE COPY ABORT
                    
```

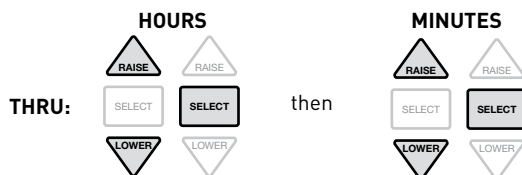


**Display****Description****Press**

```

Channel: A
Day: Monday
Photo & Sched On/Off
Open:00:00 thru:00:00
      00:00 thru:00:00
ON when Open AND Dark
SAVE COPY ABORT

```



If this schedule will be used for multiple days, proceed to the **COPYING A SCHEDULE** section.  
 If you are making adjustments to one day's schedule or the other days are different, continue.

```

Channel: A
Day: Monday
Photo & Sched On/Off
Open:00:00 thru:00:00
      00:00 thru:00:00
ON when Open AND Dark
SAVE COPY ABORT

```


























With SAVE flashing





# COPYING A SCHEDULE - PROGRAM

The Copy function allows you to copy a program/schedule you have created for one day of the week to other days that will follow the same schedule.

Display	Description	Press			
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 20082008 SETUP                     </pre>	With PROGRAM flashing	  			
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	Begin at the Channel and Day for the schedule you would like to copy	  	then	  	
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	Navigate to the bottom of the screen		then		
<pre> Channel: A Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	With COPY flashing	  			
<pre> Copy Program to: Mon☐ Tue☑ Wed☑ Thu☑ Fri☑ Sat☑ Sun☐ Hold SAVE ABORT                     </pre>	Mark the days on which you want to use this schedule		then	  	  
<pre> Copy Program to: Mon☐ Tue☑ Wed☑ Thu☑ Fri☑ Sat☑ Sun☐ Hold SAVE ABORT                     </pre>	With SAVE flashing		then	  	

# SPANNING MIDNIGHT WITH A SCHEDULE

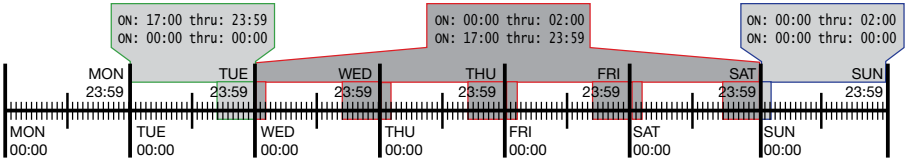
## Midnight Scheduling Example — Day Spanning

In some cases, a building's occupied hours may need to span from one day into the next. For example, a restaurant may open for dinner at 5 p.m. and stay open until 2 a.m. Use Day Spanning schedules to accommodate this need.






































With a standard schedule, the channel turns on the specified relays at the beginning of the "ON" minute and turns them off at the end of the scheduled "thru" minute.

With Day Spanning schedules, the channel will not turn off the relay if it is scheduled "thru" 23:59 on one day, and the "ON" schedule for the very next day is set for 00:00 (midnight).

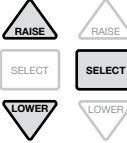
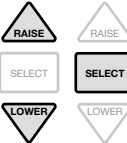
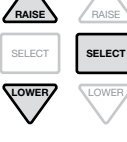
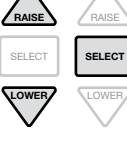




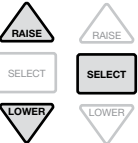





For business hours of 5 p.m. to 2 a.m., Tuesday through Saturday, enter these 6 schedules:




















































Display	Description	Press
<pre>Channel: B Day: Tuesday Scheduled On/Off ON: 00:00 thru:00:00 ON: 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT</pre>	After setting Channel, Day and SCHEDULED ON/OFF, set the ON time	<p><b>HOURS</b></p> <p><b>MINUTES</b></p> <p>then</p>
<pre>Channel: B Day: Tuesday Scheduled On/Off ON: 17:00 thru:23:59 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Set THRU: to 23:59	<p><b>HOURS</b></p> <p><b>MINUTES</b></p> <p>then</p>
<pre>Channel: B Day: Tuesday Scheduled On/Off ON: 17:00 thru:23:59 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Leave the second ON: and THRU: times at 00:00.	<p>then</p> <p>then</p>
<pre>Channel: B Day: Tuesday Scheduled On/Off ON: 17:00 thru:23:59 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	With COPY flashing	
<pre>Copy Program to: Mon  Tue  Wed  Thu  Fri  Sat  Sun  Hold  SAVE ABORT</pre>	Mark WED	<p>then</p> <p>then</p>

Display	Description	Press
<pre> Copy Program to: Mon  Tue  Wed Thu  Fri  Sat Sun  Hold  SAVE  ABORT                     </pre>	With SAVE flashing	  
<pre> 13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30  SAVE  SETUP                     </pre>	With PROGRAM flashing	  
<pre> Channel: B Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	Select the same channel (B for this example)	  then   
<pre> Channel: B Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT                     </pre>	Select the next Day (Wednesday for this example)	  then   
<pre> Channel: B Day: Wednesday Scheduled On/Off ON: 17:00 thru:23:59 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	Channel B's Wednesday schedule (as copied from Tuesday) appears.	  
<pre> Channel: B Day: Wednesday Scheduled On/Off ON: 00:00 thru:23:59 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	Change the first ON: time to 00:00	<p>HOURS                      MINUTES</p>   then       
<pre> Channel: B Day: Wednesday Scheduled On/Off ON: 00:00 thru:02:00 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT                     </pre>	Change the first THRU: time to 02:00	<p>HOURS                      MINUTES</p>   then       

Day Spanning example ... continued

Display	Description	Press
<pre>Channel: B Day: Wednesday Scheduled On/Off ON: 00:00 thru:02:00 ON: 17:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Change the second ON time to 17:00	<p><b>HOURS</b></p>  <p><b>MINUTES</b></p>  <p>then</p>
<pre>Channel: B Day: Wednesday Scheduled On/Off ON: 00:00 thru:02:00 ON: 17:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Change the second THRU time to 23:59	<p><b>HOURS</b></p>  <p><b>MINUTES</b></p>  <p>then</p>
<pre>Channel: B Day: Wednesday Scheduled On/Off ON: 00:00 thru:02:00 ON: 17:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE <del>XXXX</del> ABORT</pre>	Navigate to the bottom of the screen, then with COPY flashing	 <p>then</p>  <p>then</p> 
<pre>Copy Program to: Mon  Tue  Wed Thu  Fri  Sat Sun  Hold SAVE ABORT</pre>	Mark THUR, FRI, SAT, SUN	 <p>then</p> 
<pre>Copy Program to: Mon  Tue  Wed Thu  Fri  Sat Sun  Hold <del>XXXX</del> ABORT</pre>	With SAVE flashing	 <p>then</p> 
<pre>13:13 04/30/08 A=OFF B=OFF SUNRISE C=OFF D=OFF 05:59 E=OFF F=OFF SUNSET G=OFF H=OFF 19:30 <del>XXXXXX</del> SETUP</pre>	With PROGRAM flashing	
<pre>Channel: B Day: Monday Manual On/Sched Off OPEN:00:00 thru:00:00 00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT</pre>	Select the same channel (B for this example)	 <p>then</p> 

Day Spanning example ... continued

Display	Description	Press
<pre>Channel: B Day: <u>Monday</u> Manual On/Sched Off OPEN:00:00 thru:00:00       00:00 thru:00:00 Time Delay: 000 Min. Blink before off? No SAVE COPY ABORT</pre>	Select the <b>LAST</b> Day (Sunday for this example)	   <span style="margin-left: 20px;">then</span>   
<pre>Channel: B Day: Sunday <u>Scheduled On/Off</u> ON: 00:00 thru:02:00 ON: 17:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Channel B's Sunday schedule (as copied from Wednesday) appears.	  
<pre>Channel: B Day: Sunday Scheduled On/Off ON: 00:00 thru:02:00 ON: 17:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Leave the first ON: time at 00:00	<p><b>HOURS</b></p>    <span style="margin-left: 20px;">then</span> <p><b>MINUTES</b></p>   
<pre>Channel: B Day: Sunday Scheduled On/Off ON: 00:00 thru:02:00 ON: 17:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Leave the first THRU: time at 02:00	<p><b>HOURS</b></p>    <span style="margin-left: 20px;">then</span> <p><b>MINUTES</b></p>   
<pre>Channel: B Day: Sunday Scheduled On/Off ON: 00:00 thru:02:00 ON: 00:00 thru:23:59 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Change the second ON time to 00:00	<p><b>HOURS</b></p>       <span style="margin-left: 20px;">then</span> <p><b>MINUTES</b></p>      
<pre>Channel: B Day: Sunday Scheduled On/Off ON: 00:00 thru:02:00 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Change the second THRU time to 00:00	<p><b>HOURS</b></p>       <span style="margin-left: 20px;">then</span> <p><b>MINUTES</b></p>      
<pre>Channel: B Day: Sunday Scheduled On/Off ON: 00:00 thru:02:00 ON: 00:00 thru:00:00 Time Delay: 060 Min. Blink before off? Yes SAVE COPY ABORT</pre>	Navigate to the bottom of the screen. With <b>SAVE</b> flashing	 <span style="margin-left: 20px;">then</span>   

The Day Spanning schedules are complete for this example programming. The display returns to the main screen.

# DIAGNOSTICS

## Main Screen

### Program Testing

When scheduling is completed, be sure to return to the Main screen. The clock must be displaying this screen for the schedules to operate. Check the time and date at the top of the screen.

Verify that relays are properly assigned to the desired channels by overriding channels as described on page 3. Resolve assignment issues using Assign Relays/Channel, which is accessed through the SETUP screen.

Confirm that each Channel has the proper scenario and time entries. Select Program and then sequence through the days of the week for each Channel. Make certain the data is complete for each day of the week. When finished reviewing Channel A, go to B, and so on.

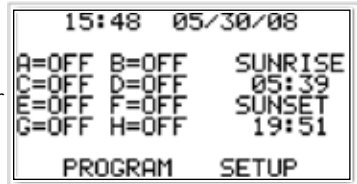
When you have confirmed the data for each Channel, you can run a real-time test. Simply set the Clock for 2 minutes before a scheduled action, return to the Channel Status screen and confirm the actual operation.

### Troubleshooting

See the Quick Start Installation Guide and the Installation & Wiring Reference for detailed troubleshooting information.

### Firmware Version

If you are working with Technical Support to solve an issue, you may be asked what version of firmware is in the panel. This information is available from the Show Firmware Version function accessed through the SETUP screen.



Display	Description	Press
	With SETUP flashing	
	With SHOW FIRMWARE VERSION flashing	
	This screen lists all the boards in the panel and the firmware version of each. The example shown is a normal panel with 2 Relay Driver Cards (8 relays), a Power Supply and an optional Group Switch card. If "Board Not Installed" appears, but the board is physically installed in the panel, cycle power to the panel and check this screen again. If all installed boards still do not appear, advise Technical Support.	





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