



Need programming examples?

ET70000C & ET70000CR Series

▼ READ ME FIRST

Basic examples

- Fixed, astronomic, pulse, interval override

Holiday programming

- Skipping operations
- Special load operation

Advanced examples

- Multiple functions
- Astro with multiple offsets
- Specialty load control

Review

- Review only
- Revising data

INTRODUCTION

ET70000C and ET70000CR time switches provide LED and display prompts as well as help messages to simplify programming. They will control virtually any load-switching activity, from fixed times to astro (sunset to sunrise tracking) to pulse switching (bell, buzzer, flushing system, etc.), all on a daily, weekly, alternate day or yearly schedule.

This booklet provides step-by-step instructions for a number of programming examples, from basic to very complex. While reading don't be surprised if you find an application you never thought the time switch could satisfy. Some brief notes regarding the examples:

- Many imply only one circuit (load) is controlled, even though all examples can apply to one, several or all circuits (when using multi-circuit models). This means you may be referring to one example to program one load and a second example to program another load, on the same multi-circuit time switch.
- You can program more than one load (on a multi-circuit model) to switch ON at the same time, then have the loads switch OFF at different times, by using the Enable/Disable switches when programming the set points, or vice-versa.
- For astro programming examples, refer to the zone map for astro zones and offset times for selected cities (offset from the center of the time zone).

- The time switch has a “Catch Up” feature after power outages or after Reset, so loads will switch back ON if they are scheduled to be ON when power returns. To reduce power surges the loads will switch ON with a 15 sec. delay between each load. It is recommended that you control lighting loads with the first few circuits (on 4, 8 or 16 circuit models) to reduce the delay for lighting when power returns.
- “Catch Up” begins at 12:00 AM (midnight) of the current day. If you are programming loads to switch ON one day and OFF the next, or several days later, you need to add redundant ON switching times at 12:00 AM to ensure loads return to the proper state after power outages (see example titled “Guarantee Correct Load Status After a Power Outage”). Loads without an ON schedule will remain OFF after the power returns.
- This “Catch Up” feature is not active when you finish programming and return the SET/RUN switch to the RUN position. This prevents unwanted cancellation of a manual ON/OFF activity or an Interval Override. The load(s) will remain in the state they were in prior to programming. Simply press the ON/OFF key for the load(s) you wish to be ON or OFF.
- You must place the Enable/Disable switch(es) in the Enable position after programming or the load will not follow your program. Use the Disable position only to prevent load switching based on the program.

INTRODUCTION Cont'd

- **DO NOT USE DISABLE/ENABLE FOR LOAD MAINTENANCE!** Power should always be turned OFF at the service panel and the panel tagged. The load(s) may always be switched ON or OFF manually with the ON/OFF push button(s) regardless of the position of the Enable/Disable or RUN/SET switch(es).
- If you accidentally push the wrong button during programming, you may use the CLEAR key to remove erroneous entries. If the timer displays an error message (example: ERR O6) push the HELP key for an explanation of the error and recommended action. After the message is over, the pre-error display is restored, allowing you to correct the entry and/or continue. An error message may be skipped or stopped by pressing any key, which also restores the pre-error display.
- The timer program memory is retained indefinitely, once it is saved by moving the SET/RUN switch to the RUN position. A battery maintains the time-of-day clock for eight years. Therefore, you may program, review, and/or test the time clock prior to transporting to the final installation site. This may be useful when entering a lengthy program.

Providing Override Control in Pulse Applications

For applications requiring a pulsed output (bell ringing, latching contactors, etc.), pushing the ON/OFF buttons on the front panel will not automatically create a pulse. Pulse output only occurs when ON/OFF times are programmed as pulses. Creating a pulse with the ON/OFF buttons requires pushing once to energize the output, then again to de-energize.

For latching contactor applications where one circuit is used for the ON pulse and another for OFF, you must push the appropriate ON/OFF button twice to turn the contactor ON or OFF. Since it is possible to energize both circuits simultaneously, which could damage the contactor and controlled loads, install momentary switches in parallel with the timer output contacts if you need a manual override. The ON/OFF buttons should also be marked or blocked to prevent their use.

When an external momentary switch is used as a manual override for bell ringing, the user must press and hold the external button for the required duration.

When latching contactors are required, the “self-clearing” type is preferred (it does not require pulses). Internal switches de-energize the coil(s) after the armature has travelled, allowing continuous drive to the ON or OFF inputs. Connect the contactor’s ON coil to the timer’s N.O. output and the contactor’s OFF coil to the timer’s N.C. output. This arrangement only requires one circuit per contactor, instead of two as with pulse control. In this situation there is no problem in using the ON/OFF button as an override.

Pulse control must be used when the load must be controlled from multiple locations, which is typical in large interior lighting applications where user ON/OFF switches supplement timer load control.

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FIXED SCHEDULE ONLY (26 Steps)

ASSUME

- Fixed schedule control for weekdays only.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.

- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday thru Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

PRESS

Day of Week/Time

TUE/3 OK

Day of Week/Time

2 3 0 PM OK

Date (Mo • Day • Yr)

1 2 1 9 7 OK

Zone # (per Map)

PROG

Day of Wk (or Hldy)

WKDY/8 OK

Switch On

8 0 0 AM OK

Switch Off

5 0 0 PM OK

TO SELECT OR PROGRAM

Day of Week

Time of Day

Date

To escape SET-UP mode

Programming for all (5) Weekdays

Load to switch ON at 8:00 AM

Loads to switch OFF at 5:00 PM

Return SET/RUN slide switch to RUN position.

FIXED SCHEDULE WITH HOLIDAY (46 Steps)

ASSUME

- Fixed control for weekdays only with one holiday and one holiday duration and no operation during holidays.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Holiday requirements—
July 4th: No activity desired.
Dec. 24–27: No activity desired.
- Load to switch ON at 8:00 AM and
OFF at 5:00 PM Monday thru Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)
Ref # (01–99)
Start (Month • Day)
Stop (Month • Day)

PRESS

TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
HLDY
1 OK
7 0 4 OK
OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
To Skip ASTRO programming
Holiday #1
July 4th start date
July 4th stop date

5 FIXED SCHEDULE WITH HOLIDAY (46 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Ref # (01–99)	2 OK	Holiday #2
Start (Month • Day)	1 2 2 4 OK	December 24th start date
Stop (Month • Day)	1 2 2 7 OK	December 27th stop date
Ref # (01–99)	PROG	To escape SET–UP mode
Day of Wk (or Hldy)	wkDY/8 OK	Programming for all (5) Weekdays
Switch ON	8 0 0 AM OK	Load to switch ON at 8:00 AM
Switch OFF	5 0 0 PM OK	Load to switch OFF at 5:00 PM

Return SET/RUN slide switch to RUN position.

FIXED SCHEDULE WITH HOLIDAY & INTERVAL OVERRIDE (51 Steps)

ASSUME

- Fixed control for weekdays only with one holiday and one holiday duration and no operation during holidays. Requires a user selectable override to replace a 30 minute automatic shut-off timer.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Holiday requirements—
 - July 4th: No activity desired.
 - Dec. 24–27: No activity desired.
- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday thru Friday.
- A user selectable 30 minute load ON override is required.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (pr Map)	HLDY	To skip ASTRO programming
Ref # (01-99)	1 OK	Holiday #1
Start (Month • Day)	7 0 4 OK	July 4th start date

FIXED SCHEDULE WITH HOLIDAY & INTERVAL OVERRIDE (51 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Stop (Month • Day)	OK	July 4th stop date
Ref # (01-99)	2 OK	Holiday #2
Start (Month • Day)	1 2 4 OK	December 24th start date
Stop (Month • Day)	1 2 7 OK	December 27th stop date
Ref # (01-99)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	8 0 0 AM OK	Load to switch ON at 8:00 AM
Switch Off	5 0 0 PM OK	Load to switch OFF at 5:00 PM
Switch On	PROG	To escape wkDY programming
Day of Wk (or Hldy)	INTVL	To indicate an Interval setting based on demand. A day must not be selected.
Intvl (Days • Hrs • Mins)	3 0 OK	Provides 30 min. user selectable override

Return SET/RUN slide switch to RUN position.

To demonstrate the Interval override press and hold the INTVL key, then press and release the load ON/OFF key. The green load indicator will flash to indicate the load is ON for an interval period of time and will continue for the 30 min. override duration. Release the Interval key. Repeat above steps to demonstrate additional circuits if necessary. Press the ON/OFF key to cancel demonstration.

FIXED SCHEDULE WITH HOLIDAY & HOLIDAY SCHEDULE (62 Steps)

ASSUME

- Fixed control for weekdays only with one holiday and one holiday duration. Also require special load activity during the holiday duration of Dec 24–27.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Holiday requirements: July 4th:
No activity required.
- Holiday schedule for Dec. 24–27:
ON at 10:00 PM, OFF at 11:30 PM.
- Load to switch ON at 8:00 AM and
OFF at 5:00 PM Monday thru Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)
Ref # (01–99)
Start (Month • Day)

PRESS
TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
HLDY
1 OK
7 0 4 OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
To Skip ASTRO programming
Holiday #1
July 4th start date

Stop (Month • Day)	OK	July 4th stop date
Ref # (01–99)	2 OK	Holiday #2
Start (Month • Day)	1 2 2 4 OK	December 24th start date
Stop (Month • Day)	1 2 2 7 OK	December 27th stop date
Ref # (01–99)	PROG	To escape SET–UP mode
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch ON	8 0 0 AM OK	Load to switch ON at 8:00 AM
Switch OFF	5 0 0 PM OK	Load to switch OFF at 5:00 PM
Switch ON	PROG	To select a new Day (or Hldy)
Day of Wk (or Hldy)	HLDY	To select a Holiday for activity
Day of Wk (or Hldy)	2 OK	To identify Holiday #2 for activity
& Ref # (01–99)	1 0 0 0 PM OK	Load to switch ON at 10:00 PM, Dec. 24–27
Switch ON	1 1 3 0 PM OK	Load to switch OFF at 11:30 PM, Dec. 24–27
Switch OFF		

Return SET/RUN slide switch to RUN position.

FIXED SCHEDULE WITH COPY FOR M/W/F SCHEDULE (31 Steps)

ASSUME

- Fixed schedule control for Monday, Wednesday and Friday only.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday, Wednesday, and Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)
Day of Wk (or Hldy)
Switch On
Switch Off
Switch On

PRESS

TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
PROG
MON/2 OK
8 0 0 AM OK
5 0 0 PM OK
COPY

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
To escape SET-UP mode
Programming for Monday
Load to switch ON at 8:00 AM
Loads to switch OFF at 5:00 PM
Select Monday as a COPIED schedule

Day of Wk (or Hldy)
& Copy To Day
Day of Wk (or Hldy)
& Copy To Day

4 OK

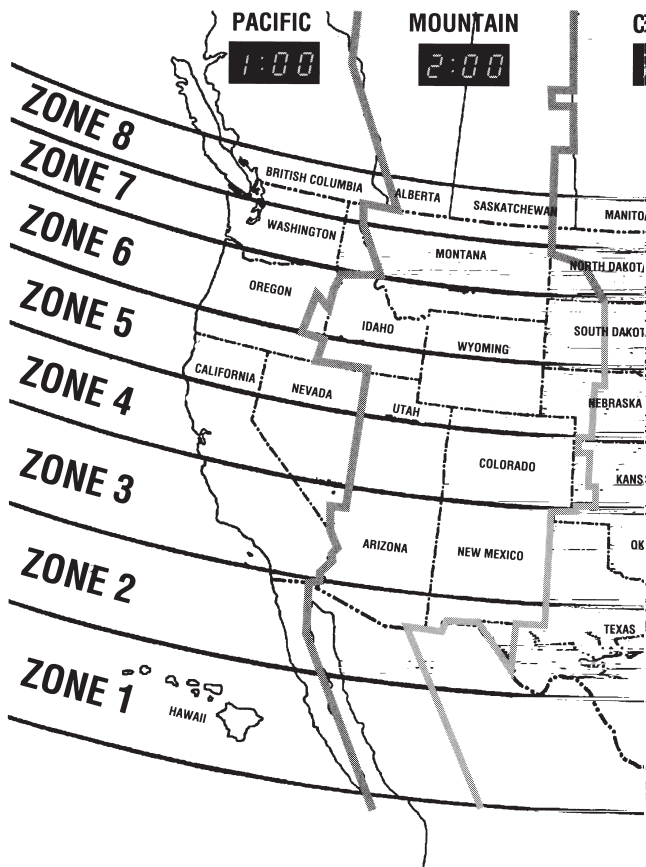
Copies Monday schedule to Wednesday

6 OK

Copies Monday schedule to Friday

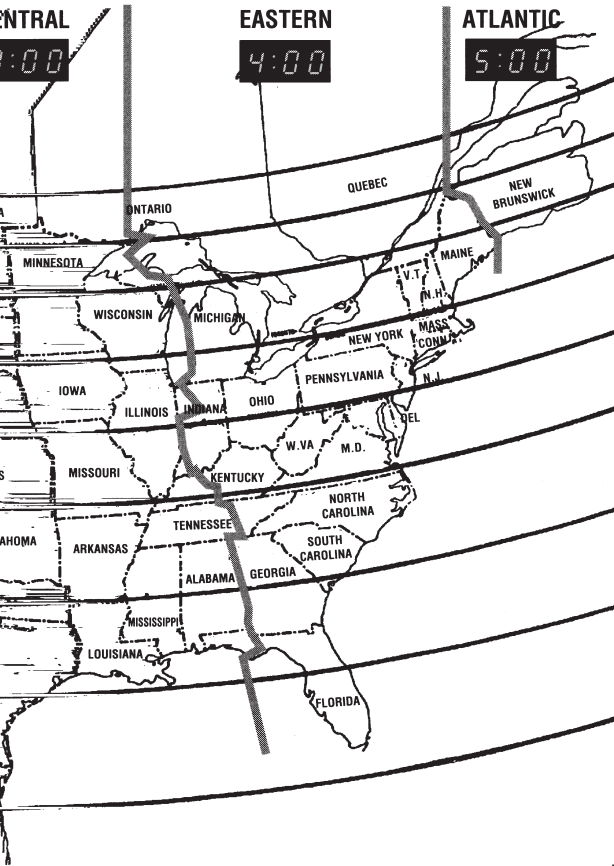
Return SET/RUN slide switch to RUN position.

NOTE: If programming a multi-circuit time switch, the schedules of all circuits of the "copied from" day will be copied to their respective circuits on the "copied to" days. If this is not desirable, you must program each day (Monday, Wednesday and Friday) individually.



After the astro zone is entered the approximate sunrise and sunset times for the center of the time zone will be displayed. Depending on your location relative to the center, you may want to change (offset) this time. Following are approximate offsets (plus or minus) for selected cities in 5 minute increments.

	SUNRISE	SUNSET
Albuquerque	-5	-5
Atlanta	+25	+25
Baltimore	-5	-5
Bangor, ME	-35	-35
Boston	-30	-30
Chicago	-20	-20
Cleveland	+15	+15
Dallas	+15	+15
Denver	-10	-10
Des Moines	0	0



	SUNRISE	SUNSET		SUNRISE	SUNSET
Detroit	+20	+20	Phoenix	+15	+15
El Paso	-5	-5	Pittsburgh	+10	+10
Houston	+10	+10	Portland, OR	0	0
Honolulu	+20	+20	Richmond, VA	0	0
Las Vegas	-30	-30	San Diego	-25	-25
Los Angeles	-20	-20	San Francisco	0	0
Miami	+10	+10	Seattle	-5	-5
New York	-15	-15	Tampa	+20	+20
Oklahoma City	+20	+20			
Philadelphia	-10	-10			

You may also check the local newspaper for actual local times.

ASTRO SCHEDULE ONLY (24 Steps)

ASSUME

- Sunset to sunrise lighting control for weekdays only. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Des Moines, Iowa (Astro Zone #5, center of time zone).
- Load to switch ON at sunset and OFF at sunrise Monday Thru Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

PRESS

Day of Week/Time **TUE/3 OK**
 Day of Week/Time **2 3 0 PM OK**
 Date (Mo • Day • Yr) **1 2 1 9 7 OK**
 Zone # (per Map) **5 OK**
 Sunrise (Hrs • Mins) (-7:33) **OK**
 Sunset (Hrs • Mins) (-5:13) **OK**
 Ref # (01-99) **PROG**
 Day of Wk (or Hldy) **WKDY/8 OK**

TO SELECT OR PROGRAM

Day of Week
 Time of Day
 Date
 Astro Zone Location (from zone map)
 Automatic center of time zone Sunrise time
 Automatic center of time zone Sunset time
 To escape SET-UP mode
 Programming for all (5) Weekdays

Switch On
Switch Off

ASTRO OK
ASTRO OK

Load to switch ON at Sunset (Sndn)
Load to switch OFF at Sunrise (SnuP)

Return SET/RUN slide switch to RUN position.

ASTRO ON/OFF WITH FIXED ON/OFF (35 Steps)

ASSUME

- Sunset On/Fixed Off and Fixed On/Sunrise Off lighting control for weekdays only. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Des Moines, Iowa (Astro Zone #5, center of time zone).
- Load to switch ON at 4:00 AM, OFF at sunrise and ON at sunset, OFF at 11:45 PM.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

PRESS

Day of Week/Time **TUE/3 OK**
 Day of Week/Time **2 3 0 PM OK**
 Date (Mo • Day • Yr) **1 2 1 9 7 OK**
 Zone # (per Map) **5 OK**
 Sunrise (Hrs • Mins) (-7:33) **OK**
 Sunset (Hrs • Mins) (-5:13) **OK**
 Ref # (01-99) **PROG**

TO SELECT OR PROGRAM

Day of Week
 Time of Day
 Date
 Astro Zone Location (from zone map)
 Automatic center of time zone Sunrise time
 Automatic center of time zone Sunset time
 To escape SET-UP mode

Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	4 0 0 AM OK	Load to switch ON at 4:00 AM
Switch Off	1 1 4 5 PM OK	Load to switch OFF at 11:45 PM
Switch On	ASTRO OK	Load to switch ON at Sunset (Sndn)
Switch Off	ASTRO OK	Load to switch OFF at Sunrise (SnuP)

Return SET/RUN slide switch to RUN position.

ASTRO SCHEDULE WITH PULSED OUTPUT (29 Steps)

ASSUME

- Multi-circuit time switch requiring sunset to sunrise lighting control for weekdays only. Contactor is a latching type, without self clearing contacts, requiring individual pulses for the ON and OFF times. Holiday scheduling not required.
- Refer to pg. 5 for cautions and override options.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Des Moines, Iowa (Zone #5, center of time zone).
- Load to switch ON at sunset via a momentary pulse on circuit #1 and OFF at sunrise via a momentary pulse on circuit #2, Monday thru Friday.
- Two timer circuits are required for each pulse controlled load. One circuit supplies a pulse to the ON terminal of the contactor and the second circuit supplies a pulse to the OFF terminal of the contactor.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day

Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	5 OK	Astro Zone Location (from zone map)
Sunrise (Hrs • Mins) (-7:33)	OK	Automatic center of time zone Sunrise time
Sunset (Hrs • Mins) (-5:13)	OK	Automatic center of time zone Sunset time
Ref # (01-99)	PROG	To escape SET-UP mode.
	Enable circuit #1	
	Disable circuit #2	
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On (Hrs • Mins)	ASTRO PULSE	Circuit #1 to switch ON at Sunset (Sndn)
	2 OK	For 2 seconds to turn contactor ON
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.		
	Enable circuit #2	
	Disable circuit #1	
Switch On	ASTRO	Select Astro function for Load #2
Switch On & Sunset (Hrs • Mins)	AM	Selects Astro ON to occur at Sunrise (SnuP) instead of Sunset (Sndn)
Switch On & Sunrise (Hrs • Mins)	PULSE 2 OK	Circuit #2 to switch ON at sunrise (SnuP) for 2 seconds to turn contactor off

ASTRO SCHEDULE WITH PULSED OUTPUT (29 Steps) Cont'd

Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.

Return SET/RUN slide switch to RUN position.

This example can be used for a fixed switching time application by simply entering fixed ON/OFF switching times instead of Astro times.

ASTRO SCHEDULE WITH HOLIDAY (43 Steps)

ASSUME

- Sunset to sunrise lighting control for weekdays only with one holiday and one holiday duration and no operation during holidays.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Des Moines, Iowa (Astro Zone #5, center of time zone).
- Holiday requirements—
July 4th: No activity desired.
Dec. 24–27: No activity desired.
- Load to switch ON at Sunset and OFF at Sunrise Monday thru Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

Day of Week/Time

Day of Week/Time

Date (Mo • Day • Yr)

Zone # (per Map)

Sunrise (Hrs • Mins) (-7:33)

PRESS

TUE/3 OK

2 3 0 PM OK

1 2 1 9 7 OK

5 OK

OK

TO SELECT OR PROGRAM

Day of Week

Time of Day

Date

Astro Zone Location (from zone map)

Automatic center of time zone Sunrise time

ASTRO SCHEDULE WITH HOLIDAY (43 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Sunset (Hrs • Mins) (-5:13)	OK	Automatic center of time zone Sunset time
Ref # (01-99)	1 OK	Holiday #1
Start (Month • Day)	7 0 4 OK	July 4th start date
Stop (Month • Day)	OK	July 4th stop date
Ref # (01-99)	2 OK	Holiday #2
Start (Month • Day)	1 2 2 4 OK	December 24th start date
Stop (Month • Day)	1 2 2 7 OK	December 27th stop date
Ref # (01-99)	PROG	To escape SET-UP
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	ASTRO OK	Loads to switch ON at Sunset (Sndn)
Switch Off	ASTRO OK	Loads to switch OFF at Sunrise (SnuP)

Return SET/RUN slide switch to RUN position.

ASTRO SCHEDULE WITH REVERSE ACTION FOR TUNNEL LIGHTING (34 Steps)

ASSUME

- Reverse action sunset to sunrise lighting control for tunnel lighting so that lights are ON during the day and OFF at night. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Pittsburgh, Pennsylvania (Astro Zone #5, offset +10 minutes from center of time zone).
- Load to switch ON at sunrise and OFF at sunset all days.

To clear all current data press and hold the CLEAR button, then press and release RESET.

Continue to hold CLEAR until RESET appears in the display. Slide SET/RUN switch to SET position. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo•Day•Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	5 OK	Astro Zone Location (from zone map)

ASTRO SCHEDULE WITH REVERSE ACTION FOR TUNNEL LIGHTING (34 Steps)

(34 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Sunrise (Hrs • Mins) (-7:33)	CLEAR CLEAR 4 3 OK	To revise calculated center of zone sunrise from 7:33 PM to 7:43 (+10 min offset for Pittsburgh)
Sunset (Hrs • Mins) (-5:13)	CLEAR CLEAR 2 3 OK	To revise calculated center of zone sunset from 5:13 PM to 5:23 (+10 min offset for Pittsburgh)
Ref # (01-99)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	ALL/0 OK	Programming for all seven days
Switch On	ASTRO AM OK	Reverse Astro mode by using AM so that Loads switch ON at Sunrise (SnuP)
Switch Off	ASTRO PM OK	Reverse Astro mode by using PM so that Loads switch OFF at Sunset (Sndn)

Return SET/RUN slide switch to RUN position.

SPECIAL INSTRUCTIONS FOR ASTRO PROGRAMMING OF MULTIPLE CIRCUITS WITH DIFFERENT OFFSETS

With conventional programming of ET70000C or ET70000CR series time switches, scheduled ASTRO set points for all circuits occur at the same nominal minute. There is a built-in 15 second delay between each successive circuit scheduled to switch ON at that minute to minimize peak inrush current.

Applications that require a larger offset between ASTRO set points on any circuits can be satisfied by using an OFF INTERVAL for ASTRO ON and/or an ON INTERVAL for ASTRO OFF. Since the load will turn ON at the end of an OFF INTERVAL and turn OFF at the end of an ON INTERVAL, this technique can be used to delay any circuit, any number of minutes beyond the programmed ASTRO reference time(s). Consequently, when using this technique, the ASTRO reference time(s) (sunrise and/or sunset, programmed during setup) **must be the earliest required ASTRO events**. The OK key allows you to alternate between the Switch On/Switch Off prompt LED's and the AM/PM keys allow you to alternate between Sunrise and Sunset ASTRO prompt LED's during programming.

A practical example would be two outdoor lighting circuits; one for landscape lighting and one for security lighting. To reduce energy usage, the landscape lights could be switched ON at or after sunset and OFF at or before sunrise, thereby minimizing the total ON time. The security lights may be switched ON at or before sunset and OFF at or after sunrise to ensure sufficient security lighting.

Refer to the examples for step-by-step instructions on programming for different offset ASTRO times.

ASTRO WITH TWO OFFSETS, EXAMPLE A (45 Steps)

ASSUME

- Multi-circuit time switch with 2 circuits requiring ASTRO switching. Sunset ON to fixed time OFF lighting control for all days. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Circuit #1 is required to switch ON 5 minutes before actual sunset.
- Circuit #1 switches OFF at 11:00 PM.
- Circuit #2 is required to switch ON. 15 minutes after actual sunset.
- Circuit #2 switches OFF at 10:00 PM.
- Location is Des Moines, Iowa (Astro Zone #5, center of time zone).

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)

PRESS

TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
5 OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
Astro Zone Location (from zone map)

Sunrise (Hrs • Mins) (-7:33)	OK	To accept automatic center of zone (7:33) Sunrise time (even though it will not be used in this example)
Sunset (Hrs • Mins) (-5:13)	CLEAR CLEAR 0 8 OK	To set sunset ASTRO reference time to 5:08 PM (5 minutes before today's actual sunset of 5:13 PM)
Ref # (01-99)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	ALL/0 OK Enable circuit #1 Disable circuit #2 ASTRO OK	Programming for all (7) days
Switch On		Program Load #1 to switch ON at ASTRO Sunset time (Sndn)
Switch Off	1 1 0 0 PM OK	Program Load #1 to switch OFF at 11:00 PM all days
Switch On	Enable circuit #2 Disable circuit #1 OK	To program Load #2 to skip Switch ON and select Switch Off
Switch Off	ASTRO PM	To select ASTRO then change from Sunrise (SnuP) to Sunset (Sndn)

ASTRO WITH TWO OFFSETS, EXAMPLE A (45 Steps) Cont'd

LED PROMPT

PRESS

TO SELECT OR PROGRAM

INTVL 2 0 OK

To program a 20 minute OFF interval

at Sunset ASTRO time so that Load #2

will switch ON 15 minutes after actual Sunset
(switches at 5:28 PM in this example)

Switch Off

1 0 0 0 PM OK

Program Load #2 to switch OFF at 10:00 PM

Return SET/RUN slide switch to RUN position.

ASTRO WITH TWO OFFSETS, EXAMPLE B (63 Steps)

ASSUME

- Multi-circuit time switch with 2 circuits requiring ASTRO switching. Sunset ON to fixed time OFF lighting control for all days. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Circuit #1 is required to switch on at 3:00 AM then off 10 minutes before actual sunrise.
- Circuit #1 then switches back ON 10 minutes after actual Sunset and OFF at 9:30 PM.
- Circuit #2 is required to switch ON AT 4:00 AM then OFF at actual sunrise.
- Circuit #2 is then switched back ON at actual Sunset and OFF at 11:00 PM.
- Location is Des Moines, Iowa (Astro Zone #5, center of time zone).

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date

ASTRO WITH TWO OFFSETS, EXAMPLE B (63 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Zone # (per Map)	5 OK	Astro Zone Location (from zone map)
Sunrise (Hrs • Mins) (-7:33)	CLEAR CLEAR	To set sunrise ASTRO reference time (-7:33)
	2 3 OK	to 7:23 AM (10 minutes before today's actual Sunrise of 7:33 AM)
Sunset (Hrs • Mins) (-5:13)	OK	To accept the calculated sunset ASTRO (-5:13)
Ref # (01-99)	PROG	time of 5:13 PM
Day of Wk (or Hldy)	ALL/0 OK	To escape SET-UP mode
	Enable circuit #1	Programming for all (7) days
	Disable circuit #2	
Switch On	3 0 0 AM OK	Program Load #1 to switch ON at 3:00 AM
Switch Off	ASTRO OK	Program Load #1 to switch OFF at programmed Sunrise (SnuP) ASTRO time of 7:23 AM
Switch On	OK	Program Load #1 to skip Switch ON and select Switch OFF
Switch Off	ASTRO PM	To select ASTRO then change from Sunrise (SnuP) to Sunset (Sndn)

INTVL 1 0 OK

To program a 10 minute OFF Interval at the Sunset ASTRO time so that Load #1 will switch ON 10 minutes after actual Sunset
Program Load #1 to switch OFF at 9:30 PM

Switch Off

9 3 0 PM OK

Enable circuit #2
Disable circuit #1

Switch On
Switch Off
Switch On

4 0 0 AM OK
OK
ASTRO AM

To program Load #2 to switch at 4:00 AM
To skip Switch Off and select Switch ON
To select ASTRO then change from Sunset (Sndn) to Sunrise (SnuP)

INTVL 1 0 OK

To program a 10 minute ON Interval at Sunrise ASTRO time so that Load #2 will switch OFF 10 minutes after programmed ASTRO Sunrise (switches at 7:33 AM or actual Sunrise)

Switch On
Switch Off

ASTRO OK
1 1 0 0 PM OK

Load #2 to switch ON at Sunset (Sndn)
Program Load #2 to switch OFF at 11:00 PM

Return SET/RUN slide switch to RUN position.

ASTRO WITH TWO OFFSETS, EXAMPLE C (69 Steps)

ASSUME

- Multi-circuit time switch with 2 circuits requiring ASTRO switching. Sunset ON to fixed time OFF lighting control for all days. Holiday scheduling not required.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Circuit #1 is required to switch ON at 3:00 AM then OFF 10 minutes before actual sunrise.
- Circuit #1 then switches back ON 10 minutes after actual Sunset and OFF at 9:30 PM.
- Circuit #2 is required to switch ON AT 4:00 AM then OFF at actual sunrise.
- Circuit #2 is then switched back ON at actual Sunset and OFF at 11:00 PM.
- Location is Los Angeles, CA (Astro Zone #3, offset -20 minutes from center of time zone).

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)

PRESS

TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
3 OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
Astro Zone Location (from zone map)

Sunrise (Hrs • Mins) (-7:17) **CLEAR CLEAR**
CLEAR 6 4 7 OK

To set sunrise ASTRO reference time (-7:17)
To 6:47 AM (Offset of -30 minutes = -20 minute
offset from center of time zone and -10 minute
offset to switch before today's Los Angeles Sunrise
time of 6:57 AM)

Sunset (Hrs • Mins) (-5:29) **CLEAR CLEAR**
0 9 OK

To set sunset ASTRO reference time (-5:29)
To 5:09 AM (Offset of -20 minutes due to -20
minute offset from center of time zone for Los
Angeles)

Ref # (01-99) **PROG**
Day of Wk (or Hldy) **ALL/0 OK**
Enable circuit #1
Disable circuit #2
3 0 0 AM OK
ASTRO OK
OK

To escape SET-UP mode
Programming for all (7) days

Program Load #1 to Switch ON at 3:00 AM
Program Load #1 to Switch OFF at programmed
Program Load #1 to skip switch ON and select
Switch OFF

Switch On
Switch Off
Switch On
Switch Off

To select ASTRO then change from Sunrise (SnuP)
to Sunset (Sndn)

ASTRO WITH TWO OFFSETS, EXAMPLE C (69 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
	INTVL 1 0 OK	To program a 10 minute OFF Interval at the Sunset ASTRO time so that Load #1 will switch ON 10 minutes after actual Sunset
Switch Off	9 3 0 PM OK	Program Load #1 to switch OFF at 9:30 PM
	Enable circuit #2	
	Disable circuit #1	
Switch On	4 0 0 AM OK	To program Load #2 to Switch ON at 4:00 AM
Switch Off	OK	To skip Switch OFF and select Switch ON
Switch On	ASTRO AM	To select ASTRO then change from Sunset (Sndn) to Sunrise (SnuP)
	INTVL 1 0 OK	To program a 10 minute ON Interval at Sunrise ASTRO time so that Load #2 will switch OFF 10 minutes after programmed ASTRO Sunrise time of 6:47 AM (switches at 6:57 AM or actual Sunrise)
Switch On	ASTRO OK	Load #2 to switch ON at Sunset (Sndn)
Switch Off	1 1 0 0 PM OK	Program Load #2 to switch OFF at 11:00 PM

Return SET/RUN slide switch to RUN position.

PULSED OUTPUT FOR BELL RINGING OR SIGNAL CONTROL SCHEDULE (52 Steps)

ASSUME

- Pulse switching for a factory signal on weekdays with a different signal schedule on Saturday.
No holiday schedules are required.
 - Refer to pg. 5 for cautions and override options.
 - Current day and time is Tuesday, 2:30 PM.
 - Current date is January 21, 1997.
- Signal to operate for 12 seconds at 8:00 AM and 5:00 PM Monday thru Friday.
 - Signal to operate for 20 seconds at 9:00 AM and 12:00 PM Saturday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	8 0 0 AM PULSE 1 2 OK	Signal to operate at 8:00 AM for 12 sec.

PULSED OUTPUT FOR BELL RINGING OR SIGNAL CONTROL SCHEDULE

(52 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.		
Switch On	5 0 0 PM PULSE 1 2 OK	Signal to operate at 5:00 PM for 12 sec.
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.		
Switch On	PROG	To select a new day
Day of Wk (or Hldy)	SAT/7 OK	Programming for Saturday only
Switch On	9 0 0 AM PULSE 2 0 OK	Signal to operate at 9:00 AM for 20 sec.
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.		
Switch On	1 2 0 0 PM PULSE 2 0 OK	Signal to operate at 9:00 AM for 20 sec.
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK. Return SET/RUN slide switch to RUN position.		

PULSED OUTPUT FOR LATCHING CONTACTORS (30 Steps)

ASSUME

- Multi-circuit time switch to control indoor lighting for weekdays only.
- Lighting contactor is a latching type without self clearing contacts requiring pulse switching for the ON/OFF times. No holiday schedules are required.
- Refer to pg. 5 for cautions and override options.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Load to switch ON at 8:00 AM via a momentary ON pulse on circuit #1 and OFF at 5:00 PM via a momentary ON pulse on circuit #2, Monday Thru Friday.
- Two timer circuits are required for each pulse controlled load. One circuit supplies a pulse to the ON terminal of the contactor and the second circuit supplies a pulse to the OFF terminal of the contactor.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT

Day of Week/Time

Day of Week/Time

PRESS

TUE/3 OK

2 3 0 PM OK

TO SELECT OR PROGRAM

Day of Week

Time of Day

PULSED OUTPUT FOR LATCHING CONTACTORS (30 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	PROG	To escape SET-UP mode
	Enable circuit #1	
	Disable circuit #2	
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	8 0 0 AM PULSE	Circuit #1 to switch ON at 8:00 AM
	2 OK	for 2 seconds to turn contactor ON

Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.

	Enable circuit #2	
	Disable circuit #1	
Switch On	5 0 0 PM PULSE	Circuit #2 to switch ON at 5:00 PM
	2 OK	for 2 seconds to turn contactor OFF

Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.

Return SET/RUN slide switch to RUN position.

TIME BASED INTERVAL SWITCHING (74 Steps)

ASSUME

- Switching to exercise a standby generator. Generator must be operated monthly for several hours.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Generator to operate for 16 hours on the first day of each month beginning at 6:00 AM Friday.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	HLDY	To skip ASTRO programming
Ref # (01-99)	1 OK	Holiday #1
Start (Month • Day)	1 0 1 OK	January 1st start date
Stop (Month • Day)	OK	January 1st stop date

TIME BASED INTERVAL SWITCHING (74 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Ref # (01-99)	2 OK	Holiday #2
Start (Month • Day)	2 0 1 OK	February 1st start date
Stop (Month • Day)	OK	February 1st stop date
Ref # (01-99)	3 OK	Holiday #3
Start (Month • Day)	3 0 1 OK	March 1st start date
Stop (Month • Day)	OK	March 1st stop date

Repeat Ref # Start, Stop sequence for Holidays #4-#12.

Ref # (01-99)	PROG	To escape Holiday and SET-UP mode
Day of Wk (or Hldy)	HLDY	To select a Holiday for activity
Day of Wk (or Hldy) & Ref # (01-99)	1 OK	To identify Holiday #1 for activity
Switch On	6 0 0 AM INTVL	Load to switch on at 6:00 AM for
	1 6 0 0 OK	An Interval of 16 hours
		Intvl (Days • Hrs • Mins) appears after pressing INTVL and disappears after pressing OK

Switch On **COPY**

To initiate Copy of Holiday #1 schedule
Day of Wk (or Hldy) to other holiday(s)
& Copy to Day & Ref # (01-99)

Note that 3 LED's are lit and will remain lit until all of the following Copy steps are completed.

Switch On

2 OK

Copies 16 hour Interval to Holiday #2

Switch On

3 OK

Copies 16 hour Interval to Holiday #3

Switch On

4 OK

Copies 16 hour Interval to Holiday #4

Repeat Copy sequence for Holidays #5-12.

Return SET/RUN slide switch to RUN position operation.

DEMAND BASED INTERVAL SWITCHING, INCLUDING REMOTE OVERRIDE INTERVAL (26 Steps)

ASSUME

- Fixed schedule control for weekdays only with interval override for after hours load switching.
 - Current day and time is Tuesday, 2:30 PM.
 - Current date is January 21, 1997.
- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday Thru Friday.
 - Provide a 2 hour and 45 minute user selectable load ON override.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo • Day • Yr)
Zone # (per Map)
Day of Wk (or Hldy)
Switch On
Switch Off

PRESS
TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK
PROG
WKDY/8 OK
8 0 0 AM OK
5 0 0 PM OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date
To escape SET-UP mode
Programming for all (5) Weekdays
Load to switch ON at 8:00 AM
Loads to switch OFF at 5:00 PM

Switch On	PROG	To select a new Day
Day of Wk (or Hldy)	INTVL	To indicate an Interval setting based on demand. A day must not be selected.
Intvl (Days • Hrs • Mins)	2 4 5 OK	To enter a user selectable override of 2 hours and 45 minutes. Return SET/RUN slide switch to RUN position.

To demonstrate the Interval override enable circuit(s) to be tested, press and hold the INTVL key, then press and release the Load ON/OFF key. The green load indicator will flash to indicate the load is ON for an interval period of time and will continue to flash for the 2 hour 45 minute override duration. Release the Interval key. Repeat above to demonstrate additional circuits if necessary. Press ON/OFF key to cancel demonstration of interval override.

On 4, 8 and 16 circuit models, the ON override interval may be initiated by opening or closing a switch connected to the remote override terminal block. The circuit being controlled remotely must be Enabled and must have an interval duration programmed.

Note override intervals can only be terminated by timing out, by a power interruption, or by pressing the respective ON/OFF key. Thus, a programmed “OFF” event will not end an override interval.

FIXED OFF “SWEEP” (26 Steps)

ASSUME

- Fixed schedule control for weekdays only with repeated OFF times to sweep lighting OFF.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday Thru Friday.

- Provide an OFF operation every 2 hours until 11:00 PM in the event that the load has been manually switched ON at the time switch.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	8 0 0 AM OK	Load to switch ON at 8:00 AM

Switch Off	5 0 0 PM OK	Loads to switch OFF at 5:00 PM
Switch On	OK	To skip a Switch ON event
Switch Off	7 0 0 PM OK	Load to switch OFF at 7:00 PM
Switch On	OK	To skip a Switch ON event
Switch Off	9 0 0 PM OK	Load to switch OFF at 9:00 PM
Switch On	OK	To skip a Switch ON event
Switch Off	1 1 0 0 PM OK	Load to switch off at 11:00 PM

Return SET/RUN slide switch to RUN position.

CALIFORNIA TITLE 24 WITH "SWEEP OFF" AND PREWARNING FLASH (68 Steps)

ASSUME

- A multi-circuit time switch requiring fixed schedule control for weekdays only with repeated OFF times to sweep lighting OFF and a prewarning signal before the sweep. Note that circuit #2 (normally open contact) must be wired in series with circuit #1 (normally open contact).
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Load to switch ON at 8:00 AM and OFF at 5:00 PM Monday thru Friday.
- Provide an OFF operation every 2 hours until 11:00 PM in the event that the load has been manually switched ON at the time switch.
- Provide a 5 second "Lights Off" signal 5 minutes prior to each of the 3 sweeps.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT

Day of Week/Time

Day of Week/Time

Date (Mo • Day • Yr)

Zone # (per Map)

PRESS

TUE/3 OK

2 3 0 PM OK

1 2 1 9 7 OK

PROG

Enable circuit #1

TO SELECT OR PROGRAM

Day of Week

Time of Day

Date

To escape SET-UP mode

Day of Wk (or Hldy) Switch On Switch Off Switch On Switch Off Switch On Switch Off Switch On Switch Off Switch On Switch Off	Disable circuit #2		Programming for all (5) Weekdays Load to switch ON at 8:00 AM Loads to switch OFF at 5:00 PM To skip a Switch ON event Load to switch OFF at 7:00 PM To skip a Switch ON event Load to switch OFF at 9:00 PM To skip a Switch ON event Load to switch OFF at 11:00 PM
	wkDY/8 OK		
	8 0 0 AM OK		
	5 0 0 PM OK		
	OK		
	7 0 0 PM OK		
	OK		
	9 0 0 PM OK		
	OK		
	1 1 0 0 PM OK		
	Enable circuit #2		
	Disable circuit #1		
Switch On Switch Off	8 0 0 AM OK		Circuit #2 to switch ON at 8:00 AM Load to switch OFF at 6:55 PM for 5 sec.
	6 5 5 PM PULSE 5 OK		
Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.			
Switch Off	8 5 5 PM PULSE 5 OK	Load to switch OFF at 8:55 PM for 5 sec.	

CALIFORNIA TITLE 24 WITH "SWEEP OFF" AND PREWARNING FLASH (68 Steps)

Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
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Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.

Switch Off	I 0 5 5 PM PULSE 5 OK	Load to switch OFF at 10:55 PM for 5 sec.
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Pulse (Seconds) LED lit after pressing PULSE and disappears after pressing OK.
Return SET/RUN slide switch to RUN position.

GUARANTEE CORRECT LOAD STATUS AFTER A POWER OUTAGE (139 Steps)

ASSUME

- A multi-circuit time switch requiring fixed schedule for 2 loads on weekdays only with both schedules extending thru midnight.
 - Provide correct programmed load status after power outages.
 - Current day and time is Tuesday, 2:30 PM.
 - Current date is January 21, 1997.
- Load #1 to switch ON at 8:00 PM and OFF at 5:00 AM Monday thru Friday.
 - Load #2 to switch ON at 4:30 PM and OFF at 7:00 AM Monday thru Friday.

It is desired that both loads switch OFF on Saturday morning.

NOTE: After a power outage all loads are initially switched off. The program then reviews all switching activities beginning at 12:00 AM for the current day only. Load(s) programmed to be ON are then switched back ON. To reduce power surges, multi-circuit time switches will switch loads, (if more than one is programmed to be ON after a power outage), using an automatic 15 sec. delay between loads. In this example both loads are programmed to switch ON before midnight and stay ON through midnight. If no additional steps were taken and power was restored any time between midnight and the scheduled morning OFF times, the load(s) would remain OFF, even though they were intended to be ON.

GUARANTEE CORRECT LOAD STATUS AFTER A POWER OUTAGE (139 Steps)

Cont'd

Because of this, to ensure desired operation after a power outage, both loads must be programmed with a redundant ON time at 12:00 AM. This will have no effect on normal operation and will guarantee predictable catch-up to the intended schedule after any power outage.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	PROG	To escape SET-UP mode
	Enable Circuit 1	
	Disable Circuit 2	
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all (5) Weekdays
Switch On	8 0 0 PM OK	Load #1 to switch ON at 8:00 PM
Switch Off	5 0 0 AM OK	Load #1 to switch OFF at 5:00 AM

Switch On	PROG	To escape weekday (wkDY/8) selection
Day of Wk (or Hldy)	SAT/7 OK	Select programming for Saturday
Switch On	12 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	5 0 0 AM OK	Load #1 to switch OFF at 5:00 AM on
Switch On	PROG	To escape Saturday (SAT/7) selection
Day of Wk (or Hldy)	TUE/3 OK	Select programming for Tuesday
Switch On	1 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	WED/4 OK	Select programming for Wednesday
Switch On	1 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	THU/5 OK	Select programming for Thursday
Switch On	1 2 0 0 AM, OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	FRI/6 OK	Select programming for Friday
Switch On	1 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
	Enable circuit #2	
	Disable circuit #1	
Day of Wk (or Hldy)	wkDY/8 OK	Programming for all (5) Weekdays
Switch On	4 3 0 PM OK	Load #2 to switch ON at 4:30 PM

GUARANTEE CORRECT LOAD STATUS AFTER A POWER OUTAGE (139 Steps)

Cont'd.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Switch Off	7 0 0 AM OK	Load #2 to switch OFF at 7:00 AM
Switch On	PROG	To escape weekday (wkDY/8) selection
Day of Wk (or Hldy)	SAT/7 OK	Select programming for Saturday
Switch On	I 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	7 0 0 AM OK	Load #2 to switch OFF at 7:00 AM on
Switch On	PROG	To escape Saturday (SAT/7) selection
Day of Wk (or Hldy)	TUE/3 OK	Select programming for Tuesday
Switch On	I 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	WED/4 OK	Select programming for Wednesday
Switch On	I 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	THU/5 OK	Select programming for Thursday
Switch On	I 2 0 0 AM OK	Provide redundant ON time at 12:00 AM
Switch Off	PROG	To select another day for programming
Day of Wk (or Hldy)	FRI/6 OK	Select programming for Friday
Switch On	I 2 0 0 AM OK	Provide redundant ON time at 12:00 AM

Note unused set points for circuit #1 OFF at 5:00 AM on Monday and circuit #2 OFF at 7:00 AM on Monday will have no affect on the loads. Since both circuits are programmed for an OFF time Saturday morning, both OFF program times on Monday will be ignored.

IRRIGATION OR AIR SAMPLER CONTROL EVERY SIX DAYS (695 Steps)

ASSUME

- Switching to operate an irrigation control or air sampling device on a 6 day schedule. Load must be operated every 6 days for several hours.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.

- Irrigation control or air sampler to operate from 8:00 AM until 6:00 PM every 6 days. A calendar must be used to determine the actual dates for operation.
- Holiday programming is used to create a schedule that repeats every 6 days instead of the usual 7 days.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	HLDY	To skip ASTRO programming
Ref # (01-99)	1 OK	Holiday #1

Start (Month • Day)	1 2 1 OK	January 21st start date
Stop (Month • Day)	OK	January 21st stop date
Ref # (01-99)	2 OK	Holiday #2
Start (Month • Day)	1 2 7 OK	January 27th start date
Stop (Month • Day)	OK	January 27th stop date

Repeat Ref #, Start, Stop sequence for Holidays 3–61 (every 6th day).

Ref # (01-99)	PROG	To escape Holiday and SET-UP mode
Day of Wk (or Hldy)	HLDY	To select a Holiday for program activity
& Ref # (01-99)	1 OK	To identify Holiday #1 for activity
Switch On	8 0 0 AM OK	Load to switch ON at 8:00 AM
Switch Off	6 0 0 PM OK	Load to switch OFF at 6:00 PM
Switch On	COPY	To initiate Copy of Holiday #1 schedule to other holiday(s)

Note that 3 LED's are lit and will remain lit until all Copy steps that follow are completed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Ref # (01-99)	2 OK	Copies switching times to Holiday #2
Ref # (01-99)	3 OK	Copies switching times to Holiday #3

Repeat Copy sequence for Holidays #4–61.

Return SET/RUN slide switch to RUN position.

Note in this example the interval from Holiday #61 to #1 is only five days long and that on leap years the interval from Holiday #7 to #8 is seven days long. If this is a problem, place Holiday #61 just before February 29 and Holiday #1 just after February 29. Then all intervals between Holidays will be 6 days long on leap year and only the interval between Holidays #61 and #1 will be 5 days long on non-leap years. (Leap years are those which are evenly divisible by 4; 1996, 2000, etc.)

IRRIGATION CONTROL ON AT SUNSET FOR ONE HOUR AND 30 MINUTE INTERVAL (34 Steps)

ASSUME

- Sunset to initiate an interval for irrigation control 7 days
- Current date is January 21, 1997.
- Application requires irrigation to begin at Sunset
- Location is Miami, Florida (Astro Zone #1, each day and operate for an Interval of 1 hour and 30 offset +10 minutes from center of time zone).
- minutes. Holiday scheduling not required.
- Load to switch ON at sunset and OFF 1–1/2 hours later all days of the week.
- Current day and time is Tuesday, 2:30 PM.

To clear all current data press and hold the CLEAR button, then press and release RESET. Continue to hold CLEAR until RESET appears in the display. Slide SET/RUN switch to SET position.

Enable circuit(s) to be programmed

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	1 OK	Astro Zone Location (from zone map)

IRRIGATION CONTROL ON AT SUNSET FOR ONE HOUR AND 30 MINUTE INTERVAL (34 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Sunrise (Hrs • Mins) (-7:01)	OK	To accept calculated Sunrise Astro reference time. This reference time is not needed in this example, but must be OK'd in order to proceed to setting Sunset Astro reference time. Actual Miami Sunrise = 7:11 AM.
Sunset (Hrs • Mins) (-5:45)	CLEAR CLEAR 5 5 OK	To change calculated sunset Astro reference time (-5:45) to actual Miami Sunset time (5:55 PM)
Ref # (01-99)	PROG	To escape SET-UP mode
Day of Wk (or Hldy)	ALL/0 OK	Programming for all 7 Days
Switch On	ASTRO INTVL 1 3 0 OK	Loads to switch ON at Sunset for an Interval of 1 hour and 30 minutes

Return SET/RUN slide switch to RUN position.

TWO CIRCUIT PROGRAMMING WITH HOLIDAY EXTENDING PAST DECEMBER 31ST (106 Steps)

ASSUME

- A multi-circuit time switch.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Location is Des Moines, Iowa (Astro Zone #5 , center of time zone).
- The building owner wants the lights OFF 30 min. after sunrise and ON 30 min. before sunset.
- Two Holiday or special schedules – July 4th and a two-week office closing (12/22/97–1/5/98).

- Programming for two loads (Load #1 outdoor lighting) (Load #2 buzzer).
- Load #1 switches ON 7:50 AM to 4:40 PM Monday thru Friday and 7:50 AM to 12:00 PM noon Saturday only.
- Load #2 operates the signal twice daily for 15 sec. at 8:00 AM and 4:30 PM Monday thru Friday only.
- A 30 min. Interval override duration is desired for Load #1.
- Holiday requirements: July 4th: No activity. December 22 thru January 5: No activity.

To clear all current data, press and hold CLEAR button, then press and release RESET. Hold CLEAR until RESET appears in display. Slide SET/RUN switch to SET. Enable circuit(s) to be programmed.

TWO CIRCUIT PROGRAMMING WITH HOLIDAY EXTENDING PAST DECEMBER 31ST (106 Steps) Cont'd

PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day
Date (Mo • Day • Yr)	1 2 1 9 7 OK	Date
Zone # (per Map)	5 OK	Zone location (from zone map)
Sunrise (Hrs • Mins) (-7:33)	CLEAR CLEAR CLEAR	Deletes automatic center of time zone calculation (-7:33). Display now shows --:--
	8 0 3 OK	To select new offset Sunrise time, 30 minutes after actual Sunset
Sunset (Hrs • Mins) (-5:13)	CLEAR CLEAR CLEAR	Deletes automatic center of zone calculation (-5:13). Display now shows --:--
	4 4 3 OK	To select new offset Sunset time, 30 minutes before actual Sunset
Ref # (01 to 99)	1 OK	To select first Holiday schedule for 1997
Start (Month • Day)	7 0 4 OK	Same start and stop date, July 4th start date
Stop (Month • Day)	OK	July 4th stop date
Ref # (01 to 99)	2 OK	To select second Holiday schedule for 1997
Start (Month • Day)	1 2 2 2 OK	December 22nd start date

Stop (Month • Day)	1 2 3 1 OK	December 31st stop date
Ref # (01 to 99)	3 OK	First Holiday schedule for 1998
Start (Month • Day)	1 0 1 OK	January 1st start date
Stop (Month • Day)	1 0 5 OK	January 5th stop date
Ref # (01 to 99)	PROG	To escape SET-UP
	Enable circuit #1	
	Disable circuit #2	
Day of Wk (or Hldy)	WKDY/8 OK	To select weekdays only
Switch On	7 5 0 AM OK	Switch ON time
Switch Off	4 4 0 PM OK	Switch OFF time
	Disable circuit #1	
	Enable circuit #2	
Switch On	8 0 0 AM PULSE 1 5 OK	To select 15 second load ON at 8:00 AM
Switch On	4 3 0 PM PULSE 1 5 OK	To select second load ON at 4:30 PM
Switch On	PROG	To select a new day or day group to program
	Enable circuit #1	
	Disable circuit #2	
Day of Wk (or Hldy)	SAT/7 OK	To select Saturday only
Switch On	7 5 0 AM OK	Load ON time
Switch Off	1 2 0 0 PM OK	Load OFF time

TWO CIRCUIT PROGRAMMING WITH HOLIDAY EXTENDING PAST DECEMBER 31ST (106 Steps) Cont'd

PROMPT	PRESS	TO SELECT OR PROGRAM
	Enable circuit #2	
	Disable circuit #1	
Switch On	PROG	To complete programming for Saturday
of Wk (or Hldy)	INTVL	To select an Interval setting based on demand. A day must not be entered.
Intvl (Days • Hrs • Mins)	30 OK	Provides 30 min. user selectable override for circuit #1

Interval override duration selection is now complete. The override will not begin until called for by the user via the front panel push buttons, or via the remote override connections on 4, 8 and 16 circuit models.

Return SET/RUN slide switch to RUN position.

TWO CIRCUIT PROGRAMMING WITH HOLIDAY SCHEDULE FOR CIRCUIT 2 ONLY (75 Steps)

ASSUME

- A multi-circuit time switch requiring fixed control for weekdays only with one holiday and one holiday duration. Also require special load activity during the holiday duration of Dec. 24th thru Dec. 27th for display lighting (circuit #2) only.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Circuit #1 to switch ON at 8:00 AM and OFF at 5:00 PM Monday Thru Friday.
- Circuit #2 to switch ON at 5:00 PM and Off at 9:00 PM all seven days.
- Holiday requirements are:
 - July 4th: no activity desired.
 - Dec. 24th thru Dec. 27th: ON at 10:00 PM and OFF at 11:30 PM for circuit #2.

To clear all current data press and hold the CLEAR button, then press and release RESET.

Continue to hold CLEAR until RESET appears in the display. Slide SET/RUN switch to SET position.

LED PROMPT

Day of Week/Time
Day of Week/Time
Date (Mo•Day•Yr)

PRESS

TUE/3 OK
2 3 0 PM OK
1 2 1 9 7 OK

TO SELECT OR PROGRAM

Day of Week
Time of Day
Date

TWO CIRCUIT PROGRAMMING WITH HOLIDAY SCHEDULE FOR CIRCUIT 2 ONLY (75 Steps) Cont'd

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Zone # (per Map)	HLDY	To Skip ASTRO programming
Ref # (01-99)	1 OK	Holiday #1
Start (Month • Day)	7 0 4 OK	July 4th start date
Stop (Month • Day)	OK	July 4th stop date
Ref # (01-99)	2 OK	Holiday #2
Start (Month • Day)	1 2 2 4 OK	December 24th start date
Stop (Month • Day)	1 2 2 7 OK	December 27th stop date
Ref # (01-99)	PROG	To escape SET-UP mode
	Enable circuit #1	
	Disable circuit #2	
Day of Wk (or Hldy)	WKDY/8 OK	Programming for all five Weekdays
Switch On	8 0 0 AM OK	Load to switch ON at 8:00 AM
Switch Off	5 0 0 PM OK	Load to switch OFF at 5:00 PM
Switch On	PROG	To select a new day (or Hldy)
	Enable circuit #2	
	Disable circuit #1	

Day of Wk (or Hldy)	ALL/0 OK	Programming for All seven Days
Switch On	5 0 0 PM OK	Load to switch ON at 5:00 PM
Switch Off	9 0 0 PM OK	Load to switch OFF at 9:00 PM
Switch On	PROG	To select a new Day (or Hldy) Be sure only circuit #2 is Enabled.
Day of Wk (or Hldy)	HLDY	To select a Holiday for activity scheduling
Day of Wk (or Hldy) & Ref # (01-99)	2 OK	To identify Holiday #2 for activity scheduling
Switch On	1 0 0 0 PM OK	Load to switch ON at 10:00 PM from Dec. 24th thru Dec. 27th (Holiday reference #2)
Switch Off	1 1 3 0 PM OK	Load to switch OFF at 11:30 PM from Dec. 24th thru Dec. 27th (Holiday reference #2)

Return SET/RUN slide switch to RUN position.

OUTDOOR LIGHTING WITH FIXED SCHEDULE USING PHOTO CONTROL

(27 Steps)

ASSUME

- Fixed schedule control for weekdays only of outdoor lights using a photo control to sense darkness, even if it occurs during the daytime.
- Current day and time is Tuesday, 2:30 PM.
- Current date is January 21, 1997.
- Load to switch ON with photo control any time after 6:00 AM, then switch OFF at 11:00 PM Monday thru Friday.

NOTE: The photo control must be wired in series with the time switch. Load size is limited by whichever control (photo control or time switch) has the lowest switch rating. A lighting contactor or relay may be used and controlled by either or both the photo control or time switch, to increase the switch rating.

To clear all current data press and hold the CLEAR button, then press and release RESET.

Continue to hold CLEAR until RESET appears in the display. Slide SET/RUN switch to SET position. Enable circuit(s) to be programmed.

LED PROMPT	PRESS	TO SELECT OR PROGRAM
Day of Week/Time	TUE/3 OK	Day of Week
Day of Week/Time	2 3 0 PM OK	Time of Day

Date (Mo • Day • Yr)

1 2 1 9 7 OK

Zone # (per Map)

PROG

Day of Wk (or Hldy)

wkDY/8 OK

Switch On

6 0 0 AM OK

Switch Off

1 1 0 0 PM OK

Return SET/RUN slide switch to RUN position.

Date

To escape SET-UP mode

Programming for all five Weekdays

Enable photo control to switch lights ON
beginning at 6:00 AM

Lights to switch OFF at 11:00 PM

INSTRUCTIONS FOR REVIEWING AND REVISING DATA

REVIEW PROCEDURE

- Place the Run/Set switch in the Set position to review.
- You must review Clock info (day of week, time, date), Astro and Holiday dates in SET-UP mode.
- You must review all load activity (Fixed times, Astro times, Pulse operations, Interval operations and special "Holiday" load activities) in PROGRAM mode.
- In PROGRAM, select only one load at a time using the ENABLE switch. If more than one circuit is enabled (multi-circuit clocks), you will only see switch activities common to all Enabled circuits.

REVIEW CLOCK, CALENDAR, ASTRO DATA AND HOLIDAY DATES

To initiate review, press SET-UP (day of week and time are displayed), then press REV (Review). Continue to press REV for each program you wish to review. SET-UP stops after month, date and year are displayed if no ASTRO information has been entered, allowing you to enter Astro data (Zone, Sunrise and Sunset). If ASTRO information has been entered, pressing REV after reviewing the Sunset time will cause the message "End of Review" to be displayed. Review will then automatically advance to HOLIDAY, allowing you to select a specific holiday reference # (01–99) for review. If you want to review all holiday dates, press REV without selecting a reference number, and the first holiday reference # will appear. (This will not necessarily be reference #1 since holidays review in chronological order beginning January 1st). Continue to press REV to walk through the Ref # and the Start and Stop dates for each holiday until "End of Review" is displayed. For single day holidays, Start and Stop dates will be the same.

REVISE SETUP DATA

To revise or delete displayed information during Setup Review, simply press CLEAR. When reviewing Astro Sunrise and Sunset times, you may need to press CLEAR more than one time since each operation deletes only one digit. You can then immediately make the revision. Be sure to press OK to enter the new data. Press REV to continue the review.

REVIEW PROGRAM

- Be sure to select one load at a time. Failing to do so will allow you to only review switching activities which are common to all the circuits selected. In other words, if circuits #1 and circuits #2 are both enabled and are both programmed to come ON at 8:00 A.M., but OFF at different times, the 8:00 A.M. ON time will be the only set point shown in Review. You must be in the PROGRAM mode in order to review the programmed load activities.
- In the PROGRAM mode, you can review switching activities regardless of whether you programmed them as Fixed Times, Astro Times, Pulse Switching or Interval Switching. Special Holiday load activities or interval overrides are also reviewed in Program.

REVIEW WEEK LONG SWITCHING ACTIVITIES

The normal load switching schedule is a composite of all applicable individual day schedules, day group schedules and copied days. The week long review feature allows this composite schedule to be easily reviewed; by simply pressing the REV key repeatedly, without first selecting a day, the timer will step thru

INSTRUCTIONS FOR REVIEWING AND REVISING DATA Cont'd

REVIEW WEEK LONG SWITCHING ACTIVITIES Cont'd

all scheduled switching times chronologically, beginning at 12:00 AM Sunday, or by pressing the REV key once, then pressing the OK key, the timer will automatically step thru each scheduled switching time, displaying each time for about 2 seconds. Press the OK key to pause auto review. Press the OK key again to resume auto review; or press the REV key to continue review manually. The scheduled switching times may only be reviewed, not cleared during week long review. Follow the steps below for individual day/day group review if any scheduled events need to be cleared.

REVIEW INDIVIDUAL DAY, DAY GROUP, OR COPIED ACTIVITIES

- Press PROG, then press the day key (SUN/1 through SAT/7) or the day group key (wkDY/8, wkND/9 or ALL/0) to select the day or day group to review.

NOTE: If you have entered data as a day group and attempt to review any of the days individually, the message "End of Review" will be displayed. This is because you must review data just as it was entered, in this example, as a day group.

- Press REV, at which point the colon will disappear. Press REV again to review the first programmed switch time. The associated Switch On or Switch Off LED will be lit.
- Press REV again to review the next activity. If a switching time includes a pulse or interval when you press REV, the length of the pulse or interval will be displayed and the LED for Pulse or INTVL will be lit.

- Continue to press REV until "End of Review" is displayed. The display now prompts for a new day or day group selection. Repeat the steps above for each circuit individually.
- To automatically review a day or day group, press PROG, select a day (SUN/1 thru SAT/7) or day group (wkDY/8, wkND/9 or ALL/0), press REV, then press OK. If desired, press OK again to pause auto review; press OK again to resume review, or press REV to continue reviewing manually.
- If a day was copied from, you may review all days it was copied to by selecting the copy from day, pressing OK, pressing COPY, then pressing REV. For example, display might show 1 COPY 2 meaning that the day 1 schedule has been copied to day 2. Push REV more times to review additional copy to days. If a day is a copy, you may determine the day it was copied from by selecting the day then pressing REV twice. A message will scroll indicating the day it was copied from.
- Individual day review is not recommended for verifying predicted operation of the timer because, since the actual schedule is the composite of days, day groups, and copied days, all of these would need to be reviewed, then manually combined, to know the actual schedule for a given day. For example, if the week day (8) day group has scheduled activity, but no individual weekdays (Monday thru Friday) have scheduled activity, reviewing Monday only would immediately give the "End of Review" message, indicating no activity, yet there will be activity on Monday due to the weekday (8) day group schedule. Therefore, always use the week long review feature for final verification of the complete schedule.

Note the effect of Holiday schedules cannot be seen during week long review, so in addition to week long review, all Holidays should also be reviewed to accurately predict the timer's operation.

INSTRUCTIONS FOR REVIEWING AND REVISING DATA Cont'd

REVIEW SPECIAL HOLIDAY SWITCHING ACTIVITIES

To review special holiday switching activities, press PROG then HLDY. Next enter the holiday reference number (01 to 99) for the holiday activities you wish to review. Press OK, then press REV, at which point the colon will disappear from the display. Press REV again to display the first switching activity. Continue to press REV while observing the LED prompts and program times and/or Pulse and Interval times until "End of Review" is displayed. Automatic review can also be used by pressing PROG, HLDY, then entering the Holiday reference #, OK, REV, then OK. If desired, use OK key to pause and resume auto review.

REVIEW INTERVAL OVERRIDE OPERATION

- Press PROG and do not select a day or day group.
- Press INTVL. The interval duration in days, hours and minutes as programmed will be displayed.
- When reviewing data, the appropriate ENABLE switch must be used, one switch at a time.

REVISE PROGRAM DATA

When revising program data, make note of the following:

- Run/Set switch must be in Set position
- Data is revised by causing it to be displayed during Review, deleting it with the CLEAR key, and then replacing it with new data, if desired.

- Program data may not be revised during week long review. You must revise the data by reviewing the appropriate individual day, day group, or "copied from" day.
- During automatic review, the OK key must be used to pause before the displayed data can be deleted.
- After any program data is cleared, review is terminated. The timer is now in the program mode for the selected day, anticipating a new entry. You may make the new entry, restart review, or return to Run position.
- It is recommended that you repeat the "week long review" after any revisions are complete to verify that all revisions were implemented as desired.

To revise or delete displayed information during Program Review, simply press CLEAR. You can then immediately make the revision desired. Be sure to press OK to enter the new data. Press REV to restart the review. Note that you can delete a Pulse or Interval option from any Switch On or Switch Off time by pressing CLEAR when the time is displayed during Review. You must reenter then OK the Switch On or Switch Off time even if it has not changed. Likewise, you may add a Pulse or Interval to a Switch On or Switch Off time by pressing CLEAR when the time is displayed. You must reenter the time, press PULSE or INTVL, enter the length of Pulse or Interval then press OK.



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