# CR INFRARED (IR) PROGRAMMING INSTRUCTIONS

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# TABLE OF CONTENTS

## CR INFRARED (IR) PROGRAMMING INSTRUCTIONS

The lantern is shipped in Storage mode to conserve energy until being placed into service. (Self-Contained lanterns only)

 Indicates user entry from remote

☼ Indicates response from lantern at full power for easier identification during daytime

### Initial Code Programming of the RCA Infrared Universal Remote Control for the CR LED Lanterns

Any RCA IR remote control having Samsung TV codes 0030 or 10030, or Visio TV codes 1758 or 11758 should work for this application.

Program the RCA remote control (RCR313BE, RCR313BZ, RCR311BIR, RCR313R, RCR312WR, RCR3273N) to use Visio TV code 11758.

The CR LED lanterns are programmed using a standard RCA TV infrared (IR) universal remote control. Instructions for entering the device code are found in the IR remote instructions that are included in the remote control packaging under “Direct Code Entry” section.

For **newer** RCA remote control devices, the device programming instructions are different as well as the TV code for the CR lanterns. The new instructions are as follows:

1) Press and hold the TV key for about 2 seconds, until the POWER key illuminates and stays on. Then release the key.

2) Enter the code **11758** (the POWER key flashes after each digit.)

3) When you’ve finished entering the five-digit code, look at the POWER key.

**Did the POWER key turn off?**

**YES**: You’re done. You’ve programmed this device key.

**No, It’s still illuminated**: You have either entered a code number that is not in the code lists or missed a step in the code entry procedure. Try step 2 again.

The device code for the CR LED Lanterns is **11758** for the **older** RCA remote control devices with the same model number. These are the instructions:

1) Press and hold the **TV** key on the remote control while pointing at the lantern light head/circuit board.
2) While holding down the **TV** key, use your other hand to enter the code **11758** (while continuing to point at the lantern light head/circuit board)

3) When you have finished entering the five digit code, keep holding down the device key and look at the ON·OFF or POWER key. If the key is lighted, you have successfully

4) programmed the device key. If it blinks four times and turns off, you have either missed a step in the programming process, or entered the wrong code. Try step 3 again.

5) Press and hold the **TV** key on the remote control while pointing at the lantern light head/circuit board.

6) While holding down the **TV** key, use your other hand to enter the code **11758** (while continuing to point at the lantern light head/circuit board)

7) When you have finished entering the five digit code, keep holding down the device key and look at the ON·OFF or POWER key. If the key is lighted, you have successfully programmed the device key. If it blinks four times and turns off, you have either missed a step in the programming process, or entered the wrong code. Try step 3 again.

## Programming the RCR504BR


Code Search key
Indicator Light
TV key

1) Press and hold the Code Search key until the indicator light turns on.
2) Press and release the TV key—the indicator light blinks and then remains lit.
3) Enter the four digit code **1758** using the numeric keypad. After the code is entered, the indicator light turns off. Note: if the indicator light blinks multiple times, you've entered an invalid code. Start from step 2 again. The remote control is ready to read or edit the lantern.

## Exit and Enter **Storage** mode (555)

1) Aim the infrared (IR) remote control at the light head or circuit board depending on model.
2) Press remote control "ON/OFF" (POWER) remote control power button 2-4 times until light flashes twice. Hold button 1-2 seconds with each press.
3) The lantern will flash 2 times (ON/OFF .8s/.2s) to confirm it received the signal to start IR reading or programming.

**Exit Storage Mode**


Enter 500

☼ 1 blink (ON/OFF 0.3S)


Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter 555

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter 000 - to exit Storage mode – turns light ON

☼ 1 confirmation blink (ON/OFF 0.3S)

**Enter Storage Mode**


First 3 steps then Enter 001 - to enter Storage mode – turns light OFF

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter 999 – to exit IR Read or Program mode, or enter another 3 digit Level 2 programming code

☼ 1 confirmation blink (ON/OFF 0.3S)

## Programming Notes:

1) There is a **time-out after 60 seconds** if a code is not received, the lantern flashes 10 times, and operates in its previously programmed state.

2) The CR LED Lanterns provide two types of programming conditions – Read information and Program functions. To access Read information, simply enter the (3) digit code. To access Programming functions, you must enter the code 500, followed by the security code (**425 is the factory default security code**), and then the (3) digit code for the Programming function desired. Multiple Programming functions can be entered consecutively before exiting. These two types are listed as follows:

3) Each time a (3) digit code is received correctly, the lantern will flash 1 time (ON/OFF 0.3s each) to confirm a valid code has been received. If a (3) digit code has not been received properly or completely, or the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each). After 3 unsuccessful attempts, the lantern will exit IR programming and flash 5 times (ON/OFF 0.1s) and will resume normal operation.

# Enter IR Programming Read/Edit Mode

1) Aim the infrared (IR) remote control at the light head or circuit board depending on model.


Press ON/OFF or Power button 2-4 times. Hold button 1-2 seconds each time

☼ 2 confirmation blinks (ON/OFF 0.8s/0.2s)

## Read Information Modes (800-899)


Enter 3 digit Read Info code from Level 1 chart below – Read Info and Enter Programming Mode

☼ 1 blink (ON/OFF 0.3S)

Requested information will be flashed according to Level 1 chart below

## Exit Read Mode


Enter 999 to exit IR Programming or enter 998 to switch to Edit Mode (500), enter another 3 digit code, or do nothing to time-out after 60 seconds and return to operation in its previously programmed state

**LEVEL 1 - READ INFO AND ENTER EDIT FUNCTION MODE**

| Code | Type | Security Pin Required | Description/Response |
|---|---|---|---|
| 800 | Read Info | No | Reports Battery Level According to chart under description for 800 |
| 811 | Read Info | No | Reports Rhythm Number<br>Response: Numbers 1-9 = short flash, 0 = long flash |
| 822 | Read Info | No | Reports Intensity<br>Response: 1-8 flashes |
| 833 | Read Info | No | Reports Sync Mode (1 - 4 flashes) |

| | | | |
|---|---|---|---|
| 844 | Read Info | No | Reports #satellites acquired in GPS sync mode |
| 852 | Override | No | Override Daylight Control |
| 855 | Read Info | No | Reports Overnight Battery Level According to chart under description for 800 |
| 866 | Read Info | No | Read Effective Intensity |
| 877 | Read Info | No | Read Calculated Peak Intensity (rounded) |
| 888 | Read Info | No | Read Under Voltage Limit |
| 899 | Read Info | No | Read Sync Delay |
| 500 | Program Info | Yes + security PIN number (Factory Default - 425)* | Enter Programming Mode |
| XXX | | No | Reset Security Pin to Factory Default (Contact Factory for code) |
| 999 | Exit | Not applicable | Exit IR Programming, or time out after 60 seconds |

## Read Present Battery/Solar Panel Voltage (800)

Function: Reports the present battery voltage which may be slightly raised on a sunny day due to the higher voltage being fed to the battery by the solar panel. (The battery load will draw down the solar panel voltage from the panel's full voltage.)

Aim the infrared (IR) remote control at the light head, or toward the circuit board, depending on the LED lantern model.

Press and hold 1-2 seconds the "ON/OFF" (POWER) remote control power button 2-4 times until light flashes twice.
The lantern will flash 2 times (ON/OFF .8s/.2s) to confirm it received the signal to start IR reading or programming.

 Enter 800

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will be OFF for 5.5 seconds and then will report the following:

| 12V Battery | 6V Battery | Number of Flashes |
|---|---|---|
| >=13.0 V | >=7.0 V | 6 |
| >= 12.8 V | >=6.8 V | 5 |
| >=12.5 V | >=6.5V | 4 |
| >=12.2 V | >= 6.2 V | 3 |
| >=11.9 V | >=5.9 V | 2 |
| <11.9 V | <5.9 V | 1 |

 Enter 999 to exit IR Programming, enter another 3 digit code, or do nothing to time-out after 60 seconds and return to previously programmed state.

## Read Overnight Battery Level (855)

Function: Logs and compares voltages during night time running period, and then saves the lowest voltage reading of the night. This is the voltage that is reported.

 Enter 855

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will be OFF for 5.5 seconds and then will report the number of flashes associated with battery voltage according to the chart under "Read Present Battery/Solar Panel Voltage (800) above.

 Enter 999 to exit IR Programming, enter another 3 digit code Level 1 code, 500 to enter Level 2 programming, or do nothing to time-out after 60 seconds and return to normal operation

## Read Rhythm Number (811)

 Enter 811

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will be OFF for 2 seconds and then will blink numbers 1-9 as 0.8 second flashes and zero as a 2.5 second flash. It will blink the hundredth place, pause for 2 seconds, then blink the tenths place, pause for 2 seconds, and then blink the ones place.

*Example* rhythm number 208:
The light will blink 2 - 0.8 second flashes then pause for 2 seconds
The light will blink 1 – 2.5 second flash then pause for 2 seconds
The light will blink 8 – 0.8 second flashes

*Example* rhythm number 010
The light will blink 1 – 2.5 second flash then pause for 2 seconds
The light will blink 1 – 0.8 second flash then pause for 2 seconds
The light will blink 1 – 2.5 second flash

Enter 999 to exit IR Programming, enter another 3 digit code Level 1 (Read) code, 500 to enter Level 2 programming, or do nothing to time-out after 60 seconds and return to normal operation

## Read Synchronization Mode (833)

The synchronization (sync) function causes two or more lights to flash in unison when they are connected by common sync and ground (battery minus) wires.

The four sync modes are as follows:

**Mode 1:** The light is both a Master and a Slave at the same time. All lights in the system must be set to the same flash rhythm. The first light to begin its flash rhythm causes the other lights in the system to begin their flash rhythm. The lights will turn on and off at dusk and dawn independently by their own daylight control.

All lights in the system must be set to the same flash rhythm as the Master light. Lights in this mode will flash in unison with the Master light.
The light will turn itself ON if it senses nighttime before the Master and then it will sync to the Master when it starts receiving the sync pulse. If the Master turns ON first it will turn on all the Slaves. If the Slave light senses daytime it will keep flashing as long as it keeps receiving a sync pulse from the Master. The sync pulse from the Master overrides the daylight control of the Slaves.

**Mode 2:** Coast Guard Slave Mode
A positive going signal must be provided to the sync line for the full duration of the Master unit flash length.

**Mode 3:** Slave with sync delay
This mode causes the beacons in a line system to flash sequentially with a predetermined sync delay. The first beacon in the line will be designated the Master and needs to be programmed in the Master/Slave mode (#1 above). The other beacons in the system will be programmed in this mode. In this mode a) the beacons will not transmit a sync pulse, but they are able to receive only a sync pulse from the master, b) they will ignore subsequent sync pulses until they complete their rhythm cycle. If the master turns off by its daylight control sensor before the slaves, the slaves will continue to flash until they turn off by their own daylight control sensors. Normally they will stay in their sync pattern until they turn off.

**Mode 4:** GPS synchronization

Enter 833

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will pause for 2 seconds then will blink

1 Flash for Mode 1 or,
2 Flashes for Mode 2
3 Flashes for Mode 3

Enter 999 to exit IR Programming, enter another 3 digit code Level 1 (Read) code, 500 to enter Level 2 programming, or do nothing to time-out after 60 seconds and return to normal operation

**Read Number of Satellites acquired in GPS sync mode (844)** A minimum of 5 satellites is required in order to get an accurate triangulation measuring positioning, navigation and timing. Accurate timing is important for synchronizing the beacons.

Enter 833

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will pause for 2 seconds then will blink
The number of satellites acquired

Enter 999 to exit IR Programming, enter another 3 digit code Level 1 (Read) code, 500 to enter Level 2 programming, or do nothing to time-out after 60 seconds and return to normal operation

## Read Effective Intensity Setting (866) (12V systems only)

Enter 866

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will be OFF for 2 seconds and then will blink numbers 1-9 as 0.8 second flashes and zero as a 2.5 second flash. It will blink the hundredth place, pause for 2 seconds, then blink the tenths place, pause for 2 seconds, and then blink the ones place.

*Example*: Effective intensity 077:
The light will blink 1 – 2.5 second flash then pause for 2 seconds
The light will blink 7 – 0.8 second flashes then pause for 2 seconds
The light will blink 7 – 0.8 second flashes then pause for 2 seconds

**Read Calculated Peak Intensity (associated with effective intensity setting) (877)** This varies according to flash rhythm length.

 Enter 877

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will be OFF for 2 seconds and then will blink numbers 1-9 as 0.8 second flashes and zero as a 2.5 second flash. It will blink the hundredth place, pause for 2 seconds, then blink the tenths place, pause for 2 seconds, and then blink the ones place.

*Example*: Peak intensity 077:
The light will blink 1 – 2.5 second flash then pause for 2 seconds
The light will blink 7 – 0.8 second flashes then pause for 2 seconds
The light will blink 7 – 0.8 second flashes then pause for 2 seconds

## Read Under Voltage Shut Off Limit (888):

The under voltage setting is used to turn the beacon off if the battery voltage falls below the set limit. The factory default setting is OFF. The light will turn on again when the battery voltage rises approximately 0.5 Volts above the set limit.

 Enter 888

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will pause for 2 seconds then will blink 0-5 times for the under voltage setting. Zero is a long flash, numbers are a shorter flash. (0=OFF, 1=8V, 2=9V, 3=10.5V, 4=11V and 5=11.5V)

 Enter another code, enter 999 to exit IR Programming, or do nothing to timeout and return to normal operation.

## Read Sync Delay (899):

 Enter 888

☼ 1 confirmation blink (ON/OFF 0.3S)

Light will pause for 2 seconds then will blink 0-13 times. Zero is a long flash, numbers are a shorter flash. (0=OFF, 1=0.25s, 2=0.5s, 3=0.75s, 4=1s, 5=2s, 6=3s, 7=4s, 8=5s, 9=6s, 10=7s, 11=8s, 12=9s, 13=10s)

 Enter another code, enter 999 to exit IR Programming, or do nothing to timeout and return to normal operation.

## Daylight Control Override (852)

This function allows the beacon to flash during daylight when it is necessary to test the synchronization capability with other beacons connected in the system. This function will time out after 30 minutes, allowing the technician time to perform testing, and not require them to manually exit this mode.

**Entering Override Mode**

1) Aim the infrared (IR) remote control at the light head or circuit board depending on model.

 Press ON/OFF or Power button 2-4 times. Hold button 1-2 seconds each time

☼ 2 confirmation blinks (ON/OFF 0.8s/0.2s)

2)

 Enter 852

☼ 1 blink (ON/OFF 0.3S)

(5) fast blinks is an error message – either an unrecognized code was entered, or the beacon is already in night mode. This function only works in daylight mode.

3)

 Enter 999 to exit IR Programming

☼ 2 blinks (ON/OFF 0.3S)

**Exiting Override Mode**

Repeat instructions 1-3 above

# Enter Edit Function Mode (500 + Security Code)

 Enter 500

☼ 1 blink (ON/OFF 0.3S)

 Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter Programming Code from Level 2 Programming Mode chart below

☼ 1 confirmation blink (ON/OFF 0.3S)

## Exit Programming Mode

 Enter 999 to exit IR Programming or enter 998 to switch to Read Mode (800-899), enter another 3 digit code, or do nothing to time-out after 60 seconds and return to operation in its previously programmed state

**LEVEL 2 – PROGRAMMING MODE**

| Code | Security PIN Required | Description |
|---|---|---|
| 511 | Yes | Program Rhythm Number Enter: (001-256 from rhythm list) |
| 522 | Yes | Program Intensity Enter: (001-008) |
| 533 | Yes | Program Sync Mode (Master/Slave 001, Slave Only 002, Sync Delay 003, GPS Sync 004) |
| 544 | Yes | Program Security Pin (recommended - user chosen 001-999) |
| 555 | Yes | Program Storage Mode (000 – OFF, 001 – ON) |
| 566 | Yes | Program Effective Intensity if 12V Power System (001-999) |
| 580 | Yes | Program User Rhythm 1 |
| 599 | Yes | Program Sync Delay |
| 998 | Yes | Return to Main Menu without exiting program mode |
| 999 | Not applicable | Exit IR Programming |

## Edit Rhythm Number (511)

 Enter 500

☼ 1 blink (ON/OFF 0.3S)

 Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter 511

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter rhythm number from list (001-256)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has not been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

**When using the effective intensity function** (Edit Mode 522 intensity setting 001) (12 volt systems only), the first flash length of the flash rhythm is used to calculate the effective intensity. If the effective intensity number entered is 001-999 and is entered correctly, the lantern will flash

☼ a second confirmation blink (ON/OFF 0.3S)

If the effective intensity setting is out of range for the flash length chosen, (the effective intensity setting is too high for the lantern) the lantern will flash 5 quick flashes (ON/OFF 0.1s each) after a 1 second pause. More explanation can be found under Program Effective Intensity (566) below.

## Edit Sync Mode (533)

There are four methods of synchronizing the flashes of multiple beacons as follows:

1) **Master/Slave** – In this mode all beacons are both a master and a slave. All units transmit and receive a synchronization pulse simultaneously. The first beacon to begin its rhythm automatically becomes the master because it is the first to send out a sync pulse. The other units upon receiving the sync pulse are reset to the beginning of their rhythm cycle.
2) **Slave only** – Software up to revision 2.8. In this mode the unit is able to receive a sync pulse, but does not transmit one. When connected to a device that transmits a positive going pulse, it will reset to the beginning of its rhythm cycle upon receiving the sync pulse.
   **Slave only** – Software revisions 3.1 forward – In this mode the Slave receives the positive going flash signal from the Master and turns ON when the Master is ON, and OFF when the Master is OFF.
3) **Slave with sync delay** – This mode causes the beacons in a line system to flash sequentially with a predetermined sync delay. The first beacon in the line will be designated the Master and needs to be programmed in the Master/Slave mode (#1 above). The other beacons in the system will be programmed in this mode. In this mode a) the beacons will not transmit a sync pulse, but they are able to receive only a sync pulse from the master, b) they will ignore subsequent sync pulses until they complete their rhythm cycle. If the master turns off by its daylight control sensor before the slaves, the slaves will continue to flash until they turn off by their own daylight control sensors. Normally they will stay in their sync pattern until they turn off.
4) **Global Positioning Satellites (GPS)** time acquisition to synchronize the beacons
   The lantern must have an open view of the sky to acquire satellites.
   The GPS module is turned ON when the daylight sensor detects night time. The Green LED (D2) will turn ON when the GPS module is ON. The GPS module will acquire satellites to achieve lock in order to obtain the current GPS time and date. When satellites are in view and the GPS data is valid the Green LED (D1) will start to flash. After D1 starts flashing the GPS module will continue to run for 20-40 seconds to achieve the best satellite lock. Once GPS lock is complete both LEDs will turn OFF and the Rhythm pattern will begin to flash soon. The process repeats on the 10-minute intervals for the next 2 times and after that it will repeat on the half hour and on the hour

throughout the night. For example, if the first lock is achieved at 10 minutes absolute time after the hour, we will repeat the GPS lock procedure at 20 minutes absolute time after the hour, 30 minutes absolute time after the hour and then at the top of the hour. When the GPS module is ON, IR function is disabled and will resume when the GPS turns OFF.
Depending on the number of satellites used to achieve lock it might take 1-3 cycles for multiple units to flash their Rhythm patterns synchronized with each other.

***If lock is achieved with <= 5 satellites then multiple beacons may not flash their Rhythm patterns synchronized with each other. Also, if there is a difference of 3 or more satellites acquired between beacons, the units can be out of sync.*** The more satellites acquired, the more accurate the time lock.

If valid data is not received from the Satellites at the day to night transition the GPS module will continue to try for 10 minutes before turning OFF. If this happens, the Rhythm pattern will begin to flash but won't be synchronized with other units. It will try again in 10 minutes for 2 times and then repeat on the half hour and on the hour.

Read code for reporting number of satellites acquired is **844**.

When Daylight Override with IR code 852 is enabled, GPS is turned ON to get lock first. After lock is achieved, the lamp will start flashing the rhythm pattern. If lock fails, the beacon will alert with 5 quick flashes and then start to flash the rhythm pattern but it won't be synchronized with other units. GPS operation will continue as described above. After 30 minutes Daylight Enable Override will automatically turn OFF and lamp operation will be based on Daylight sensor readings. To exit the 852 mode before it automatically turns off, enter the code 999.


Enter 500

☼ 1 blink (ON/OFF 0.3S)


Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter 533

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter (001 – Master/Slave, 002 – Slave, 003 – Slave with Sync Delay, 004 – GPS Sync

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

## Edit Security Pin (544):

This allows the user to change the factory default security pin (425) to their own number.

 Enter 500

☼ 1 blink (ON/OFF 0.3S)

 Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter 544

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit New Security Pin (valid range 001-999)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

*Record this number in a secure place. If this number is lost or forgotten, contact factory to get factory override code to reset to factory default code of 425.*

## Edit Effective Intensity (566)

 Enter 500

☼ 1 blink (ON/OFF 0.3S)

 Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter 566

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

When using the effective intensity function (Edit Mode 566 (12 volt systems only), the first flash length of the flash rhythm is used to calculate the effective intensity. If the effective intensity number entered is 001-999 and is entered correctly, the lantern will flash

☼ a second confirmation blink (ON/OFF 0.3S)

If the effective intensity setting is out of range for the flash length chosen, (the effective intensity setting is too high for the lantern) the lantern will flash 5 quick flashes (ON/OFF 0.1s each) after a 1 second pause. *If the first confirmation blink has occurred then the data entered has been received properly. The 5 quick flashes only mean that the data entered is out of range and will be automatically set by the lantern to the maximum effective intensity the lantern is capable of.*

*For example*, if 999 is entered, the lantern will blink once confirming the data was received properly. After 1 second it will blink 5 quick flashes noting that the lantern is not capable of producing an effective intensity of 999. The lantern will readjust the light to its maximum limit.

*Another example*, if 005 is entered, the lantern will blink once confirming the data was received properly. After 1 second it will blink once (again) confirming that the data entered is within the range capability of the lantern.

## Edit User Rhythm 1 (580):


Enter 500

☼ 1 blink (ON/OFF 0.3S)


Enter 425 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)


Enter 580

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

It is best to write out the code entries on paper before entering the sequence.

1) Count the number of Flashes and Eclipses in the rhythm pattern. A simple rhythm consisting of one Flash and one Eclipse counts as 2. *For example* a rhythm of 0.3 second ON, 0.7 second OFF would count as 2)
2) Enter the 3 digit value (tens, ones, tenths) for the FL or EC one at a time (011=1.1 second)

*Examples:* Rhythm Quick Flash 0.3 second ON, 0.7 second OFF, you would enter 002 followed by 003 followed by 007 on the remote control keypad or 002003007. All entries are captured in 3 digit strings.

Rhythm MO(U)10 consisting of the following time sequences:
0.20 ON
0.80 OFF
0.20 ON
0.80 OFF
0.60 ON

7.40 OFF
This rhythm would have 6 Flashes and Eclipses, so the code entry would be as follows:

006 002 008 002 008 006 074

## Edit the Under Voltage Shut Off Setting (588) only applicable for 12V system only

The under voltage setting is used to turn the beacon off if the battery voltage falls below the set limit. The factory default setting is OFF. The light will turn on again when the battery voltage rises approximately 0.5 Volts above the set limit.

 Enter 500
☼ 1 blink (ON/OFF 0.3S)
 Enter 425 (factory default security code)
☼ 1 confirmation blink (ON/OFF 0.3S)
 Enter 588
☼ 1 confirmation blink (ON/OFF 0.3S)
 Enter the 3-digit Voltage setting (000=OFF, 001=8V, 002=9V. 003=10.5V, 004=11V, and 005=11.5V)
If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

## Edit the Sync Delay (599):

See Program Sync Mode (533) above for an explanation of the different synchronization methods. Sync Delay can only be used in the Slave with Sync Delay mode.

 Enter 500
☼ 1 blink (ON/OFF 0.3S)
 Enter 425 (factory default security code)
☼ 1 confirmation blink (ON/OFF 0.3S)
 Enter 599
☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit Sync Delay setting (000=OFF, 001=0.25s, 002=0.5s, 003=0.75s, 004=1s, 005=2s, 006=3s, 007=4s, 008=5s, 009=6s, 010=7s, 011=8s, 012=9s, 013=10s)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

## Edit the Daylight Control Threshold Levels

The beacons are supplied with Daylight Control Threshold Levels set to 250 Lux. The default settings are 1500 Daylight ON to OFF, and 1506 for Daylight OFF to ON.

Writing Daylight set points require 2 commands because it is a 4-digit number and IR commands are set up for 3-digits.

The higher the set value, the lower the light level the beacon will turn off at.

*Example:* To edit **Daylight ON to OFF** to 1500, perform the following 2 commands in order:

 Enter 100

☼ 1 blink (ON/OFF 0.3S)

 Enter 603 (factory default security code)

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter 333

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit value for the 2 most significant digits (valid range 000-040, enter 015 for this example)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

 Enter 334

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit value for the 2 most significant digits (valid range 000-040, enter 000 for this example)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

*Example:* To edit **Daylight OFF to ON** to 1506, perform the following 2 commands in order while still in Edit mode:

 Enter 335

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit value for the 2 most significant digits (valid range 000-040, enter 015 for this example)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

 Enter 336

☼ 1 confirmation blink (ON/OFF 0.3S)

 Enter the 3-digit value for the 2 most significant digits (valid range 000-040, enter 006 for this example)

☼ 1 confirmation blink (ON/OFF 0.3S)

If a (3) digit code has been received properly or completely, or if the code is invalid, the lantern will flash 5 quick flashes (ON/OFF 0.1s each).

 Enter 999 to exit IR Programming or enter 998 to switch to Read Mode (800-899), enter another 3 digit code, or do nothing to time-out after 60 seconds and return to operation in its previously programmed state

## Limits (candelas) for program Revision 5.0+

| | Peak Intensity Equivalent | | Effective Intensity 0.4 Second Flash | |
|---|---|---|---|---|
| | 1 LED | 2 LED | 1 LED | 2 LED |
| Amber | 148 | 296 | 99 | 198 |
| Red | 166 | 332 | 111 | 223 |
| Green | 171 | 342 | 115 | 231 |
| White | 205 | 410 | 139 | 278 |