CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF

iLux® Integrated Lighting System

Reference Guide

Crestron Electronics, Inc.

This document was written by the Technical Publications department at Crestron.

Contents

CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF: iLux® Integrated Lighting System

Introduction

The iLux® units are complete integrated wall-mounted lighting systems that can function as stand-alone devices or as part of a total Crestron® solution. The domestic units, CLS-C6, CLS-C6M, CLS-C6RF, and CLS-C6MRF, and international units, CLSI-C6, CLSI-C6M, CLSI-C6RF and CLSI-C6MRF, are functionally identical except that the CLS-C6M, CLSI-C6M, CLS-C6MRF, and CLSI-C6MRF units include a built-in motion sensor and that the CLS-C6RF, CLS-C6MRF, CLSI-C6RF, and CLSI-C6MRF units employ Crestron's infiNET™ technology to enable a wireless link to a 2-Series control system. The CLS-C6 and CLS-C6M operate at 120 Vac, and the CLSI-C6 and CLSI-C6M operate at 230 Vac. The CLS-C6RF and CLS-C6MRF operate at 100 to 127 Vac, and the CLSI-C6RF and CLSI-C6MRF operate at 220 to 240 Vac. For simplicity within this guide, the term "iLux device" is used, except where noted.

For information on installing the CLS-C6, CLS-C6M, CLSI-C6, and CLSI-C6M, refer to CLS-C6/CLS-C6M/CLSI-C6/CLSI-C6M Installation Guide (Doc. 6413). For information on installing the CLS-C6RF, CLS-C6MRF, CLSI-C6RF, and CLSI-C6MRF, refer to CLS-C6MRF/CLS-C6RF/CLSI-C6MRF/CLSI-C6RF Installation Guide (Doc. 6416). Both guides can be found at www.crestron.com/manuals.

Specifications

Specifications for the iLux devices are listed in the following table.

iLux Device Specifications

SPECIFICATION	DETAILS
Power Requirements	
CLS-C6/C6M	
Domestic	Line Power, 120 Vac, 60 Hz
International	Line Power, 230 Vac, 50 or 60 Hz
CLS-C6RF/C6MRF	
Domestic	Line Power, 100 to 127 Vac, 50 or 60 Hz
International	Line Power, 220 to 240 Vac, 50 or 60 Hz

(Continued on following page)

iLux Device Specifications (Continued)

SPECIFICATION	DETAILS
Domestic Load Ratings*	
CLS-C6/C6M	
Max load per channel	800 W/VA (6.6 A @ 120 Vac), expandable via CLS-EXP expansion modules (sold separately)
Min load per channel	15 W/VA (0.125 A @ 120 Vac)
Max load per unit	1920 W/VA (16 A @ 120 Vac)
CLS-C6RF/C6MRF	
Max load per channel	800 W/VA (6.6 A at 120 Vac), expandable via CLS-EXP expansion modules (sold separately)
Min load per channel	15 W/VA (0.125 A at 120 Vac)
Max load per unit	1920 W/VA (16 A at 120 Vac)
International Load Ratings*	
CLS-C6/C6M	
Max load per channel	800 W/VA
Min load per channel	(3.5 A @ 230 Vac), expandable via CLS-EXP expansion modules (sold separately)
Max load per unit	25 W/VA (0.108 A @ 230 Vac) 2200 W/VA (10 A @ 220 Vac) 2300 W/VA (10 A @ 230 Vac) 2400 W/VA (10 A @ 240 Vac
CLS-C6RF/C6MRF	
Max load per channel	800 W/VA
Min load per channel	(3.5 A at 230 Vac), expandable via CLS EXP expansion modules (sold separately)
Max load per unit	25 W/VA (0.108 A at 230 Vac) 2200 W/VA (10 A at 220 Vac) 2300 W/VA (10 A at 230 Vac) 2400 W/VA (10 A at 240 Vac)
Load Types	
Dim	LED†, Incandescent, Magnetic Low-voltage, Neon/Cold Cathode, 2-Wire Dimmable Fluorescent, and Non-Dim Lighting;
Switch	Electronic Low-voltage, 3 and 4-wire Fluorescent, High-Inrush Switching, and 277 V via CLS EXP series expansion modules (sold separately)
Cresnet® Power for Local Devices	10 W maximum External power supply sold separately
Environmental	
Temperature	32° to 104 °F (0° to 40 °C)
Humidity	10% to 90% RH (noncondensing)

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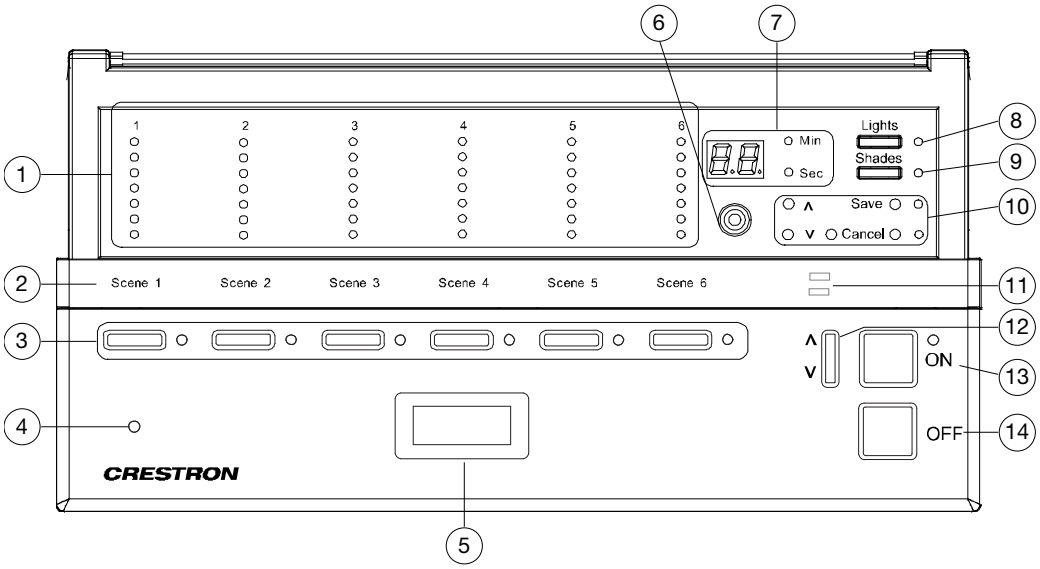
iLux Device Specifications (Continued)

SPECIFICATION	DETAILS
Enclosure	Mounts in a 4-gang electrical box, 3-1/2 in (89 mm) deep minimum

* If a unit is fed from an arc fault circuit interrupter, the maximum total load is 1,000 W/VA to avoid nuisance tripping.

† For a list of compatible ballasts, visit www.crestron.com/lightingcompatibility.

CLS-C6M Front Panel



Controls and Indicators (Continued)

#	CONTROLS AND INDICATORS	DESCRIPTION
1	Bar Graphs	The bar graphs are a series of LEDs. In Standard mode and Lights mode, the bar graphs indicate the current light intensity for the six lighting loads. When the device is under photocell control, the top bar graph LED for a controlled load blinks. In Shades mode, the bar graphs indicate the shade position for each of the shade groups. The bar graphs have other functions in Setup mode.
2	Label Strip	Customizable label for the six scenes.
3	Function Buttons and Feedback LEDs	In Standard mode, these buttons are typically used to select and recall scenes. In Lights mode, they are used to make temporary adjustments to the six lighting loads. In Shades mode, they are used to make temporary adjustments to the shade groups. They can also be programmed to perform other functions.
4	IR Detector	The IR detector responds to commands from the optional remote control. The remote control can be used to recall Scenes 1 through 4 and the On and Off scenes, as well as to perform master raise and lower of the lighting loads.

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Controls and Indicators (Continued)

#	CONTROLS AND INDICATORS	DESCRIPTION
5	Motion Detector (CLS/CLSI-C6M and CLS/CLSI-C6MRF only)	The built-in motion detector can be used to activate a particular scene when there is activity in the room or to activate a particular scene, typically the Off scene, when there is no activity for a specified period. A limited number of actions are available when programmed locally; more actions are available using the iLux Designer software program.
6	Mini Phone Jack	The 3.5 mm TRS mini-phone jack, located on the front panel, is used as an RS-232 programming port to communicate with the iLux Designer and Crestron Toolbox™ software to configure the unit and to upgrade the unit's firmware.
7	2-Digit Display	In Standard mode, the display is normally blank, except when showing scene fade time. The Min and Sec LEDs light when the display is indicating time in minutes or in seconds, respectively. In Setup mode, the display uses a 2-character mnemonic to indicate which specific aspect of the iLux device is being changed. As these settings are being adjusted, the display may indicate values. Refer to "Setup Mode" on page 7 for details.
8	Lights Button and LED	Use this push button to select the Lights mode. The LED lights when the mode is selected. Refer to "Lights Mode" on page 32 for details.
9	Shades Button and LED	Use this push button to select the Shades mode. The LED lights when the mode is selected. Refer to "Shades Mode" on page 32 for details.
10	^, v, Save, Cancel, and Reset Buttons	Use these push buttons to navigate and execute setup functions. The Save and Cancel LEDs indicate when these functions are active. Refer to "Setup Mode" on page 7 for details. If the unit stops functioning and does not respond to button pushes, use a thin object, such as a paper clip, to press the Reset button. The unit reboots: all lighting loads go off, the 2-digit display shows "– –", and all lighting loads return to their previous state.
11	Shift LEDs	These LEDs are covered by the label strip but are easily visible through the strip when they are illuminated. When the Shift mode is enabled by pressing the up/down button, there can be two functions defined for each of the six function buttons. The LEDS indicate when the device is placed in "upper" or "lower" shift mode.
12	Up/Down Button	This three-position rocker switch is programmable for master lights control (all lights or last scene), master shade control, or as a shift button to allow a second set of functions for the six function buttons.
13	ON Button	The ON push button always acts as a recall scene button for the On scene. Refer to "Standard Mode" on page 26 for details.
14	OFF Button	The OFF push button always acts as a recall scene button for the Off scene, which always turns all lighting loads off and opens the air-gap relay. Refer to "Standard Mode" on page 26 for details.

Installation

For detailed installation procedures, refer to the CLS(I) -C6/C6M iLux Lighting Systems Installation Guide (Doc. 6413) and for the CLS(I) -C6RF/C6MRF iLux Lighting Systems Installation Guide (Doc. 6416) at www.crestron.com/manuals.

NOTE: The power usage requirements on the local device's network are different from that described above. The CLS-C6RF provides 24 Vdc power for up to four keypads and shade controllers on the local devices network. An additional power supply is required to support more than four devices. Also, each shade controller requires its own additional power supply.

Configuring the iLux Device

The iLux device can be configured by using the front panel controls or using the supplied iLux Designer application software. The iLux Designer App is available from the Crestron website.

iLux Designer provides extensive configuration options. The front panel controls permit basic functional setup without a PC.

In addition, some aspects of the iLux device's operation can be modified only via certain Crestron Toolbox™ software application console commands. Refer to the following sections for more details: "Console Command Settings" on page 24, "Appendix B: Console Commands" on page 45, and "Appendix C: RS-232 Commands" on page 50, which explains the operations that can only be controlled via RS-232 for CLS(I)-C6RF devices.

NOTE: The Crestron Toolbox application does not distinguish between international and domestic iLux devices. All report as CLS units.

Configuring with Front Panel Controls

Temporary adjustments to the iLux device can be made to accommodate a particular circumstance or to change or replace scene presets. Refer to "Lights Mode" on page 32 and "Shades Mode" on page 32. To make more extensive configuration changes without using the iLux Designer software, refer to "Setup Mode" on page 7.

Changing Scene Presets

The iLux device scene settings can be modified via the front panel controls without a PC.

NOTE: The iLux Designer application or SIMPL Windows program can lock a scene to prevent the scene from being changed when the front panel controls are being used. If an adjustment is made to a scene that is incorrect, "Er" is displayed for 3 seconds, and the scene remains in its existing state.

NOTE: If a photocell is present, Scenes 1 through 8 and the On scene automatically utilize daylight harvesting. When daylight harvesting is enabled, the top bar graph LED for that load blinks.

NOTE: When editing scenes with photocell-controlled loads, temporarily disable the photocell output. When the scene is recalled, photocell control resumes and light levels may change. To reduce the possibility of unintended scene behavior caused by photocell reaction to sunlight, edit scenes at night.

Modify the lighting load for a scene.

1. In Standard mode, press and hold the function button of the scene to be modified for 5 seconds. Make sure to press the center of the button so both sides make contact. The front panel will react as stated below:
   - The 2-digit display counts down as the lighting loads fade to their preset levels for that scene.
   - The display begins blinking between “Sc” and the scene number.
   - The Lights LED lights.
   - The Save and Cancel LEDs blink.
2. Use the six function buttons to adjust the levels of the lighting loads for that scene. Press the left side of the buttons to lower the lighting loads; press the right side of the buttons to raise the lighting loads.

   For lighting loads that should remain unaffected by the scene recall, press and hold the center of the button so that both sides make contact for 3 seconds. The two top and bottom LEDs of the associated bar graph light and the display shows “– –” to indicate that the level of the lighting load does not change when that scene is recalled.
3. Press Save to save the new setting or Cancel to retain the original setting.

Modify the shade presets for a scene.

1. In Standard mode, press and hold the function button of the scene to be modified for 5 seconds. Make sure to press the center of the button so both sides make contact.
2. Press the Shades button. The Shades LED lights.
3. Use the six function buttons to adjust the levels of the shade groups for that scene. Press the right side to raise the shades; press the left side to lower them. While the shades are moving, press any part of the button to stop.

   NOTE: For shades that are not capable of being preset, only full open or full closed positions can be recalled as part of a scene.

   For shade groups that should remain unaffected by the scene recall, press and hold the center of the button so that both sides make contact for 3 seconds. The top and bottom two LEDs of the associated bar graph light and the display shows “– –” to indicate that the level of that shade group does not change when that scene is recalled.
4. Press Save to save the new setting or Cancel to retain the original setting.

Modify the fade time for a scene.

1. In Standard mode, press and hold the function button of the scene to be modified for 5 seconds. Make sure to press the center of the button so both sides make contact.

2. Press the ˄ and ˅ buttons. When the time is increased, the value goes from 0 seconds to 59 seconds, and then 1 minute to 99 minutes. When the time is decreased, the value goes from 99 minutes to 1 minute, and then 59 seconds to 0 seconds. The Min and Sec LEDs light as appropriate. Fade time can be adjusted when either Lights mode or Shades mode is active.
3. Press Save to save the new setting or Cancel to retain the original setting.

Repeat the above procedures for all scenes that require changes.

Setup Mode

Setup mode is used to change internal settings on an iLux device, including the scene presets as previously discussed.

When the device is in Setup mode, the 2-digit display uses a 2-character mnemonic to indicate which Setup mode option is selected. As these options are being adjusted, the display may indicate values. The following is a list of the different Setup mode options and the corresponding mnemonic codes.

NOTE: When the list of setup options is scrolled through, before an option is locked, the Save button is not functional and its LED is off. However, the Cancel LED blinks since the Cancel button can be pressed to return the unit to Standard mode.

Setup Mode Option Mnemonics

2-DIGIT DISPLAY	DESCRIPTION
Sc	**Sc**ene Programming
Ld	**Lo**a**d** types
LE	Lighting load **l**ow-**e**nd limits
HE	Lighting load **h**igh-**e**nd limits
Lo	**Lo**ckout mode
bF	**B**utton **f**unctions (i.e., recall scene, toggle scene, shades control, etc.)
ud	Up/**d**own button
oc	**Oc**cupancy sensing
Ad	**A**uto-**d**iscovery
AS	**A**ssign **s**hade groups
id	MNET **id** of this unit
Ph	**Ph**otocell test
Pc	**P**hotocell **c**alibration
PL	**P**hotocell lower **L**imit
Pr	**P**hotocell **r**esponse time
Ac*	**Ac**quire gateway
UA*	**U**n**A**cquire Gateway
Ch*	RF **Ch**annel
Fd	**F**actory **d**efault
Er	**Er**ror

* For CLS(I)-C6RF/C6MRF models.

Below is the process for using Setup mode, and it is applicable for entering and using all of the Setup mode options. The subsections pertaining to the Setup mode options that follow this process provide detailed procedures specific to the selected Setup mode option.

Follow this process for using Setup mode:

1. To enter Setup mode, press and hold the **Save** and **Cancel** buttons for 5 seconds. The Cancel LED blinks, and the first setup option ("Sc") displays to indicate that the unit is in Setup mode.
2. Press the ˄ or ˅ buttons to scroll through this list of available Setup mode options. Once the desired setup option appears in the display, use the various buttons on the iLux device to make adjustments, as described on the following pages.

   When an adjustment is made, Setup mode is locked into that particular option, which is indicated by lighting the period at the end of the mnemonic. Once the setup option is locked, the ˄ and ˅ buttons no longer scroll through the other options. Setup mode must be exited before choosing another option.
3. Press **Save** to store the changes permanently and exit Setup mode. Press **Cancel** to exit Setup mode without saving the changes. The unit reverts to Standard mode.

Scene Programming (Sc)

This Setup mode option allows the user to adjust the scene parameters. This is another way to accomplish scene changes as discussed in "Changing Scene Presets" on page 5. This method also allows settings to be changed for scenes greater than Scene 6.

NOTE: If the device is connected to a Cresnet® control system, Setup mode cannot be entered to adjust scene settings. In this error state, the 2-digit display indicates "Er."

Scenes can be turned off in addition to being recalled. When a scene is turned off, only the lighting loads are turned off. If the scene contains any shades, they are not affected. The fade time for turning the scene lights off is the same as for recalling the scene. Therefore, no additional parameters need to be set to define the off behavior.

NOTE: If a photocell is present, Scenes 1 through 8 and the On scene automatically utilize daylight harvesting. When this automatic behavior is enabled, the top bar graph LED for that load blinks.

NOTE: When editing scenes with photocell-controlled loads, temporarily disable the photocell output. When the scene is recalled, photocell control resumes and light levels may change. To reduce the possibility of unintended scene behavior caused by photocell reaction to sunlight, edit scenes at night.

Set the scenes.

1. Enter Setup mode. "Sc" is the first option displayed.
2. Select the scene to be changed using the up/down button. When the list of scenes is cycled through, the lights and shades do not change and the bar graphs are off.
3. Set the lighting loads and shade positions for the scenes as discussed in "Changing Scene Presets" on page 5.

As the scenes are set, note the following:

- When a lighting load reaches the HE (high-end) limit, the lights stop. The 2-digit display continues to rise. If lights reach the LE (low-end) limit, the 2-digit display continues to go down, but lights stay at the LE limit until they reach Off—at which point they turn off. If the scene setting is saved while the display is at a level below the LE limit or above the HE limit, the displayed value is saved, but the light level is limited to the programmed limits.
- If a lighting load is defined as an unused load type, the bar graph for that lighting load has all LEDs off. If the lighting load is adjusted, the 2-digit display shows "Er."
- To mark a lighting load as not affected (i.e., the lighting load's current state is not changed by recalling the scene), press and hold the center of the corresponding button for 3 seconds. Adjustments made to such lighting loads cancel the not-affected condition and start adjusting from the current light level.
- While adjustments are being made to the lights or shades, the 2-digit display shows the level, just as in the Lights or Shades modes. The level for loads that are not affected is shown as "– –". In the Lights or Shades modes, the display goes blank after 3 seconds; in scene programming, the display returns to "Sc. ##".
- For shades, when the left or right side of the button is pressed, the 2-digit display immediately shows open or closed when the shade starts moving. Pressing the left or right side of the button will cause the shade to jog closed or jog open. Pressing and holding either the left or right sides of the button causes the shade to gradually lower and raise. Do not press the center of the button. Pressing and holding the center of a function button while in Setup mode removes that specific shade from a scene.
- The iLux Designer application or SIMPL Windows program can lock a scene to prevent it from being changed using the front panel controls. If the selected scene is locked in the configuration when an adjustment is made, "Er" is displayed for 3 seconds and the scene remains in its existing state.
- To adjust the fade time, while "Sc. ##" is displayed, press the ˄ or ˅ buttons. The first time a button is pressed, current fade time is shown but not changed. Subsequent presses change the displayed value. Make adjustments to the fade time when either Lights mode or Shades mode is active. When the time increases, the value goes from 0 seconds to 59 seconds, and then 1 minute to 99 minutes. When the time decreases, the value goes from 99 minutes to 1 minute, and then 59 seconds to 0 seconds.

4. Press Save to save the new setting or Cancel to retain the original setting.

Lighting Load (Ld) Types

Set the load types for each lighting load.

1. Enter Setup mode, and scroll to the "Ld" option. The bar graphs immediately indicate the currently selected load type for each lighting load.
2. Press the function buttons to change the load type. Each load type is indicated by a pattern of bar graph segments and a number on the 2-digit display, as shown in the following table.

Lighting Load Type Setup

LOAD TYPE	NUMBER	LEDS	DEFAULT LOW-END/ HIGH-END
Unused	0	all off	0 / 100
Incandescent – default	1	top 1 on	0 / 100
MLV	2	top 2 on	0 / 100
NCC	3	top 3 on	0 / 100
Fluorescent (2-wire)	4	top 4 on	10 / 100
Non-dim (On at start; off at start) *	5	top 5 on	0 / 100
Non-dim (On at end; off at start) †	6	top 6 on	0 / 100

* Whether going on or off, this load type switches at the start of the fade.
† If going off, this load type switches at the start of the fade; if going on, it switches at the end.

3. Press the right and left side of the buttons to cycle through the available load types.

   When the load type is changed, the 2-digit display shows the current load type. It displays "L#," where "#" is the number from the table above. Whenever the 2-digit display shows a load type, the corresponding front panel LED is lit.

   NOTE: During adjustment of this value, the lights do not change.

4. Press Save to save the new setting or Cancel to retain the original setting. If the load type is changed, the LE and HE limits are automatically changed to the default value for the new load type, listed in the above table.

Low-End (LE) Levels

Some lights can flicker at very low levels. To avoid flickering, specify the low-end limit accordingly. When the lights are adjusted to a level below this value, the lights stay at the low-end limit until they are turned off.

Set the low-end levels for the six lighting loads.

1. Enter Setup mode, and scroll to the "LE" option. The lights do not change, but the bar graphs immediately indicate the low-end levels for each lighting load. In most cases this is 0%, which is indicated by all bar graph segments being off.
2. Press the rocker button corresponding to the lighting load to adjust the low-end level of that load. When the first adjustment is made, the lighting load jumps to the current low-end level; start adjusting from there. Any adjustment for the specific lighting load appears in the bar graph and the 2-digit display. The low-end level cannot be adjusted above 33%.

   NOTE: For non-dim and unused lighting loads, the low-end level cannot be adjusted (always at 0%). If a non-dim or unused lighting load is being adjusted, the light and bar graph do not change, and the 2-digit display shows "Er" to indicate an error.

3. Press Save to save the new setting or Cancel to retain the original setting. For lighting loads where an adjustment has been made, lights jump to the original low-end level. For lighting loads where no adjustment was made, light levels are not changed.

High-End (HE) Levels

This setup option allows setting of the full-on level of the lighting loads below their maximum brightness.

Set the high-end levels for the six lighting loads.

1. Enter Setup mode, and scroll to the “HE” option. The lights do not change, but the bar graphs immediately indicate the high-end levels for each lighting load. In most cases this is 100%, which is indicated by all bar graph segments being on.
2. Press the rocker button corresponding to the lighting load to adjust the high-end level of the load. When the first adjustment is made, the lighting load jumps to the current high-end level; start adjusting from there. Any adjustment for the specific lighting load appears in the bar graph and the 2-digit display. The high-end level cannot be adjusted below 67%.

   NOTE: For non-dim and unused lighting loads, the high-end levels are always at 100% and cannot be adjusted. If a non-dim or unused lighting load is being adjusted, the light and bar graph do not change, and the 2-digit display shows “Er” to indicate an error.

3. Press Save to save the new setting or Cancel to retain the original setting. For lighting loads where an adjustment has been made, lights jump to the original low-end level. For lighting loads where no adjustment was made, light levels are not changed.

Button Functions (bF)

This setup option is used to define the behavior of the buttons on the iLux device and on remote keypads if the operation desired is not the default operation. Remote keypads must be ID’d during auto-discovery, which sets the keypads to their default functions, prior to changing their behavior.

NOTE: The ON and OFF buttons on the iLux device cannot be programmed. The operation of the up/down button is programmed using the “ud” Setup mode option.

NOTE: If an illegal button is programmed (e.g., the ON button or the remote keypad is programmed as master raise or lower or master up or down), the LED blinks three times to indicate that setting did not take place, and the 2-digit display shows “Er.”

NOTE: Other button functions, including shifted functions, can be defined using the iLux Designer configuration program.

Set up the button functions.

1. Enter Setup mode, and scroll to the “bF” option.
2. Press the up/down button to scroll through the available button functions and values. This scrolls through all values for each function before proceeding to the next function.
3. Press and hold the button to auto-repeat options. During auto-repeat, when the minimum or maximum value for that function is reached, auto-repeat stops. The next button push increases or decreases to the next function.

   The following table shows the available functions and values. Other functions require a PC with iLux Designer software to configure them.

Button Functions Accessible from the Front Panel

BUTTON FUNCTION	CODE	POSSIBLE VALUES
Recall Scene	F1	oF, on, 1-15
Toggle Scene	F2	on, 1-15
Control Shade (open, stop, close, and stop)	F3	AL, 1-6
Master Raise or Lower (last scene)	F4	uP, dn, ud (rockers only)

4. Assign button functions:
    a. Scroll to the desired function and value.
    b. Press each appropriate function button or remote button to assign the displayed function and value to that button. When the button is released, the LED for that button blinks once to indicate that programming has occurred.
    c. Press the up/down button to scroll to the next function and value to be assigned, and assign the desired buttons.
    d. Repeat this procedure for each function and value to be assigned.
5. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Up/Down (ud) Button Function

Define the operation of the up/down button.

1. Enter Setup mode, and scroll to the “ud” option.
2. Press the up/down button to select the desired mode. The display alternates between “ud” and “#” where “#” is the mode, as defined in the following table. The first function to be displayed is the current function.

Up/Down (ud) Button Function Modes

FUNCTION	MODE
Lights (Last Scene) Master Up or Down	L
Shades Master Up or Down	S

Since there are other functions that can be programmed via the iLux Designer, if the current function is not one of these, the display should show “ud. – –”. Pressing the up/down button goes to mode L and then mode S.

3. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Occupancy (oc) Sensing

iLux devices support up to four nonsystem or Cresnet occupancy sensors and four photo sensors. The Cresnet IDs will be auto-set to input 1 with Cresnet IDs C0 and C1 for nonsystem occupancy sensors and to input 2 with Cresnet IDs B0 and B1 for Cresnet occupancy sensors. (Photo sensing for both nonsystem and Cresnet sensors are through input 2.)

Define the operation of the occupancy sensing feature:

1. Enter Setup mode, and scroll to the “oc” option.
2. Press the up/down button to select the desired function. The display alternates between “oc” and the code number, as defined in the following table. The first function that is displayed is the current code.

Occupancy Sensing Codes

FUNCTION	CODE
Do nothing on either exit or entry	0
Recall specified scene on exit, do nothing on entry	1
Recall specified scene on entry, do nothing on exit	2
Recall specified scenes on entry and exit	3

NOTE: In mode 0, even though nothing happens locally when occupancy state changes, the occupancy status is still reported to Cresnet.

Mode 0 can also be used to test the range of the occupancy sensor. While the device is locked in the “oc” option, the middle LEDs on all six bar graphs blink each time motion is sensed.

The exit time cannot be adjusted or displayed when the device is programed from the front panel. If exit time has not been changed with iLux Designer or SIMPL Windows, the default is 30 minutes. Scenes to be recalled also cannot be changed from the front panel. If they have not been changed with iLux Designer, the Off scene is recalled on exit (if enabled) and On scene is recalled on entry (if enabled).

If these items are changed with iLux Designer, they can be enabled and disabled from the front panel; specified scenes or exit time cannot be modified.

3. Press Save to save the new setting or Cancel to retain the original setting.

Run Auto-Discovery (Ad)

This setup option is used to find remote devices on the network, assign Cresnet IDs to new devices, and assign default functions to new devices.

NOTE: If a C2N-IO, which is sold separately, is connected to the system, set the rotary DIP switches to 00 or D5 before performing auto-discovery. If the C2N-IO is not configured properly, the iLux device cannot recognize that the C2N-IO is connected and may result in an error.

The iLux device keeps a list of all devices on its local network. If the auto-discovery finds devices that match the list, no action is performed to those devices.

In addition to initially configuring the system, auto-discovery can be used to add or replace keypads or shade controllers. The new device is added and assigned default functionality, if desired.

To replace a device, remove the device and replace with another device of the same type. When the original device executes auto-discovery, the new device takes on the functionality of the original device. Use the “bF” option to change functionality, if desired.

All shade controllers of a given type are assigned to a single shade group. Use the “AS” option to change them.

CAUTION: If there are SSC shade controllers on the network that do not have a functional shade connected to channel 1, shade control may not operate properly. Therefore, any SSC shade controllers without any shades attached should be removed from the network before they run auto-discover. Also, if any SSC shade controllers have only one shade attached, it must be attached to channel 1.

Run auto-discovery.

1. Enter Setup mode, and scroll to the “Ad” option.
2. Press the up/down button (top, bottom, or both) and hold for 5 seconds. The auto-discovery process then starts. (If the button is released before 5 seconds are up, nothing happens, but “Ad” option is locked in.) Once the “Ad” option is locked in, the Cancel LED blinks.

   During auto-discovery, the “Ad” display blinks. When auto-discovery is done, the 2-digit display blinks between “Ad” and “##” where “##” is the number of devices discovered on the network. The Save LED also starts blinking.
3. Press Save to save the new setting or Cancel to retain the original setting.

The Error Conditions table describes the possible errors that can occur during the auto-discovery process (before Save is pressed).

Error Conditions

2-DIGIT DISPLAY	ERROR CONDITION
E1	Corrupt data on network.
E2	Two or more devices with same TSID number.
E3	Invalid device type found on network. (CLS-C6 modules only support a limited number of device types.) Refer to “Appendix A: Supported Devices” on page 35 for details.
E4	Too many keypads found on network. A maximum of 16 are supported.
E5	Too many shade controllers found on network. A maximum of 16 are supported.
E6	For future use.
E7	Too many slave CLSI units found on network. A maximum of 8 are supported.

- If any of these errors occur, when the auto-discovery process is done, the 2-digit display blinks between “Ad”, “##”, and “E#” where “##” is the total number of devices discovered on the network, including invalid devices, and “E#” is the error type listed above. If more than one error is present, all error codes are displayed in sequence.
- In case of an error, the Save LED does not light and the Cancel LED remains blinking. The user must press Cancel, correct the error, and try again.

If there are no errors during the auto-discover process, and the user presses Save, the iLux device updates the Network IDs for any devices that require it.

NOTE: Duplicate TSIDs cannot always be accurately detected. They can cause corrupt data errors to be displayed or cause the program to report fewer devices than actually exist on the network. Troubleshooting for these errors is essentially the same.

Assign Shade (AS) Groups

This setup option is used to define which channels on each shade controller are assigned to which shade group.

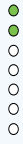
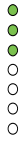
NOTE: Crestron drapery track controllers are also configured during the “Assign Shade Groups” process. The drapery track controller setup and functionality is identical to the setup of shades.

Assign the shade groups.

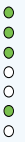
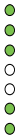
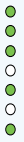
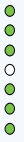
1. Enter Setup mode, and scroll to the “AS” option.
2. Press the up/down button to scroll through the shade groups. The display blinks between “AS” and “#” where “#” is the shade group to be assigned. The shade group number range is 0 through 6.
3. Enter “0” to unassign a channel. Alternatively, press any of the six function front panel buttons to jump to a specific shade group. The front panel LED corresponding to the selected shade group lights.

   In the “AS” option, the bar graphs indicate the status of each of the shade groups.

Shade Group Bar Graph Status

SHADE GROUP	BAR GRAPH STATUS
No controllers assigned, all LEDs remain off	
C2N-SDC	
C2N-SDC-DC	
C2N-SSC-2	
CSC-DCCN	
CSC-ACCN	

Shade Group Bar Graph Status

SHADE GROUP	BAR GRAPH STATUS
CSC-DRPCN	
CSM-QMTDC-256-2-CN	
CSM-QMTDC-163 1-CN	
CSM-QMTDC-250-2-CN	
CSM-QMTDC-250-4-CN	
CSM-QMTDC-DRP-3-CN	

1. When “AS / #” is displayed, press the channel 1 or channel 2 up or down button on a shade controller to assign that channel of the shade controller to the current group. When the button is pressed, the Setup LED on that device blinks for 1 second to confirm that it has been assigned. The bar graph for that group also blinks off for 1 second.
2. Go to a shade group and assign all channels.
3. Repeat for all shade groups.

   NOTE: A shade group can have only one type of shade controller, and a given channel on a shade controller can belong only to a single group. If a shade controller is accidentally configured to the wrong group, go to the correct group and reassign it.

4. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Set Cresnet ID of This Unit (id): CLS(I)-C6 and CLS(I)-C6M Devices Only

If a CLS(I)-C6 or CLS(I)-C6M device is connected to a Cresnet control, the Cresnet ID may have to be changed. When the unit being configured is connected to another iLux device’s local network, do not set the ID; running auto-discovery on the master device sets the ID automatically, as does the Set ID process of the iLux Designer.

Set the Cresnet ID.

1. Enter Setup mode, and scroll to the “id” option.
2. When the display alternates between “id” and the current Cresnet ID, press the up/down button to adjust the ID up or down (03-FE).
3. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Display and Set RF ID of This Unit (id): CLS(I)-C6RF and CLS(I)-C6MRF Devices Only

If a CLS(I)-C6RF or CLS(I)-C6MRF device is to be wirelessly connected to a control system via infiNET, change its RF ID. When the unit being configured is connected to another iLux device’s local network do not set the ID; running auto-discovery on the master device sets the ID automatically, as does the Set ID process of the iLux Designer.

Set the RF ID:

1. Enter Setup mode, scroll to the “id” option.
2. Press the up/down button. The display shows the current RF ID. The id mode is now locked. A dot is shown to the right of the “id.” The display alternates between “id” and the current RF ID.
3. Press the up/down button to adjust the ID up or down (03-FE).

   NOTE: The valid address range is 03 to 20. If at any time the transceiver connection is lost because the serial jack was inserted, the following occurs: the “E1” error code, which is displayed when the device cannot communicate with the transceiver, is shown; the Save LED turns off; and the Cancel LED turns on. The **Cancel** button can be used to exit Setup and enter Standard mode.

If the button is held for more than 1/2-second, the unit auto-repeats and starts scrolling through the values. At the upper or the lower limit, the unit pauses for 1/2-second and then wraps around.

4. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Photocell Test (Ph)

This setup option is used to test the photocell output.

NOTE: Auto-discovery must be performed before the iLux device recognizes a GLS-LOL photocell. The photocell must also be installed and wired to a GLS-SIM or C2N-CBD-P keypad.

Test the photocell output.

1. Enter Setup mode, and scroll to the "Ph" option.
2. Press and hold either the top or bottom portion of the raise and lower button. The 2-digit display indicates the real-time output of the photocell in a percentage (0 to 99).
3. Press **Save** to save the new setting or **Cancel** to retain the original setting.

NOTE: Daylight harvesting is disabled when in the "Ph" option.

Photocell Calibration (Pc)

This setup option calibrates the photocell response when daylight harvesting is enabled. Photocell calibration is required to customize the lighting response to changes in daylight. The iLux device allows each load to be calibrated independently for maximum performance. Typically, loads closest to sources of natural light are made more sensitive to daylight and those furthest from daylight are made less sensitive. Loads that receive little or no daylight can be disregarded by the photocell. When a photocell is present, Scenes 1 through 8 (plus the On scene) are automatically under photocell control. Scenes 9 through 16 ignore the photocell at all times.

NOTE: Photocell calibration is best performed on a sunny day when all loads are above their minimum dim level but below 80%. Performing photocell calibration when there is insufficient daylight may cause undesired operation on a bright day. Conversely, performing photocell calibration when there is excessive daylight may prematurely trigger loads to reach their minimum dim level, making calibration impossible. Refer to "Photocell Lower Limit (PL)" on page 19.

NOTE: Loads configured with high sensitivity change more in response to differences in daylight. On a bright day, these loads are lower. Loads configured with low sensitivity respond less to changes in daylight. On a bright day, these loads are higher.

NOTE: In this mode, internal scene levels for all loads increase to 100% for calibration purposes.

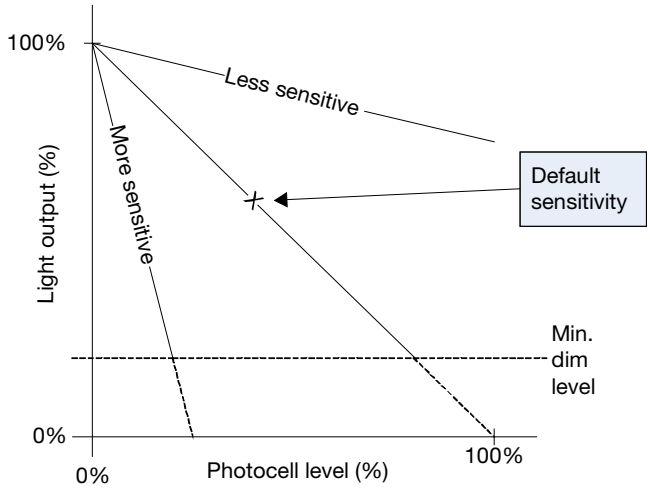
NOTE: Non-dim loads cannot be used with daylight harvesting.

Calibrate the photocell:

1. Enter Setup mode, and scroll to the “PC” option.
2. Press either the top or bottom portion of the raise and lower button. A period appears in the 2-digit display, indicating the mode has been selected.
3. To enable or disable photocell control for a given load, press and hold both sides of its rocker button for 5 seconds. Loads that are not controlled by a photocell display a bar graph with only the top and bottom two LEDs lit.
4. Press the rocker buttons below each load to adjust each individual sensitivity level. Pressing the right half of the rocker button lowers the sensitivity, increasing light output level. Pressing the left half of the rocker button raises sensitivity, decreasing light output level. The 2-digit display indicates the current photocell level and the selected sensitivity. Light levels adjust automatically when the photocell reading changes.

   The following diagram illustrates the relationship between sensitivity, light output, and photocell level.

   Photocell Calibration



NOTE: It is not possible for loads to be adjusted from 0 to 100%. The range of actual light output is governed by the current photocell level, sensitivity, and minimum dim level.

NOTE: Attempting to adjust the sensitivity for loads not controlled by a photocell causes the 2-digit display to blink “Er.”

5. Press Save to save the new setting or Cancel to retain the original setting.

Photocell Lower Limit (PL)

This setup option is used to adjust the lower limit for the photocell when daylight harvesting is enabled. This setting prevents the load from dimming below a specified level, regardless of the amount of available light. Valid values are 0 to 30%. The default value is 10%.

Adjust the lower limit for each load.

1. Enter Setup mode, and scroll to the “PL” option. All lighting loads lower to the minimum dim level.
2. Press the rocker buttons below each load to adjust each individual minimum dim level.
3. Press **Save** to save the new setting or **Cancel** to retain the original setting.

NOTE: Attempting to adjust the lower limit for a non-dim or non-photocell controlled load produces no results and causes the 2-digit display to blink “Er.”

Photocell Response Time (Pr)

This setup option is used to adjust the lights’ response time to a change in the photocell reading. Valid values are 10 seconds, 30 seconds, 1 minute, 2 minutes, and 5 minutes. The default value is 1 minute.

Adjust the response time of the photocell.

1. Enter Setup mode, and scroll to the “Pr” option.
2. Press either the top or bottom of the raise and lower button. The 2-digit display indicates the response time.
3. Press the ˄ or ˅ buttons to increase or decrease the response time.
4. Press **Save** to save the new setting or **Cancel** to retain the original setting.

NOTE: During operation, the iLux device temporarily utilizes a faster response time when there are rapid changes in light, such as when shades or blinds are opened or closed. If daylight in the room has increased, the response time is increased to 10 seconds. If daylight in the room has decreased, the response time is 2 seconds. Under normal operation, the iLux device implements a gradual response time.

Acquire Gateway (Ac)

This setup option is used to acquire the CLS(I)-C6RF or CLS(I)-C6MRF devices only to the C2N-MNETGW gateway.

Acquire the device to gateway:

1. Enter Setup mode, and scroll to the “Ac” option.
2. Press and hold the up/down button for 5 seconds. The “Ac” text blinks and the Cancel LED blinks. The acquire process may take up to five minutes.
3. When acquiring is done, the display alternates between “Ac” and result codes.
   - If acquire is successful, the Save LED blinks, the **Cancel** button is disabled, and the Cancel LED turns off. Press **Save** to go into Standard mode. Refer to the table that follows for result code descriptions.
   - If acquire is unsuccessful, the Cancel LED blinks. The previous gateway link information is restored. Press **Cancel** to go into Standard mode.

Acquire Result Codes

RESULT CODE	DESCRIPTION
00	Successful
E1	Cannot communicate with the transceiver
E2	Search expired; no gateway found
E3	RF channel is disabled. This code is immediately shown when the acquire option is entered.
E4	Invalid EUID or EUID was not assigned

Unacquire Gateway (UA)

This setup option is used to unacquire the CLS(I)-C6RF or CLS(I)-C6MRF devices only from the C2N-MNETGW gateway.

Unacquire the device from the gateway.

1. Enter Setup mode, and scroll to the “UA” option.
2. Press and hold the up/down button for 5 seconds. The “UA” text blinks, and the Save and Cancel LEDs blink.
   - If unacquire is successful, the Save LED blinks. The display alternates between “UA” and “00.” Press **Save** to end Setup mode and enter Standard mode
   - If unacquire is unsuccessful, the Cancel LED blinks. The display alternates between “UA” and “E2.” Press **Cancel** to end Setup mode and enter Standard mode.

Unacquire Result Codes

RESULT CODE	DESCRIPTION
00	Successful
E1	Cannot communicate with the transceiver
E2	Unacquire failed (e.g., was never acquired))

Display or Set RF Channel (Ch)

This setup option is used to display or set the RF channel for the CLS(I)-C6RF or CLS(I)-C6MRF devices only.

Display or set the RF Channel.

1. Enter Setup mode, and scroll to the “Ch” option.
2. Press the up/down button. The current channel is shown. The channel option is now locked. A period is shown to the right of the “Ch.” The display alternates between “Ch” and the current channel.

   If the button is held for more than 1/2 second, the unit auto-repeats and starts scrolling through the values. At the upper or lower limit, the unit pauses for 1/2 second and then wraps around.
3. Press **Save** to save the new setting or **Cancel** to retain the original setting.

Supported Channel Settings

SUPPORTED CHANNEL SETTINGS	DESCRIPTION
0	Channel disabled
11–26	Fix channel
Au	Auto-channel

NOTE: If at any time the transceiver connection is lost because the serial jack was inserted, the following occurs: the "E1" error code, which is displayed when the device cannot communicate with the transceiver, is shown; the Save LED turns off; and the Cancel LED blinks. The Cancel button can be used to exit Setup and enter Standard mode.

Error Codes

ERROR CODES	DESCRIPTION
E1	Cannot communicate with the transceiver. The Cancel LED blinks. Pressing Cancel returns the CLS-C6RF to Standard mode.
E2	Invalid channel selected. This code displays on entry if invalid channel settings are reported by the transceiver. The up/down button can select valid channel settings.

Restore Factory Defaults (Fd)

This setup option is used to restore all factory default settings.

Restore all settings to their factory defaults.

1. Enter Setup mode, and scroll to the "Fd" option.
2. Press and hold the up/down button for 5 seconds. This procedure is locked in and the Save LED blinks. If the button is released before 5 seconds are up, no action is performed.
3. Press Save to save the new setting or Cancel to retain the original setting. The save process may take a few seconds. During this time, the Save LED is lit steadily and the 2-digit display shows "– –". When the process is complete, the LEDs extinguish.

The factory default configuration does not include any remote devices. To re-initialize remote devices, run auto-discovery after this function. Running the factory default function modifies the Cresnet ID of the CLS(I)-C6/C6M devices or the RF ID of the CLS(I)-C6RF/C6MRF devices.

Refer to "Appendix D: Factory Default Values" on page 64 for default values.

Configuring with iLux Designer

The Crestron iLux Designer program software, supplied with all of the iLux devices, configures an iLux device as an independent, stand-alone device or as a network device in a Cresnet system.

Use a direct serial connection to configure the iLux device.

NOTE: Connecting the serial cable to the front panel of the iLux device disconnects the control system network.

Configuring the iLux device consists of setting the load schedule definition, the shade group configuration, the scene definitions, the iLux device panel configuration, and the keypad configuration for each iLux device.

NOTE: Only one iLux device can be configured at a time. If there are multiple iLux devices in a system, each one must be individually configured.

Below are minimum software versions required to use the iLux Designer program:

- iLux Designer version 1.02.05 or later
- Crestron Toolbox version 1.01.11 or later
- Crestron Engraver version 2.5.0 or later[1]
- Crestron Database version 17.3.0 or later[2]

The following sections provide a brief description of the iLux Designer functions. Refer to the iLux Designer online help for detailed explanations.

Load Schedule

The “Load Schedule” screen allows identification of up to six lighting loads (circuits) and addition of lighting load types for each channel. The screen also allows specification of load type fixture wattage and quantity, breaker size, expected loss factor from magnetic transformers (magnetic low voltage and neon or cold-cathode types only), upper and lower dimmer levels, and non-dimmer behavior.

The software issues warnings if the individual loads or total system wattage exceeds specified limits:

- 800 W per load (1,920 W system maximum with a 20 A breaker, 1,440 W maximum with a 15 A breaker, and 1,000 W maximum with an arc fault breaker) for a 120 Vac installation
- 800 W per load (2,200 W system maximum for a 220 Vac installation, 2,300 W system maximum for a 230 Vac installation, and 2,400 W system maximum) for a 240 Vac installation

Shades

The “Shades” screen allows up to 16 shade controllers to be assigned and six shade groups to be defined. The screen also allows value entry for jog time, maximum time, lockout time, and shade controller channel assignment to each shade group.

With C2N-SDC and C2N-SDC-DC shade controllers, the system cannot recognize when the shade has reached the limits of travel and stopped. If the shade is commanded to go to full open or full close, the system assumes it is moving until the maximum time is reached. To set the maximum time effectively, measure the time it takes the shade to travel from full close to full open and the time to travel from full open to full close. Take the longer of these two times and set maximum time slightly more than that. Actual experience may require that a longer time is set.

[1] Required only if using Crestron Engraver to prepare custom labeling
[2] Required only if using Crestron Engraver to prepare custom labeling

Scenes

The “Scenes” screen allows 15 regular scenes to be defined (lighting levels and shade positions) in addition to the standard Off and On scenes. For all scenes, enter a fade time in seconds or minutes and the desired level for each lighting load. Select “– –” if a given load should not be affected by that scene. Similarly, set the desired position for any shade group. Shades within the CSC-DCCN, CSC-ACCN, CSC-DRPCN, CSM-QMTDC-256-2-CN, CSM-QMTDC-163-1-CN, CSM-QMTDC-250-2-CN, CSM-QMTDC-250-4-CN, and CSM-QMTDC-DRP-3-CN shade groups will have a drop-down menu with the following shade position options:

- 100% (Open)
- 75%
- 50%
- 25%
- 0% (Closed)
- --- (Unaffected)

In addition, a value between 0-100% can be set manually. To prevent changing settings from the front panel, check the Front Panel Lockout box.

CLS-C6

The “CLS-C6” screen allows entry of the manual ramp rate used by the iLux device when manually raising or lowering light levels, defines the functionality of the six function buttons, defines the behavior of the up/down button, specifies if scene raise or lower is enabled, and defines the entry action, the exit action, and motion sensor timeout when the motion sensor function is enabled. Crestron Engraver software can also be launched to create an engraver project for the CLS-C6RF label.

NOTE: In systems with multiple iLux devices that have the motion sensor function enabled, it is important to set the motion sensor timeout of each unit to the same value.

Keypads

The “Keypads” screen allows up to 16 remote keypads to be added, specifies the remote keypad type, and defines the action type, action, and target of each button on that keypad. Crestron Engraver can also be launched to create an engraver project for each remote keypad.

NOTE: All keypads defined in the project must be installed and present on the iLux device network before setting Network IDs via the “Finish” screen.

Touchpanel

The “Touchpanel” screen allows up to two touch screens to be added. Unique names for the touch screen and buttons can be added and the action type, action, and target of each button on that touch screen can be defined.

NOTE: All touch screens defined in the project must be installed and present on the iLux device network before sending touch screen projects or setting Network IDs via the “Finish” screen.

Finish

The following operations can be performed from the Finish screen: send projects from the iLux Designer to the iLux device, set Net IDs for network devices, retrieve configuration information from the current iLux device module, and print reports that give the spreadsheet data from each of the configuration screens.

Console Command Settings

Use console commands to enable or disable IR reception, reset the brightness level for the white and green LEDs, and reset the Glow mode level.

Refer to "Appendix D: Factory Default Values" on page 64 for LED and Glow mode default settings. If the settings are acceptable, continue with the configuring procedures. If these settings are not satisfactory, open the Crestron Toolbox and click Tools > Text Console to display the "Text Console" window and follow the instructions explained in "Glow Mode Brightness" below.

IR Reception

Adjust IR reception settings.

- At the "iLux>" prompt, type `IR`, and press Return to display the current setting. The system displays the following:
  ```
  IR reception is enabled (or disabled) iLux>
  ```
- To disable IR reception, type `IR disable`, and press Return. The system displays the following:
  ```
  IR reception is disabled iLux>
  ```
- To enable IR reception, type `IR enable`, and press Return. The system displays the following:
  ```
  IR reception is enabled iLux>
  ```

LED Brightness

These settings are for the white LEDs next to the function buttons, the ON button, the shift LEDs, and the green bar graph LEDs.

Adjust LED brightness.

1. At the prompt, type `WHITELEDLEVEL` or `GREENLEDLEVEL`, and press Return. For example, the system displays the following:
   ```
   White led brightness level = 70 iLux>
   ```
2. To change the brightness, type `WHITELEDLEVEL ##` or `GREENLEDLEVEL ##` where "##" is any number from 1 to 100.
3. Press Return; the respective LEDs go to their new level.

Glow Mode Brightness

Glow mode is enabled when all lighting loads are turned off. In Glow mode, all the white LEDs turn on at a very low level to make it possible to find the unit in a darkened room.

Adjust glow mode brightness.

1. Press the OFF button to turn all lights off.
2. At the prompt, type `WHITELEDGLOWLEVEL`, and press Return. The system displays the following:
   `White led glow level = 7 iLux>`
3. To change the brightness, type `WHITELEDGLOWLEVEL ##` where "##" is any number from 1 to 100.

   NOTE: The glow level should be much lower than the normal LED brightness.

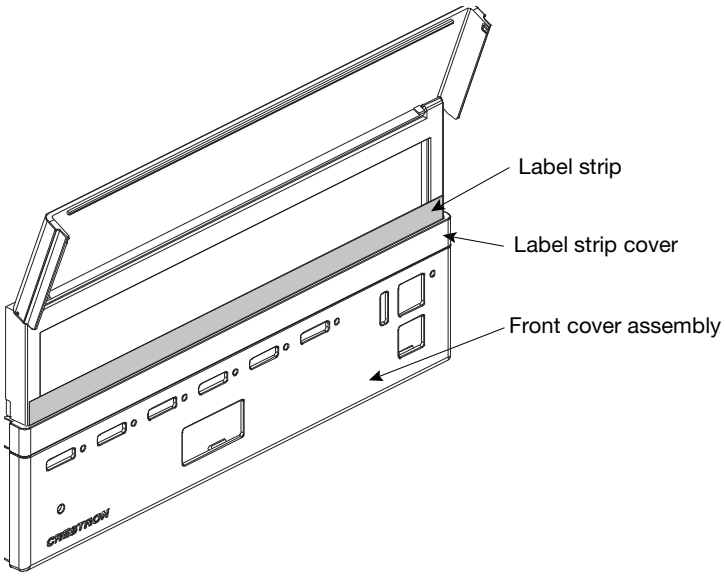
4. Press Return. The white LEDs go to their new level.

Replacing the Function Button Label

Each iLux device is supplied with a preprinted label sheet in white, almond, or black to match the unit's color. The sheet contains two labels showing the standard Scene 1 through Scene 6 button labels, three labels with clear spaces that permit writing in single-line button names, and three labels with clear spaces that permit writing in two-line button names to accommodate shift functions. The label sheet is microperforated for easy separation. Carefully fold the sheet along the perforations to snap them apart.

Replace the label on the device.

1. Remove the front panel assembly by gently pulling out and up from the bottom edge.
2. Carefully pull the label cover from the top edge at each side of the unit. Refer to the following illustration.
3. Remove the original label, and replace it with the new label.
4. Replace the label cover, making sure the small tabs on the bottom edge are inserted in the slots on the unit cover, and snap the label cover into position.
5. Install the front cover assembly on the unit by lining it up at the top and pressing the bottom edge until it snaps into position.



Operation

The iLux device always operates in Standard mode, Lights mode, Shades mode, and Setup mode.

The following sections provide detailed descriptions of Standard mode, Lights mode, Shades mode, and Setup mode. It is important to have a good understanding of these operating modes before attempting to take advantage of the extensive features available through the iLux device. Refer also to “Appendix E: Button Functions” on page 66 for details on button functions.

Setup mode is used to redefine many of the iLux device settings. Refer to “Setup Mode” on page 7 for more details.

Standard Mode

Standard mode is the default mode. Buttons are typically used to recall scenes, although they can be redefined to serve other functions.

NOTE: The iLux devices support the use of a photocell to automatically reduce light levels when natural light is present; this is known as daylight harvesting. Each load can be set for a custom response to daylight levels or set to not respond at all.

If a photocell is present, Scenes 1 through 8 and the On scene automatically utilize daylight harvesting. Scenes 9 through 16 ignore daylight harvesting at all times.

When under photocell control, the load level can change automatically based on the current photocell level and the scene setting. When this automatic behavior is enabled, the top bar graph LED for that load blinks.

- The six function buttons across the front panel are scene recall buttons. The buttons can be reprogrammed in Setup mode, or via the iLux Designer program, to perform different actions.
- The ON button function always recalls the On scene. The typical On scene is all lights at 100%; however, other values can be set just like any other scene.
- The OFF button function always recalls the Off scene. The Off scene always sets all lights to 0%; however, fade time and shade motor behavior is programmable.
- Whenever all the lighting loads are off regardless of how they are turned off, the air-gap relay opens after a 2-second delay to allow servicing of the lighting loads.
- The up/down button can be defined to be either lights master or shades master.
    - If defined to be lights master, the up/down button ramps the lighting loads included in the most recently recalled scene up and down. Non-dim loads are not affected. Refer to “Lights Mode” on page 32 for operating details.
    - If defined to be shades master, the up/down button raises or lowers the shades. Refer to “Shades Mode” on page 32 for operating details.
    - If programmed with the iLux Designer software, this button may be assigned to activate the shift function rather than being a lights or shades master. Pressing the button toggles between upper and lower function sets.
    - If programmed with the iLux Designer software, this button can also be assigned as “all lights master,” instead of “last scene master.”

- The six bar graphs indicate current intensity for each of the six lighting loads.
- The 2-digit display is normally blank, except when a scene recall is in progress. It then shows the time remaining for lights to reach their target values.

Button Types

The six function buttons can be programmed in Setup mode to be one of the types listed below.

NOTE: Other button functions may be specified, using the iLux Designer software. Refer to "Configuring with iLux Designer" on page 21 for details.

Recall-Scene Buttons

Recall-scene buttons are used to recall a scene (i.e., have the specified lighting loads or shade groups go to their specified levels in the specified time). Time only affects lighting loads; shade time is a function of the shade motor.

NOTE: If a photocell is present, Scenes 1 through 8 and the On scene automatically utilize daylight harvesting. When this automatic behavior is enabled, the top bar graph LED for that load blinks.

NOTE: When editing scenes with photocell-controlled loads, temporarily disable the photocell output. When the scene is recalled, photocell control resumes and light levels may change. To reduce the possibility of unintended scene behavior caused by photocell reaction to sunlight, edit scenes at night.

- During scene recall, the scene LED blinks until all affected lighting loads reach their target levels. After this, the LED remains on steady.
- Pressing a scene button while its LED is blinking performs a scene cut, and lights immediately go to target levels.
- When a scene is recalled, the 2-digit display initially shows the fade time of the scene and then counts down to zero (0) as the scene progresses.
- For the six dual buttons, if the raise or lower function is enabled on recall-scene buttons via the iLux Designer software and a scene is selected, the scene LED is on steadily, and the right and left sides of the function button can be used to raise and lower all dimmable lighting loads contained in that scene.
- The ON button always acts as a recall-scene button for the On scene, operating identically to other recall-scene buttons except that items specific to dual buttons do not apply.
- The OFF button always acts as a recall-scene button for the Off scene, operating identically to other recall-scene buttons, except in the following cases:
    - There is no LED associated with this button. Note that cut during fade still functions. Note also that a feedback LED for an OFF button on remote keypads acts as all other scene recall LEDs—it blinks while the off scene is being recalled and is lit when the unit is on the Off scene.
    - Items specific to dual buttons do not apply.

- Note that if the last scene recalled was the Off scene, the last scene master affects all dimmable lighting channels since they are all included in the last scene.
- Any time all six lighting loads are off, all seven of these LEDs glow at a low intensity to allow finding the iLux device in the dark.

Toggle-Scene Buttons

The toggle-scene button alternates the specified scene between the On and Off states. The On state is the same as recalling a scene; the Off state turns off all the affected lights in the scene.

- The toggle scene does not affect shades and should not be assigned to any scene that includes shades.
- Note that the ON and OFF buttons are fixed recall-scene buttons and cannot be defined to toggle. However, a remote keypad button can be defined to toggle the On scene but not the Off scene.
- The LED is on only if any lighting load in the scene is above 0% (ignores state of shades).
- Pressing the button while all lights are off and the LED is off recalls a scene. Pressing it while any lights are on and the LED is on turns that scene's lights off.
- During scene recall, the scene LED blinks until all affected lighting loads reach their target levels. After this, the LED remains on steady until all affected lights go off.
- During scene turn off, the LED blinks until all affected lighting loads reach 0%. After this, the LED is off until any affected light turns on.
- During a scene recall or scene turn off, pressing a scene button while its LED is blinking performs a scene cut.
- Behavior of the 2-digit display is the same as for scene recall.

Master (Last Scene) Raise and Lower Buttons

The master (last scene) raise and lower button raises or lowers all the lights in the specified scene for as long as the button is pressed.

- Press the right side to raise lights, the left side to lower, and release to stop.
- All dimmable lighting loads ramp up or down at a fixed rate, which is the same rate as that used for individual up or down operation in Lights mode.
- Non-dim lighting loads are not affected.
- The feedback LED lights while the button is being pressed.

Lighting Master (Last Scene) Raise Buttons

The lighting master (last scene) raise button raises the lights in the specified scene for as long as the button is pressed. The button functions the same as the master raise and lower button, except that pressing any part of the button raises the lights.

Lighting Master (Last Scene) Lower Buttons

The lighting master (last scene) lower button lowers the lights in the specified scene for as long as the button is pressed. The button functions the same as the master raise button, except that pressing the button lowers, rather than raises, the lights.

Shade Control (Open/Stop/Close/Stop) Buttons

The shade control button cycles the specified shades through the Open, Stop, Close, Stop functions with each button press.

- Use this button to control a specified shade group or all shade groups.
- Press the right side of the function buttons to open the shades; press the left side to close the shades; press the center to make the shade move in the opposite direction.
- If the left or right side of a button is pressed while a shade is moving not due to a scene recall, the shade stops moving. When there is a second press of the left or right side of any button, that button carries out its originally intended function.
- If there are nonmoving and moving shades, not due to a scene recall, in a system when the left or right side of a button is pressed, the nonmoving shades will not move but any moving shade will stop. When there is a second press of the left or right side of any button, that button will carry out its originally intended function.
- The feedback LED is on only while a button is pressed.

IR Receiver

Functions can also be triggered through the built-in RC5 IR receiver using the optional CLS-IRHT8 remote or a third-party remote. Refer to “Appendix G: RC5 Code Expansion” on page 77 for details.

Occupancy Sensing

iLux devices support up to four nonsystem or Cresnet occupancy sensors and four photo sensors. Occupancy sensing utilizing the built-in sensors, CLS(I)-C6M and CLS(I)-C6MRF devices only, may have specific actions determined for entry and exit. Entry or exit actions may be disabled. The Cresnet IDs will be Auto-Set to input 2 with Cresnet IDs B0 and B1 for Cresnet occupancy sensors. Photo sensing for both nonsystem and Cresnet sensors are also Auto-Set to input 2. A limited number of actions are available when programmed locally; more options, including recalling predefined scenes, are available when programmed with the iLux Designer program. The default action, when only the front panel of the iLux device is being used, is to recall the ON scene upon occupancy and the OFF scene upon vacancy.

If motion is detected, or some other activity takes place, a room is considered occupied. If no activity takes place for a specified time—the default is 30 minutes—the room is considered unoccupied.

When the state of the room changes from occupied to unoccupied, the exit function, if enabled, is executed. When the state of the room changes from unoccupied to occupied, due to motion detection, the entry function, if enabled, is executed. When the state of the room changes from unoccupied to occupied, due to a button press or the receipt of a command, no function is executed.

NOTE: In systems with multiple iLux devices that have the motion sensor function enabled on any of the units, set the motion sensor timeout of each unit to the same value. Otherwise, operation may not be as expected.

External partition sensors provided by others connected via the GLS-SIM product enable additional actions such as room combining. Refer to “Appendix F: Room Combining” on page 74 for additional details.

Setting a GLS-SIM to the designated Cresnet ID, input 1: C0 or C1, causes this GLS-SIM to behave like an external occupancy sensor. External sensors must be auto-discovered through the “Ad” Setup mode option. Both inputs on the GLS-SIM are treated identically, allowing a total of up to six occupancy sensors with three wired in parallel on each input. Refer to the GLS-SIM Installation & Operations Guide (Doc. 6768) at www.crestron.com/manuals for detailed information.

Any external sensors are internally OR’d together with the internal motion sensor, if present.

The timeout property, which is defined in iLux Designer, does not affect external sensors in any way. This property applies only to the internal sensor in the iLux, when present. External sensors are responsible for providing their own timeout.

Override Mode

The iLux device supports an Override mode, which can be triggered by a GLS-SIM or DIN-IO8. When Override mode is engaged, a special Override scene is recalled and all local functionality of the iLux, and associated keypads, are locked out. By default, the Override scene is all lights at 100% and supports a fade time of only 0 seconds.

The Override scene can be programmed locally on the iLux by entering the scene programming (Sc) option and then cycling through the available scenes until “Or” appears on the display.

The Override scene cannot be set so that all loads are off.

When Override mode is disengaged, all loads revert to their previous values. During Override mode, all slave units are placed into Override mode as well, regardless of the room combining status.

During Override mode, all Cresnet commands, whether sent by a control processor or by a master iLux to a slave, are ignored except for load level commands, which cause the new final value to be stored and thus recalled when the unit exits Override mode.

Override mode levels take precedence over any limits set by Load Shed mode.

Load Shedding (Demand Response)

The iLux device can enter a Load Shed mode via an external input, such as a DIN-IO8 or GLS-SIM.

When the device enters Load Shed mode, any loads that must have their levels reduced do so with a 1/2-second fade.

While the device is in Load Shed mode, all loads must always be kept at or below their load shed level; the only exception is Override mode.

When the device exits Load Shed mode, loads that were commanded to go to a level below their load shed level shall fade to the originally desired level in 1/2 seconds.

While the device is in Load Shed mode, the 7-segment display shall blink “LS” at a rate of 1 second on, 1 second off, unless the display is actively showing something else.

When the iLux Designer software is used to program the device, any value can be entered into the Load Shed Max field, 0–100%. The default Load Shed Max value in iLux Designer is 80% for all loads.

Building Management System Interface (BMS)

A DIN-IO8 unit is supported for the purpose of providing a contact-closure interface to a BMS. A GLS-SIM is supported for the purpose of a very basic contact-closure interface to a BMS.

The DIN-IO8 requires a designated Cresnet ID in order to work properly in this capacity. The designated addresses are 0xD0 for normally open and 0xD1 for normally closed DIN-IO8 types.

The functionality of the DIN-IO8 and GLS-SIM are fixed and cannot be changed via Setup mode or the iLux Designer.

The functionality provided by the DIN-IO8 is shown in the following table:

DIN-IO8 BMS Functionality

PORT	FUNCTION
1	Recall On Scene (edge-triggered)
2	Recall Off Scene (edge-triggered)
3	Recall Scene 14 (edge-triggered)
4	Recall Scene 15 (edge-triggered)
5	Override Mode (level-triggered)
6	Load Shed Mode (level-triggered)
7	Defeat Occupancy Sensors (level-triggered)
8	Lockout Front Controls (level-triggered)

Four unique Cresnet IDs are defined for the GLS-SIM to allow this unit access to the following functions (two per ID):

- Unit 1 (Cresnet ID 0xC5): Recall the On or Off scene
- Unit 2 (Cresnet ID 0xC6): Defeat Occupancy Sensors or Lockout Front Panel Controls
- Unit 3 (Cresnet ID 0xC7): Recall scenes 14 or 15
- Unit 4 (Cresnet ID 0xC8): Override mode or Load Shed mode

For these units, DIP switches 0, 1, 2, and 3 determine whether the inputs are normally open, normally closed, active high, or active low.

In order for the DIN-IO8 to be compatible with any model of BMS, one Cresnet ID treats the inputs as normally open. That is, a closure activates the function. Another Cresnet ID treats the inputs as normally closed.

When inputs are treated as normally open, port 8 causes a short to ground when the room is considered occupied.

When inputs are treated as normally closed, port 8 causes a short to ground when room is considered unoccupied.

Lights Mode

Use lights mode to manually adjust any of the six lighting loads. To enter Lights mode, raise the cover and press the Lights button. The corresponding LED lights, and the six function buttons can now be used to adjust lighting loads 1 through 6. Any scenes that are currently in the middle of a fade immediately go to their target value. The seven white front panel LEDs go out. In this mode, these LEDs do not reflect the feedback status of the associated scenes. When the device is back in Standard mode, the LEDs return to their standard feedback indication.

The bar graphs indicate the current light level. Pressing the right side of one of the six function buttons raises the corresponding lighting load at the ramp rate. Pressing the left side of the button lowers the corresponding load at the ramp rate. When the button is released, the lights stop.

The ramp rate is normally 5 seconds for going from full off to full on. This can be adjusted using the iLux Designer software. Non-dim lighting loads go immediately to full on or full off.

NOTE: When a load is under photocell control, the top bar graph LED for that load blinks slowly. Manual adjustment of the load is still possible with the raise and lower buttons.

Manual adjustment of the load does not disable the photocell. The load changes in response to the photocell, but the level is shifted up or down according to an internal calculation that compensates for the amount of manual adjustment.

The 2-digit display indicates the current percentage level of the lighting load being adjusted (oF, 01 to 99, on). This display goes blank 3 seconds after the last adjustment. While the front panel button is being pressed, the LED under the corresponding bar graph lights solid to indicate which light level is being reflected.

The up/down button acts as an “all lights master” regardless of what function is programmed for it. The top button performs a master raise, all dimmable lighting loads, and the bottom button performs a master lower, all dimmable lighting loads.

The ON and OFF buttons on the iLux device operate normally while in Lights mode as do any Scene Recall, Scene Toggle, and SceneLts_Off commands from remote panels and Cresnet. However, during the fade, the 2-digit display does not show the fade time on the unit that is in Lights mode.

All other inputs and commands from any remote devices, motion detector, and Cresnet control system are processed as usual. If they affect the lighting load(s) being adjusted, the manual adjustment of that lighting load is terminated, and the new command takes precedence. To manually adjust this channel after the new command takes priority, release and re-press the button. The unit remains in Lights mode.

To exit Lights mode, press the Lights button again or press Cancel, and the LED goes off. The unit returns to Standard mode. Also, if no adjustments are made within 1 minute, the unit reverts to Standard mode.

Pressing the Shades button automatically exits Lights mode and enters Shades mode.

Shades Mode

Shades mode allows manual control over any of the six shade groups. To enter Shades mode, raise the cover and press the Shades button. The Shades LED lights, and the six function buttons can be used to adjust shade groups 1 through 6. Any scenes that are currently in the middle of a fade immediately go to their target value. The seven white front

panel LEDs go out. In this mode, these LEDs do not reflect the feedback status of the associated scenes.

The six rocker-type function buttons act as open/stop/close/stop for each of the corresponding six shade groups.

Operation is as described for the Shade Control button type in Standard mode. Refer to “Button Types” on page 27 for more information.

For shade groups with C2N-SSC-2, CSC-DCCN, CSC-ACCN, CSC-DRPCN, CSM-QMTDC-256-2-CN, CSM-QMTDC-163-1-CN, CSM-QMTDC-250-2-CN, CSM-QMTDC-250-4-CN, and CSM-QMTDC-DRP-3-CN controllers, see below:

- The bar graphs indicate the current shade position.
- The 2-digit display indicates the current percentage level of the shade group being adjusted (CL, 01 to 99, OP).
- After the shade stops moving, due to either a stop command or the shade reaching a travel limit, the 2-digit display is blank for 3 seconds.

NOTE: The 2-digit display only shows the shade level when it is being adjusted from front panel buttons in Shades mode or scene programming. It does not display when the shade levels are adjusted from a remote panel or Cresnet.

For shade groups with C2N-SDC or C2N-SDC-DC controllers, see below:

- The bar graphs do not react while a shade is not moving. While the shade is moving open, the bar graph LEDs scroll in an upward direction. While it is moving closed, the bar graph LEDs scroll in a downward direction. When the shade is stopped or the maximum time is reached, the bar graph turns off.
- The 2-digit display shows “OP” or “CL” accordingly.
- The up/down button acts as a shades master when the device is in Shades mode regardless of what function is programmed for the button. Pressing the top while the shade is stopped sends it to full open; pressing the bottom while the shade is stopped sends it to full close; pressing anything while the shade is moving stops it; and pressing both while the shade is stopped causes the shade to move in the opposite direction.
- The ON and OFF buttons on the iLux device operate normally while in Shades mode. The same is true for all scene recall or scene toggle functions triggered by remote panel or Cresnet command.
- All other inputs and commands from any remote devices, motion detector, or Cresnet control system are processed as usual. If they affect the group(s) being adjusted, the manual adjustment of that shade group terminates and the new command takes precedence. To manually adjust this channel after the new command takes priority, release and re-press the button. The unit remains in Shades mode.

To exit Shades mode, press the Shades button again or press the Cancel button; the LED extinguishes and the unit returns to Standard mode. Also, pressing the Lights button automatically exits Shades mode and enters Lights mode.

If no adjustments are made for 1 minute, the unit automatically reverts to Standard mode.

Troubleshooting

The following table provides corrective actions for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

iLux Device Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The iLux device does not function.	The iLux device is not receiving line power.	Verify that the device is properly connected to the power line and that the circuit breaker is closed.
	The loads are not connected.	Verify that the loads are operational and that they are connected to the iLux device.
The loads turn on and off but do not dim.	The wrong load type is set.	Correct the load type settings.
The lights flicker at low levels.	The incorrect low-end limit is set.	Change the low-end limit setting.
In a multi-unit room configuration, commands from a remote IR controller cause the loads to cut to their settings rather than fade.	More than one iLux unit picks up an IR command.	Disable the IR function on all but one of the iLux devices.
The motion detector does not function.	The occupancy sensor function is not enabled.	Use the iLux Designer or front panel setup function to enable occupancy sensor.
Functionality is lost due to electrostatic discharge.	The ground was improperly connected.	Check that all ground connections have been made properly.

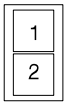
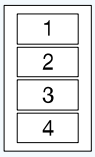
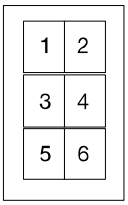
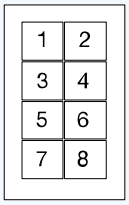
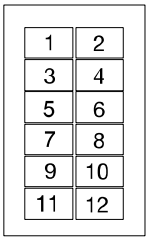
Appendix A: Supported Devices

The iLux devices local network supports up to 16 remote devices consisting of keypads, shade controllers, touch screens, and additional iLux devices.

Keypads

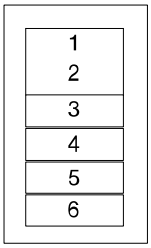
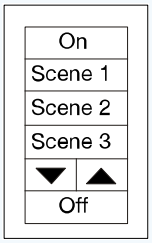
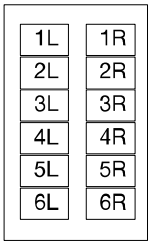
Up to 16 keypads can be added on the local devices network. The following table lists default button functions for the keypad types currently supported. These settings can be changed with the front panel Setup mode or iLux Designer.

Supported Keypads

KEYPAD TYPE	BUTTON LAYOUT	BUTTON NUMBER	DEFAULT FUNCTION
CNX-B2		1 2	Recall On Scene Recall Off Scene
CNX-B4		1 2 3 4	Recall On Scene Recall Off Scene Last Scene Up Last Scene Down
CNX-B6 / C2N-DB6		1 2 3 4 5 6	Recall Scene 1 Recall Scene 2 Recall Scene 3 Recall Scene 4 Recall Off Scene Recall On Scene
CNX-B8 / C2N-DB8		1 2 3 4 5 6 7 8	Recall Scene 1 Recall Scene 2 Recall Scene 3 Recall Scene 4 Last Scene Down Last Scene Up Recall Off Scene Recall On Scene
CNX-B12 / C2N-DB12		1 2 3 4 5 6 7 8 9 10 11 12	Recall Scene 1 Recall Scene 2 Recall Scene 3 Recall Scene 4 Recall Scene 5 Recall Scene 6 Recall Scene 7 Recall Scene 8 Last Scene Down Last Scene Up Recall Off Scene Recall On Scene

(Continued on following page)

Supported Keypads (Continued)

KEYPAD TYPE	BUTTON LAYOUT	BUTTON NUMBER	DEFAULT FUNCTION
C2N-CBD / C2N-CBF		1 2 3 4 5 6	Recall On Scene Recall Scene 1 Recall Scene 2 Recall Off Scene Master Raise (last scene) Master Lower (last scene)
C2N-CBD-P / C2N-CBD-E / C2N-CBF-P		1 2 3 4 5L 5R 6	On Scene 1 Scene 2 Scene 3 Last Scene Down Last Scene Up Off
C2NI-CB / INETI-CB		1L 2L 3L 4L 5L 6L 1R 2R 3R 4R 5R 6R	Recall Scene 1 Recall Scene 3 Recall Scene 5 Recall Scene 7 Last Scene Up Last Scene Down Recall Scene 2 Recall Scene 4 Recall Scene 6 Recall Scene 8 Recall On Scene Recall Off Scene

Shade Controllers

A maximum of 16 shade controllers can be added to the local devices network.

These shade controllers are currently supported and sold separately:

- C2N-SSC-2 (Firmware V.2.5.0+)
- C2N-SDC
- C2N-SDC-DC
- CSC-DCCN
- CSC-ACCN
- CSC-DRPCN
- CSM-QMTDC-256-2-CN
- CSM-QMTDC-163-1-CN
- CSM-QMTDC-250-2-CN
- CSM-QMTDC-250-4-CN
- CSM-QMTDC-DRP-3-CN

NOTE: The two channels on these shade controllers are labeled 1 and 2. SIMPL Windows cannot address the individual shade controllers. Only shade groups can be addressed.

Touch Screens

A maximum of two touch screens can be added to the local devices network.

These touch screens are currently supported and sold separately:

- TPS-4L
- TPS-6L

The iLux auto-assigns the Cresnet ID for the touch screens if they are not already assigned to one of the designated IDs reserved for the touch screens.

Analog ramps are sent to the touch screens as Ramp Control Blocks, as opposed to discrete analogs. In order to properly display analog levels, touch screen firmware supports Ramp Control Blocks natively.

Touch screen display lists can be transferred to the touch screen via the programming jack on the iLux.

Through the use of the join map shown in the tables on the following pages, in conjunction with D-Nav on the touch screen itself, a touch screen connected directly to an iLux device provides the following functionality:

- Shows bar graphs indicating the current state of all loads on the master iLux
- Adjusts the level of each load via up/down buttons
- Recalls scenes on the master iLux; room combining determines if additional units are affected
- Programs scenes on the master iLux
- Adjusts shades on the master iLux

A button link to the engraver software is provided in iLux Designer for any touch screen that is engravable.

With the iLux Designer, only the hard buttons for the selected touch screen can be programmed. The command list is identical to that for keypads. All soft buttons on the display shall use dedicated join numbers for various functions.

The iLux Designer help file includes a table indicating all the reserved joins supported by the touch screens.

NOTE: These are not the standard reserved joins, but are the join numbers understood by the iLux device for performing various actions.

Joins

Digital Command Joins

External functions and their feedbacks are supported only by the master iLux. The slave iLux device(s) does not support external functions.

Programmable joins 1 through 20 and partition joins and their feedback are supported only for the master iLux device.

Digital Command Joins (from Touch Screen to iLux Device)

JOIN	DESCRIPTION
1–20	Programmable via iLux Designer (no feedback)
100/101/102–116	Recall for Off Scene/On Scene/Scene 1–15
133/134–148	Turn off loads in On Scene/Scene 1–15
198/199–213	Toggle On Scene/Scene 1–15
232–243	Raise or Lower load 1–6 (z1 up, z1 dn, z2 up...)
244	Shade group 1 full open
245	Shade group 1 full close
246	Shade group 1 full stop
247	Shade group 1 open momentary
248	Shade group 1 close momentary
249	Shade group 1 open jog
250	Shade group 1 close jog
251	Shade group 1 full open/momentary open
252	Shade group 1 full close/momentary close
253	Shade group 1 full open/stop/close/stop
254–263	Shade group 2 control
264–273	Shade group 3 control
274–283	Shade group 4 control
284–293	Shade group 5 control
294–303	Shade group 6 control
304	Last Scene Master Raise
305	Last Scene Master Lower
306/307	All Lights Master Raise/Master Lower
308/309	On Scene Master Raise/Master Lower
310/311– 338/339	Scene 1 Raise or Lower – Scene 15 Raise or Lower
344	Quick save current light levels to scene specified in analog join 32; there is no change to unaffected loads.
348/349	Program On Scene or Off Scene
350	Program scene by number
351	Save Edit Scene
352	Cancel Scene Programming
353-358	Remove load 1–6 from Edit Scene
359-364	Remove shade group 1–6 from Edit Scene
365	Lock Edit Scene
366	Unlock Edit Scene
367	Fade time up for Edit Scene
368	Fade time down for Edit Scene
370	Enable occupancy reporting
374	Enable entry scene
375	Disable entry scene
378	Enable exit scene

(Continued on following page)

Digital Command Joins (from Touch Screen to iLux Device, Continued)

JOIN	DESCRIPTION
379	Disable exit scene
384	Internal sensor timeout minute up
385	Internal sensor timeout minute down
390–421	External Functions 1–32
423	Enter Override mode
424	Exit Override mode
426	Enter Load Shed mode
427	Exit Load Shed mode
430–566	Set partition 1–36 open
470–505	Set partition 1–36 closed
506	Photocell enable light zone 1
507	Photocell enable light zone 2
508	Photocell enable light zone 3
509	Photocell enable light zone 4
510	Photocell enable light zone 5
511	Photocell enable light zone 6
512	Photocell disable light zone 1
513	Photocell disable light zone 2
514	Photocell disable light zone 3
515	Photocell disable light zone 4
516	Photocell disable light zone 5
517	Photocell disable light zone 6
518	Photocell sensitivity level up light zone 1
519	Photocell sensitivity level up light zone 2
520	Photocell sensitivity level up light zone 3
521	Photocell sensitivity level up light zone 4
522	Photocell sensitivity level up light zone 5
523	Photocell sensitivity level up light zone 6
524	Photocell sensitivity level down light zone 1
525	Photocell sensitivity level down light zone 2
526	Photocell sensitivity level down light zone 3
527	Photocell sensitivity level down light zone 4
528	Photocell sensitivity level down light zone 5
529	Photocell sensitivity level down light zone 6
530	Photocell dim min level up light zone 1
531	Photocell dim min level up light zone 2
532	Photocell dim min level up light zone 3
533	Photocell dim min level up light zone 4
534	Photocell dim min level up light zone 5
535	Photocell dim min level up light zone 6
536	Photocell dim min level down light zone 1

(Continued on following page)

Digital Command Joins (from Touch Screen to iLux Device, Continued)

JOIN	DESCRIPTION
537	Photocell dim min level down light zone 2
538	Photocell dim min level down light zone 3
539	Photocell dim min level down light zone 4
540	Photocell dim min level down light zone 5
541	Photocell dim min level down light zone 6
542	Photocell response time up
543	Photocell response time down
544	Get Photocell level
550–1099	Same as joins 100–499 and 506–541 but for iLux Slave 1
1100–1649	Same as joins 100–499 and 506–541 but for iLux Slave 2
1650–2199	Same as joins 100–499 and 506–541 but for iLux Slave 3
2200–2749	Same as joins 100–499 and 506–541 but for iLux Slave 4
2750–3299	Same as joins 100–499 and 506–541 but for iLux Slave 5
3300–3840	Same as joins 100–499 and 506–541 but for iLux Slave 6
3850–4391	Same as joins 100–499 and 506–541 but for iLux Slave 7
4400–4941	Same as joins 100–499 and 506–541 but for iLux Slave 8

Digital Feedback Joins

Digital Feedback Joins (from iLux Device to Touch Screen)

JOIN	DESCRIPTION
6000/6001/ 6002–6017	Recall Off Scene/On Scene/Scene 1–15
6033/6034–6049	Turn off all loads in On Scene/Scene 1–15
6065/6066/ 6067–6082	Scene selected feedback for Off Sc./On Sc./Scene 1–15
6098/6099–6114	Any light on for On Scene/Scene 1–15
6132	Load 1 is on
6134	Load 2 is on
6136	Load 3 is on
6138	Load 4 is on
6140	Load 5 is on
6142	Load 6 is on
6144–6149	Load 1–6 is set to be non-dim
6150/6151/6152	Shade group 1 moving/last dir. Open/last dir. Close
6160/6161/6162	Shade group 2 moving/last dir. Open/last dir. Close
6170/6171/6172	Shade group 3 moving/last dir. Open/last dir. Close
6180/6181/6182	Shade group 4 moving/last dir. Open/last dir. Close
6190/6191/6192	Shade group 5 moving/last dir. Open/last dir. Close
6200/6201/6202	Shade group 6 moving/last dir. Open/last dir. Close
6205/6206	Last Scene Master Raise and Lower feedback

(Continued on following page)

Digital Feedback Joins (from iLux Device to Touch Screen, Continued)

JOIN	DESCRIPTION
6207/6208	All Lights Master Raise and Lower feedback
6209/6210	On Scene Master Raise and Lower feedback
6211–6240	Scene 1–15 Master Raise and Lower feedback
6245	In Setup mode
6248	Programming the On Scene
6249	Programming the Off Scene
6250	Programming Scene by number
6254–3959	Lighting load 1–6 is in Edit Scene
6260–6265	Shade group 1–6 is in Scene
6266	Edit Scene is locked
6269	Fade time shown is in minutes
6270	Motion activity
6271	Function activity
6272	Current occupancy state
6274	Entry scene enabled
6278	Exit scene enabled
6280–6311	Not supported (Note: external button fb is sent at same join number)
6312	In Override mode
6313	In Load Shed mode
6320–6355	Partition 1–36 is open (rooms are combined)
6358	Photocell enable feedback light zone 1
6359	Photocell enable feedback light zone 2
6360	Photocell enable feedback light zone 3
6361	Photocell enable feedback light zone 4
6362	Photocell enable feedback light zone 5
6363	Photocell enable feedback light zone 6
6364	Photocell active feedback light zone 1
6365	Photocell active feedback light zone 2
6366	Photocell active feedback light zone 3
6367	Photocell active feedback light zone 4
6368	Photocell active feedback light zone 5
6369	Photocell active feedback light zone 6
6400–6799	Same as joins 6000–6355 but from Slave 1 --> touch screen
6800–7199	Same as joins 6000–6355 but from Slave 2 --> touch screen
7200–7599	Same as joins 6000–6355 but from Slave 3 --> touch screen
7600–7999	Same as joins 6000–6355 but from Slave 4 --> touch screen
8000–8399	Same as joins 6000–6355 but from Slave 5 --> touch screen
8400–8799	Same as joins 6000–6355 but from Slave 6 --> touch screen
8800–8199	Same as joins 6000–6355 but from Slave 7 --> touch screen
9200–9599	Same as joins 6000–6355 but from Slave 8 --> touch screen

Analog Command Joins

Analog Command Joins (from Touch Screen to iLux Device)

JOIN	DESCRIPTION
1	Bitmask to subscribe to slave messages (bit1=slave 1, etc.)
20–25	Set level for lighting zone 1–6
26–31	Set position for shade group 1–6 (Somfy® shades only)
32	Set scene number for “Program Scene By Number”
33	Set occupancy timeout, hours
34	Set occupancy timeout, minutes
40–59	Same as joins 20–39 for slave 1
60–79	Same as joins 20–39 for slave 2
80–99	Same as joins 20–39 for slave 3
100–119	Same as joins 20–39 for slave 4
120–139	Same as joins 20–39 for slave 5
140–159	Same as joins 20–39 for slave 6
160–179	Same as joins 20–39 for slave 7
180–199	Same as joins 20–39 for slave 8

Analog Feedback Joins

Analog Feedback Joins (from iLux Device to Touch Screen)

JOIN	DESCRIPTION
20–25	Current light levels for loads 1–6
26–31	Current position for shade group 1–6 (Somfy shades only)
300	Bitmask indicating which slaves are connected (b1=slave1...)
332	Fade time for Edit Scene when in Program mode
333	Edit Scene number when in Program mode
334	Occupancy timeout hours (should always be 0)
335	Occupancy timeout minutes
40–59, 340–359	Same as joins 20–39, 300–339 for slave 1
60–79, 360–379	Same as joins 20–39, 300–339 for slave 2
80–99, 380–399	Same as joins 20–39, 300–339 for slave 3
100–119, 400–419	Same as joins 20–39, 300–339 for slave 4
120–139, 420–439	Same as joins 20–39, 300–339 for slave 5
140–159, 440–459	Same as joins 20–39, 300–339 for slave 6
160–179, 460–479	Same as joins 20–39, 300–339 for slave 7
180–199, 480–499	Same as joins 20–39, 300–339 for slave 8
500	Photocell sensitivity level feedback light zone 1
501	Photocell sensitivity level feedback light zone 2
502	Photocell sensitivity level feedback light zone 3
503	Photocell sensitivity level feedback light zone 4

(Continued on following page)

Analog Feedback Joins (from iLux Device to Touch Screen, Continued)

JOIN	DESCRIPTION
504	Photocell sensitivity level feedback light zone 5
505	Photocell sensitivity level feedback light zone 6
506	Photocell level feedback
507	Photocell Dim min level feedback light zone 1
508	Photocell Dim min level feedback light zone 2
509	Photocell Dim min level feedback light zone 3
510	Photocell Dim min level feedback light zone 4
511	Photocell Dim min level feedback light zone 5
512	Photocell Dim min level feedback light zone 6
513	Photocell response time feedback
520–539	Same as joins 500–512 but for iLux Slave 1
540–559	Same as joins 500–512 but for iLux Slave 2
560–579	Same as joins 500–512 but for iLux Slave 3
580–599	Same as joins 500–512 but for iLux Slave 4
600–619	Same as joins 500–512 but for iLux Slave 5
620–639	Same as joins 500–512 but for iLux Slave 6
640–659	Same as joins 500–512 but for iLux Slave 7
660–679	Same as joins 500–512 but for iLux Slave 8

Bidirectional Serial Joins

Bidirectional Serial Joins (to/from iLux Device and Touch Screen)

JOIN	DESCRIPTION
1–16	Scene 1–16 name as defined in iLux Designer
101–106	Lighting load 1–6 names as defined in iLux Designer
111–116	Shade group 1–6 names as defined in iLux Designer
121	Password as defined in iLux Designer
131	Photocell response time feedback string
331	Photocell response time feedback string for Slave 1
531	Photocell response time feedback string for Slave 2
731	Photocell response time feedback string for Slave 3
931	Photocell response time feedback string for Slave 4
1131	Photocell response time feedback string for Slave 5
1331	Photocell response time feedback string for Slave 6
1531	Photocell response time feedback string for Slave 7
1731	Photocell response time feedback string for Slave 8
200–220	Same as 1–120 for Slave 1
400–520	Same as 1–120 for Slave 2
600–720	Same as 1–120 for Slave 3
800–820	Same as 1–120 for Slave 4
1000–1020	Same as 1–120 for Slave 5

(Continued on following page)

Bidirectional Serial Joins (to/from iLux Device and Touch Screen, Continued)

JOIN	DESCRIPTION
1200–1220	Same as 1–120 for Slave 6
1400–1420	Same as 1–120 for Slave 7
1600–1620	Same as 1–120 for Slave 8

Appendix B: Console Commands

Console commands are available through the Crestron Toolbox program. To access the console commands, select Text Console from the Tools menu. At the prompt, enter `HELP ALL`, and press Return.

The system displays the following commands:

```
iLux>HELP ALL
?                   display list of common commands
CNETID              display or set the cresnet id
GETCONFIG           get project file from iLux
GREENLEDLEVEL       display or set the green leds
                    brightness level
HELP                display list of available categories
INFO                display additional device information
IR                  display or enable/disable IR reception
MOTIONSENSORLEVEL   display/change the internal motion
                    sensor level threshold
PROJECTINFO         display detailed project file
                    information
PUTCONFIG           load project file to iLux
REBOOT              reboot the iLux
REPORTCRESNET       show all devices on the local network
RESTORE             set all parameters to factory default
SYSTEM              load firmware to iLux
UPLOAD              load firmware to cresnet device on the
                    local network
VERSION             display firmware version number
WHITELEDLEVEL       display or set white leds brightness
                    level
WHITELEDGLOWLEVEL   display or set white leds glow
                    brightness level
iLux>
```

The commands are presented alphabetically below. Details about each command include a description of the command, a list of help menus that contain the command, the proper syntax for entering the command, and definitions of parameters that may be included in the syntax. Note that console commands are case insensitive.

Console Commands Details

?	
Description:	This command produces a list of the most used common commands.
Help Menu(s):	Main, Common
Syntax:	?
Parameters:	None
CNETID	
Description:	Use this command to set or display the Cresnet ID of the iLux device as a slave device.
Help Menu(s):	System, Common
Syntax:	`CNETID [ID]` `CNETID`
Parameters:	`[03…FE]` to set the ID None to display the current ID
GETCONFIG	
Description:	Use this command to get project file information from the iLux device.
Help Menu(s):	File
Syntax:	`GETCONFIG PROJECT`
Parameters:	`PROJECT` to get the project file from iLux device
GREENLEDLEVEL	
Description:	Use this command to display or set the green LED level on the iLux device. Refer to “LED Brightness” on page 24 for details.
Help Menu(s):	Device
Syntax:	`GREENLEDLEVEL [0…100]` to set the green LED’s brightness to level `[0..100]` `GREENLEDLEVEL` to display the green LED’s brightness level `[0..100]`
Parameters:	`[0…000]` to set the green LED brightness level None to display the current green LED brightness
HELP	
Description:	Use this command to display a list of help categories.
Help Menu(s):	Main, Common

Syntax:	`HELP`
	`HELP ALL`
	`HELP [CATEGORY]` show list of commands in category

Parameters:	`ALL` to display a list of all commands `CATEGORY` to show a list of commands in that category None to display a list of all categories

(Continued on following page)

Console Commands Details (Continued)

INFO	

Description:	Use this command to display additional device information. For example, this command would produce information similar to the following:
	`Application version : 1.01.02`
	`Loader version : 1.16.00`
	`Config data version : 1.1`
	`User data version : 1.0`

Help Menu(s):	Common, System
Syntax:	`INFO`
Parameters:	None
IR	
Description:	Use this command to display, enable, or disable IR reception. Refer to "IR Reception" on page 24 for details.
Help Menu(s):	Device
Syntax:	`IR [ENABLE…DISABLE]`
Parameters:	`ENABLE` to enable the IR receiver `DISABLE` to disable the IR receiver None to display the current state
MOTIONSENSORLEVEL	
Description:	Use this command to display and change the internal motion sensor sensitivity level.*
Help Menu(s):	Device
Syntax:	`MOTIONSENSORLEVEL`
Parameters:	Higher values make motion sensor less sensitive. Default is 78; valid range is `[0…255]`
PROJECTINFO	

Description:	Use this command to display the project file name, the date and time it was compiled, version and change flags. For example, this command would produce information similar to the following:
	`Project file name : Conference Room.ilx`
	`Date : 9/9/05`
	`Time : 3:13:21 PM`
	`Config data version : 1.1`
	`User data version : 1.0`
	`Change flags : 00000000`

Help Menu(s):	Device
Syntax:	`PROJECTINFO`
Parameters:	None
PUTCONFIG*	
Description:	Use this command to load the project file to the iLux device.
Help Menu(s):	File
Syntax:	`PUTCONFIG PROJECT`
Parameters:	`PROJECT` is the only valid parameter value

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Console Commands Details (Continued)

REBOOT	
Description:	Use this command to reboot the iLux device.
Help Menu(s):	Common
Syntax:	`REBOOT`
Parameters:	None
REPORTCRESNET	
Description:	Use this command to report devices on the local network.
Help Menu(s):	Common
Syntax:	`REPORTCRESNET [ID]` `REPORTCRESNET ALL`
Parameters:	`[03…FE]` to identify a specific device `ALL` to show all devices on the network
RESTORE	
Description:	Use this command to set all project configuration and parameters to the factory default settings.
Help Menu(s):	System
Syntax:	`RESTORE ALL`
Parameters:	`ALL` is the only valid value for this parameter
SYSTEM*	
Description:	Use this command to load firmware to the iLux.
Help Menu(s):	File
Syntax:	`SYSTEM`
Parameters:	None
UPLOAD*	
Description:	Use this command to load firmware to the slave device on the local network.
Help Menu(s):	File
Syntax:	`UPLOAD [ID] FIRMWARE`
Parameters:	`[03…FE]` `FIRMWARE` is the only valid value for this parameter
VERSION	
Description:	Use this command to display the firmware version number. For example, this command would produce information similar to the following: `CLS-C6M Lighting Controller with Motion [v1.00.04, #FFFD6899]`
Help Menu(s):	Common
Syntax:	`VERSION`
Parameters:	None

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Console Commands Details (Continued)

WHITELEDLEVEL	
Description:	Use this command to display or set white LEDs brightness level. Refer to “LED Brightness” on page 24 for details.
Help Menu(s):	Device
Syntax:	`WHITELEDLEVEL [nnn]` `WHITELEDLEVEL`
Parameters:	`[0…100]` to set brightness level None to display current brightness level
WHITELEDGLOWLEVEL	
Description:	Use this command to display or set white LEDs glow brightness level. Refer to “Glow Mode Brightness” on page 24 for details.
Help Menu(s):	Device
Syntax:	`WHITELEDGLOWLEVEL [nnn]` `WHITELEDGLOWLEVEL`
Parameters:	`[0…100]` to set glow level None to display current glow level

* This function is typically done using Crestron Toolbox or iLux Designer menu commands.

Appendix C: RS-232 Commands

Connect the third-party controller to the serial port of the C2N-IO. Connect the C2N-IO to the iLux device Local Devices – G Z Y 24. ASCII commands received by the serial converter module are sent to the iLux device slave Cresnet port. The iLux device Cresnet serial packets are forwarded as ASCII strings to the third-party controllers.

Only one C2N-IO device is allowed on the local Cresnet network. The Cresnet ID for the C2N-IO should be set to 00 so that the iLux can assign D5 when auto-discovery is run.

NOTE: When connecting the C2N-IO serially to the PC, ensure proper wiring. The Tx pin of the C2N-IO serial connector must connect to the Rx pin of the serial connector on a PC. Additionally, the Rx pin of the C2N-IO serial connector must connect to the Tx pin of the serial connector on a PC, and then ground.

NOTE: If the PC is connected to the iLux device and the C2N-IO (serially) at the same time, then choose a different port for the C2N-IO since the serial connection is not shared (COM1, COM2, … COM6). Perform this in the Crestron Toolbox Address Book when selecting the communications settings for the C2N-IO.

Command Format

All packets from the third-party equipment shall be in ASCII character set range 0 to 127. Extended ASCII characters higher than 127 are not supported. All command and reply packets for the third-party controller between the iLux device and C2N-IO devices are in Cresnet serial packet type 0x12 format. The serial packet payload contains the ASCII command or reply strings from the third-party controllers.

Serial Port Configuration Packet to C2N-IO

CRESNET ID	LENGTH	CMD	STRING NUMBER	PAYLOAD DATA 0..X
1-Byte	1-Byte	1-Byte	1-Byte	x-Bytes
XX	07	12	80	00 25 00 00 00

Refer to the “Cresnet II Packet” document for more information on this command.

Serial Packets between iLux Device and C2N-IO

CRESNET ID	LENGTH	CMD	STRING NUMBER	PAYLOAD DATA 0..X
1-Byte	1-Byte	1-Byte	1-Byte	x-Bytes
XX	LL	0x12	0x80	00..XX

Refer to the Cresnet protocol specifications for more details on this packet.

Serial Command String Format to Third-Party Controllers.

ILUX CONTROLLER	COMMAND	PAR1…X	CARRIAGE RETURN	LINE FEED
Refer to the "iLux Controller Code Table" below for a list of available options.	Refer to the "RS-232 Command Table" on the following page, which provides a description of available commands and the required syntax.	A list of available variables that can be entered into the command. The brackets should be removed from the command. [Par1] [……..] [Parx]	0Dh	0Ah

Serial Command String Format from Third-Party Controllers.

RESPONSE PACKET TYPE	STATUS	NUM	CARRIAGE RETURN	LINE FEED
Response Packet Type 1 This response packet is returned if the command fails or is invalid.	ERROR	X=Error Code	0Dh	0Ah
Response Packet Type 2 This response packet is returned if the command requires a status or reply packet from the controller.	Response	Par1–Parx	0Dh	0Ah
Response Packet Type 3 This response packet is returned if there was no packet error and a status or reply packet response is not required.	OK		0Dh	0Ah

iLux Controller Code Table

CONTROLLER CODES	DESCRIPTION
M	Commands the iLux Master Controller
S1-S8	Commands the iLux Slave Controller 1 through 8

When entering a command to control the iLux, replace `[ILUX]` in the "RS-232 Command Table" with the specified controller code listed in the "iLux Controller Code Table" above. Possible entries are: M, S1, S2, S3, S4, S5, S6, S7, or S8.

Refer to the following "RS-232 Command Table" for a list of possible commands that can be sent to the iLux device. Information contained within braces (e.g. `[ILUX]` or `[X|ALL]`) should be replaced with the appropriate command minus the braces. To turn the echo command on for a master controller (`[ILUX] ECHO ON|OFF`), enter `M ECHO ON`.

When a lighting load is declared as unaffected in iLux Designer, the text console reports "– –" as the value.

RS-232 Command Table

COMMAND		SYNTAX	REPLY
DESCRIPTION	**CATEGORY**		
Control	Echo Cmd	[ILUX] ECHO ON|OFF	
Light Zone Control	Set Light zone Level	[ILUX] LZ [X|ALL] LVL [LEVEL] [FADETIME]	
Light Zone Control	Get Light zone Level	[ILUX] LZ [X|ALL] LVL ?	[ILUX] LZ [X|ALL] LVL [LEVEL1][…][LEVEL6]
Light Zone Control	Raise Light zone	[ILUX] LZ [X|ALL] UP [FADERATE]	
Light Zone Control	Lower Light zone	[ILUX] LZ [X|ALL] DN [FADERATE]	
Light Zone Control	Stop Light zone	[ILUX] LZ [X|ALL] STOP	
Light Zone Control	Light zone toggle	[ILUX] LZ [X|ALL] TOG [FADERATE]	
Light Zone Programming	Read Light zone type	[ILUX] LZ [X|ALL] TYPE ?	
Light Zone Programming	Read Light zone min level	[ILUX] LZ [X|ALL] MIN ?	[ILUX] LZ [X|ALL] MIN [LIMIT1][…][LIMIT6]
Light Zone Programming	Read Light zone max level	[ILUX] LZ [X|ALL] MAX ?	[ILUX] LZ [X|ALL] MAX [LIMIT1][…][LIMIT6]
Light Zone Programming	Read Light zone names	[ILUX] LZ [X] NAME ?	[ILUX] LZ [X] NAME [LABEL]
Shade Group Control	Set Shade group position	[ILUX] SZ [X|ALL] POS [LEVEL]	
Shade Group Control	Get Shade group position	[ILUX] SZ[X|ALL] POS ?	[ILUX] SZ [X|ALL] POS [LEVEL1][…][LEVEL6]
Shade Group Control	Shade group Open	[ILUX] SZ[X|ALL] OPEN	
Shade Group Control	Shade group Close	[ILUX] SZ[X|ALL] CLOSE	
Shade Group Control	Shade group Stop	[ILUX] SZ[X|ALL] STOP	
Shade group Control	Jog Shade open	[ILUX] SZ[X|ALL] JOPEN	
Shade group Control	Jog Shade Close	[ILUX] SZ[X|ALL] JCLOSE	
Shade Group Control	Open/Stop/ Close/Stop	[ILUX] SZ[X|ALL] OSCS	
Shade Group Programming	Read Shade name	[ILUX] SZ[X] NAME ?	[ILUX] SZ [X] NAME [LABEL]
Shade Group Programming	Read shade type	[ILUX] SZ[X|ALL] TYPE ?	[ILUX] SZ [X] TYPE [CODE]
Scene Control	Scene recall	[ILUX] SC [XX] RECALL	
Scene Control	Scene Raise	[ILUX] SC [XX] UP	
Scene Control	Scene Lower	[ILUX] SC [XX] DN	

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RS-232 Command Table (Continued)

COMMAND		SYNTAX	REPLY
DESCRIPTION	**CATEGORY**		
Scene Control	Stop scene raise/lower	[ILUX] SC [XX] STOP	
Scene Control	Toggle scene	[ILUX] SC [XX] TOG	
Scene Control	Turn off lights in scene	[ILUX] SC [XX] OFF	
Scene Control	Read Scene state Active	[ILUX] SC [XX|ALL] STATE ?	[ILUX] SC [XX] [LZx] [LVL] [LEVEL]
Scene Programming	Scene quick save	[ILUX] SC [XX] SAVE	
Scene Programming	Read Scene light level	[ILUX] SC [XX] LZLVL ?	[ILUX] SC [XX] LZLVL [LEVEL1][…][LEVEL6]
Scene Programming	Read Scene shade level	[ILUX] SC [XX] SZLVL ?	[ILUX] SC [XX] SZLVL [LEVEL1][…][LEVEL6]
Scene Programming	Set scene light mask	[ILUX] SC [XX] LZMSK [VALUE]	
Scene Programming	Read scene light mask	[ILUX] SC [XX] LZMSK ?	[ILUX] SC [XX] LZMSK [VALUE]
Scene Programming	Set scene shade mask	[ILUX] SC [XX] SZMSK [VALUE]	
Scene Programming	Read scene shade mask	[ILUX] SC [XX] SZMSK ?	[ILUX] SC [XX] SZMSK [VALUE]
Scene Programming	Read scene name	[ILUX] SC [XX] NAME ?	[ILUX] SC [XX] NAME [LABEL]
Combine or Uncombined	Combine rooms	[ILUX] COM [ILUX1] [ILUX2]	
Combine or Uncombined	Uncombined rooms	[ILUX] UNCOM [ILUX1] [ILUX2]	
Combine or Uncombined	Combine room status	[ILUX] COM ?	[ILUX] COM [ILUX1/ILUX2 […] [ILUXx/ILUXy]
Override Control	Set override	[ILUX] OV ON	
Override Control	Clear override	[ILUX] OV OFF	
Override Control	Read override state	[ILUX] OV ?	[ILUX] [OV] [STATE]
Load shed control	Set Load shed state	[ILUX] LS ON	
Load Shed Control	Clear Load shed state	[ILUX] LS OFF	
Load Shed Control	Get Load Shed state	[ILUX] LS ?	[ILUX] [LS] [STATE]
Occupancy	Set occupancy	[ILUX] OC [SET|CLEAR]	

(Continued on following page)

RS-232 Command Table (Continued)

COMMAND		SYNTAX	REPLY
DESCRIPTION	**CATEGORY**		
Occupancy	Clear occupancy	`[ILUX] OC [SET|CLEAR]`	
Occupancy	Read occupancy state	`[ILUX] OC ?`	`[ILUX] OC [STATE]`
Photocell	Read Photocell active state	`[ILUX] PH [X|ALL] ACTIVE ?`	`[ILUX] PH [X] ACTIVE [STATE1][…][STATE6]`
Version	Read version number	`[ILUX] VER ?`	`[ILUX] VER [ID STRING]`

NOTE: Command and response parameters are separated by blank spaces.

Adding C2N-IO Device to the iLux Device

To add a C2N-IO module to iLux device, connect the module to the iLux device Cresnet slave network port and run auto-discovery from iLux device front panel. The iLux device adds the device to its network list. The iLux device then polls and configures the C2N-IO serial port.

The C2N-IO serial port baud rate settings are 9600, 8 data bits, 1 stop bit, XON/XOFF disabled, and RTS/CTS disabled.

Echo Control Command

This command enables or disables character echo.

Syntax: `[ILUX] Echo [ON|OFF]`

Light Zone Commands

Light Zone Level Command

This command sets the light zone levels.

Syntax: `[ILUX] LZ [X|ALL] LVL [LEVEL] [FADETIME]`

X = 1–6 light zone

ALL = ALL light zones

FADETIME = 0–594000 in 0.01 second steps (e.g., 100=1 seconds)

Level:

LEVEL IN PERCENT	DESCRIPTION
0	Level off
1 to 100	Level On

Light Zone Level Recall Command

This command retrieves the light zone level.

Syntax: `[ILUX] LZ [X|ALL] LVL?`

X = 1–6 light zone

ALL = ALL Light zones

Reply packet:

`[ILUX] LZ [X|ALL] LVL [LEVEL1] [….] [LEVEL6]`

LEVEL x = 0–100 (for light zone 1 through 6)

Light Zone Lower or Raise Command

The specified lighting load, or all loads, ramps up or down at the specified rate. The FADERATE is specified as the time it takes to raise or lower the full range: from off to full on or full on to off. For example, if 5 seconds are specified, it takes 5 seconds to ramp from off to full on and 2.5 seconds to ramp from 50% level to full on. If FADERATE is not specified, or if the specified zone is on a slave iLux unit, the internal fade rate is used.

Syntax: `[ILUX] LZ [X|ALL] [UP|DN] [FADERATE]`

X = 1–6 light zone

ALL = All Light zones

UP = Raise light level

DN = Lower light level

FADERATE = 0–594000 in 0.01 second steps (e.g., 100 = 1 seconds)

Light Zone Stop Command

This command stops the light zone control.

Syntax: `[ILUX] LZ [X|ALL] [STOP]`

X = 1–6 light zone

ALL = All Light zones

STOP = Stop light level

Light Zone Toggle Command

If the specified lighting load is on or any zone is on when “all” is specified, the lighting load ramps down at the specified rate. If the specified lighting load is off or all zones are off when “all” is specified, the lighting load ramps up at the specified rate. The FADERATE is specified as the time it takes to raise or lower the full range: from off to full on or from full on to off. For example, if 5 seconds are specified, it takes 5 seconds to ramp from off to full on and 2.5 seconds to ramp from 50% level to full on. If FADERATE is not specified, the internal fade rate will be used.

Syntax: `[ILUX] LZ [X|ALL] TOG [FADERATE]`

X = 1–6 light zone

ALL = All light zones

FADERATE = 0–594000 in 0.01 second steps (e.g. 100 = 1 seconds)

Light Zone Lower Limit Command

This command retrieves the light zone minimum limit and is not supported for slave iLux device controllers.

Syntax: `M LZ [X|ALL] MIN ?`

X = 1–6 light zone

ALL = All light zones

Reply packet:

`[ILUX] LZ [XX|ALL] MIN [LIMIT1] [….] [LIMIT6]`

LIMITx = 0–100 (1–6 light zone)

Light Zone Upper Limit Command

This command retrieves the light zone maximum limit and is not supported for slave iLux device controllers.

Syntax: `M LZ [X|ALL] MAX ?`

X=1–6 light zone

Reply packet:

`M LZ [X|ALL] [MAX] [LIMIT1] [….] [LIMIT6]`

LIMITx = 0–100 (1–6 light zone)

Light Zone Load Type Command

This command retrieves the load types and is not supported for slave iLux device controllers.

Syntax: `M LZ [X|ALL] TYPE ?`

X=1–6 light zone

Reply packet:

`M LZ [X|ALL] TYPE [CODE1] [….] [CODE6]`

CODEx = refer to table below (type code for 1–6 light zone):

Light Zone Load Type Codes

SUPPORTED TYPES CODE	DESCRIPTION
0	Unused
1	Non-dim
2	Incandescent
3	Magnetic low voltage
4	Cold Cathode
5	Fluorescent 2 wire
6	Fluorescent 3 wire
7	Fluorescent 0-10 V
8	Electronic Low Voltage

Light Zone Name Query Command

This command reads the light zone name.

Syntax: `[ILUX] LZ [X|ALL] NAME ?`

X=1–6 light zone

Reply packet:

`[ILUX] LZ [X] NAME [LABEL]`

LABEL = Light zone name

`[ILUX] LZ ALL NAME [LABEL1], […], [LABEL6]`

LABELx = Light zone names separated by comma

Shade Group Commands

Shade Group Position Command

This command sets the shade group position.

Syntax: `[ILUX] SZ [X|ALL] POS [LEVEL]`

X = 1–6 Shade group

ALL = All Shade groups

LEVEL = 0–100

Shade Group Position Query Command

This command retrieves the shade group position. The command is not supported for slave iLux device controllers and is applicable for Somfy® shades only.

Syntax: `M SZ [X|ALL] POS ?`

Reply packet:

M SZ [X|ALL] POS [LEVEL1] [….] [LEVEL6]

LEVELx = 0–100 for shade group 1–6

Shade Group Open, Close, and Stop Command

This command opens, closes, or stops the shade group(s).

Syntax: `[ILUX] SZ [X|ALL] [OPEN|CLOSE|STOP]`

X = 1–6 Shade group

ALL = All shade groups

Shade Group Jog Open and Close Command

This command jogs open or jogs close the shade group(s).

Syntax: `[ILUX] SZ [X|ALL] [JOPEN|JCLOSE]`

X = 1–6 Shade group

ALL = All shade groups

Shade Group Open/Stop/Close/Stop Command

This command stops the shade if the shade is running; it opens the shade if the last operation was closing; and it closes the shade if the last operation was opening.

Syntax: `[ILUX] SZ [X|ALL] [OSCS]`

X = 1–6 Shade group

ALL = All shade groups

Shade Group Name Query Command

This command queries the shade group name.

Syntax: `[ILUX] SZ [X|ALL] NAME ?`

X=1–6 Shade group

Reply packet:

`[ILUX] SZ [X] NAME [LABEL]`

LABEL = Shade zone name

`[ILUX] SZ ALL NAME [LABEL1], […], [LABEL6]`

LABELx = Shade group names separated by comma

Shade Type Query Command

This command queries the shade type and is not supported for slave iLux devices.

Syntax: `M SZ [X|ALL] TYPE ?`

X = 1–6 Shade group

Reply packet:

M SZ [X|ALL] TYPE [CODE1] […] [CODE6]

CODEx = Shade types codes for shade group 1–6

Shade Type Codes

CODE	SHADE TYPES
20	Somfy shade controller
21	C2N-SDC 4-relay shade controller
22	C2N-SDC-DC shade controller
24	CSC-DCCN shade controller
25	CSC-DRPCN shade controller
26	CSC-ACCN shade controller
27	CSM-QMTDC-256-2-CN shade controller
29	CSM-QMTDC-163-1-CN shade controller
30	CSM-QMTDC-250-2-CN shade controller
31	CSM-QMTDC-250-4-CN shade controller
32	CSM-QMTDC-DRP-3-CN shade controller

Scene Commands

Scene Recall

This command recalls a scene.

Syntax: `[ILUX] SC [XX] RECALL`

Recall Scene Commands

SCENE NUMBER (XX)	DESCRIPTION
ON	On Scene
OFF	Off Scene
1–15	Scene 1–15

Scene Raise, Lower, and Stop Command

This command raises, lowers, or stops the scene light zone levels that can use a scene fade time.

Syntax: `[ILUX] SC [XX] [UP|DN|STOP]`

XX = OFF, ON, 1–15 Scenes

UP = Raise, DN = Lower, STOP = Stop scene raise/lower

Scene Toggle Command

This command toggles scene lights but is not supported for the Off scene.

Syntax: `M SC [XX] [TOG]`

XX = ON, 1–15 Scenes

Scene Turn Off Lights Command

This command turns off the scene lights.

Syntax: `[ILUX] SC [XX] OFF`

XX = ON, 1–15 Scenes

Scene State Query Command

This command reads the scene states and is not supported for slave iLux devices.

Syntax: `M SC [XX|ALL] STATE ?`

XX = OFF, ON, 1–15 Scenes

Reply packet:

`M SC [XX] STATE [S]`

S = 1/0 Scene state (1 means scene selected, 0 means scene not selected)

`M SC [ALL] STATE [MASK]`

MASK = Bit mask Bit0–Bit16

(Bit0 = OFF Scene state, Bit1 = ON Scene state, Bit2–Bit16 = Scene1–Scene15)

Scene Quick Save Command

This command saves the current light levels for the selected scene.

Syntax: `[ILUX] SC [XX] SAVE`

XX = ON, 1–15 Scenes

Scene Query Light Zone Level Command

This command reads the light level in scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] LZLVL ?`

XX = OFF, ON, 1–15 (Scenes)

Reply packet:

`M SC [XX] LZLVL [LEVEL1] [….] [LEVEL6]`

LEVELx = 0–100 (1–6 light zone)

Scene Query Shade Group Level Command

This command reads the shade level in scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] SZLVL ?`

XX = OFF, ON, 1–15 (Scenes)

Reply packet:

`M SC [XX] SZLVL [LEVEL1] [….] [LEVEL6]`

LEVELx = 0–100 (1–6 shade zone)

Scene Light Add or Remove Mask Command

This command adds or removes light masks to scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] LZMSK [VALUE]`

XX= OFF, ON, 1–15 (scene)

VALUE=0–63 (1=Add, 0=Remove)

(bit0–bit5=Light zone 1–Light Zone6)

Scene Light Mask Status Command

This command reads the light mask in scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] LZMSK ?`

XX= OFF, ON, 1–15 (Scenes)

Reply packet:

`M SC [XX] LZMSK [VALUE]`

Scene Shade Add or Remove Mask Command

This command adds or removes shade group to scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] SZMSK [VALUE]`

XX=OFF, ON, 1–15 (scene)

VALUE=0–63 (1=Add, 0=Remove)

(bit0–bit5=Shade group 1–Shade group6)

Scene Shade Status Command

This command reads the shade group mask in scenes and is not supported for slave iLux devices.

Syntax: `M SC [XX] SZMSK ?`

XX= OFF, ON, 1–15 (Scenes)

Reply packet:

`M SC [XX] SZMSK [VALUE]`

Scene Name Query Command

This command queries the scene name.

Syntax: `[ILUX] SC [XX] NAME ?`

XX = OFF, ON, 1–15 Scenes

Reply packet:

`[ILUX] SC [XX] NAME [LABEL]`

LABEL=Scene name

Room Combining Commands

Combine Rooms

This command combines room controllers and is not supported for slave iLux devices.

Syntax: `M COMBINE [ILUX1] [ILUX2]`

ILUXx = M for master, S1–S8 for slaves

Uncombine Rooms

This command uncombines room controllers and is not supported for slave iLux devices.

Syntax: `M UNCOMBINE [ILUX1] [ILUX2]`

ILUXx = M for master, S1–S8 for slaves

Query Combine Status

This command queries the room combine status and is not supported for slave iLux devices.

Syntax: `M COMBINE [ILUX1] [ILUX2]?`

Reply packet:

`M COMBINE [STATUS]`

[STATUS] = YES/NO

Override Commands

Override On Command

This command turns on the override.

Syntax: `[ILUX] OV ON`

Override Off Command

This command turns off the override.

Syntax: `[ILUX] OV OFF`

Override Status Command

This command reads the override status.

Syntax: `[ILUX] OV ?`

Reply packet:

`[ILUX] [OV] [STATE]`

STATE = ON/OFF Override On/Override Off

Load Shed Commands

Load Shed On Command

This command turns on load shed.

Syntax: `[ILUX] LS ON`

Load Shed Off Command

This command turns off load shed.

Syntax: `[ILUX] LS OFF`

Load Shed Status Command

This command reads the load shed status.

Syntax: `[ILUX] LS ?`

Reply packet:

`[ILUX] [LS] [STATE]`

STATE = ON/OFF Load shed on/Load shed off

Occupancy Commands

Occupancy State Set or Clear Command

This command sets or clears the occupancy state. All occupancy sources are OR'd together. This command is not supported for slave iLux devices. If master and slave devices are linked, the occupancy state is forwarded to all iLux devices.

Syntax: `M OC [SET|CLEAR]`

Occupancy State Query Command

This command queries the occupancy state.

Syntax: `[ILUX] OC ?`

Reply packet:

`[ILUX] OC [STATE]`

STATE = OCCUPIED/UNOCCUPIED

Photocell Command

Photocell Enable Command

This command queries the photocell active state.

Syntax: `[ILUX] PH [X|ALL] ACTIVE ?`

X = 16 light zone

Reply packet:

`[ILUX] PH [X] ACTIVE [STATE]`

STATE = ON/OFF

`[ILUX] PH [ALL] ACTIVE [STATE1][….][STATE6]`

Version Command

This command queries version string and is not supported for slave iLux devices.

Syntax: `M VER ?`

Reply packet:

`M VER CLS-C6M TEST VER [v2.01.02, #12345678]`

Appendix D: Factory Default Values

Factory Default Values

ITEM	DEFAULT VALUE
All lighting load types	Incandescent
All Low-End limits	0%
All High-End limits	100%
Function buttons	Recall scenes 1–6
Up/Down button	Lights (Last Scene Master)
Occupancy sensing	Off scene on exit - disabled On scene on entry - disabled Timeout = 30 minutes
Photocell	Sensitivity = 50% (All loads) Minimum dim level = 10% (All loads) Response time = 1 min (All loads)
Off Scene	2 seconds fade, no shades (lighting loads fixed at 0%)
On Scene	2 seconds fade, all 6 lighting loads to 100%, no shades
Scene 1	2 seconds fade, all 6 lighting loads to 15%, no shades
Scene 2	2 seconds fade, all 6 lighting loads to 30%, no shades
Scene 3	2 seconds fade, all 6 lighting loads to 45%, no shades
Scene 4	2 seconds fade, all 6 lighting loads to 60%, no shades
Scene 5	2 seconds fade, all 6 lighting loads to 75%, no shades
Scene 6	2 seconds fade, all 6 lighting loads to 90%, no shades
Scene 7	2 seconds fade, all 6 lighting loads to 15%, no shades
Scene 8	2 seconds fade, all 6 lighting loads to 30%, no shades
Scene 9	2 seconds fade, all 6 lighting loads to 45%, no shades
Scene 10	2 seconds fade, all 6 lighting loads to 60%, no shades
Scene 11	2 seconds fade, all 6 lighting loads to 75%, no shades
Scene 12	2 seconds fade, all 6 lighting loads to 90%, no shades
Scene 13	2 seconds fade, all 6 lighting loads to 15%, no shades
Scene 14	2 seconds fade, all 6 lighting loads to 30%, no shades
Scene 15	2 seconds fade, all 6 lighting loads to 45%, no shades
Scene front panel lockout	All scenes not locked out
Raise or Lower on scene recall buttons	Disabled
Shade jog time	0.05 second

(Continued on following page)

Factory Default Values (Continued)

ITEM	DEFAULT VALUE
Shade max time	1 minute
Shade lockout time	1 second
Scene programming	Unlocked for all scenes
Scene mastering	Disabled
Manual Fade Rate	Set to 5 seconds (for full travel)
Green LED brightness level	63
White LED brightness level	70
White LED glow level	7

The Cresnet ID (default=1F) in the configuration memory is not affected by the Fd function (unless configuration data is corrupt).

Appendix E: Button Functions

Following is a list of button functions, in table format, one function per table. Each table lists "Behavior," "LED action," "Applies to", "Rocker behavior," and "Notes." Some topics may not apply to certain button types; this is defined in the "Applies to" row.

There are four classes of buttons to be considered:

- Standard Rocker - the six function buttons on the front panel of the iLux device, while the iLux device is in Standard mode and the shift flag is not set
- Shifted Rocker - the same physical buttons as the standard rocker, but active when the shift flag is set
- Up/Down Rocker - the vertical button on the face of the iLux device
- Remote Button - the single-action (i.e., non-rocker) buttons located on remote keypads

Button Functions Tables

FUNCTION NAME	RECALL SCENE (OFF, ON, 1–15)
Behavior	Fades specified lights to specified levels in the specified time. Non-dim loads switch at the beginning or end of the specified time, as determined by the Load Type option for each load. Also sends specified shades to specified positions; the time is determined by the motor. Note that the off scene is special in that it cannot specify which lighting loads are affected or what their target levels should be—all lighting loads go to off, causing air-gap relay to open. Fade time and shade behavior can still be specified.
LED action	Blinks while lights are actively fading, Scene-interlocked* afterwards. Note that for Recall Off Scene, LED is on when all lights are off.
Applies to	Standard Rocker, Shifted Rocker, Remote Button
Rocker behavior	If the "Enable Raise or Lower on Scene Recall Buttons" option is set in iLux Designer, the right and left rockers perform "Scene Raise" and "Scene Lower" functions if, and only if, the scene feedback LED for that button is lit. If the "Enable Raise or Lower on Scene Recall Buttons" option is not set, then the right, left, and center presses all perform the same function.
Notes	The ON and OFF buttons always recall the On and Off scenes, respectively. The assigned functions cannot be changed.

* LED remains on until another scene that has overlapping lighting load or shade group programming—that is, a scene that affects at least one common lighting load or shade group—is recalled (or until Lights_in_Scenex_Off is executed).

FUNCTION NAME	TURN OFF SCENE LIGHTS (ON, 1–15)
Behavior	Same as Recall Scene button, except: a) All lights affected by the scene go to off level. b) Shades are not affected. Note that the list of unaffected lighting loads and the fade time are the same as for the Recall Scene function.
LED action	Blinks while lights are fading, off when fade is done.
Applies to	Remote Button
Rocker behavior	N/A
Notes	N/A

FUNCTION NAME	TOGGLE SCENE (ON, 1–15)
Behavior	Alternates between “Recall Scene” and “Turn Off Scene Lights” actions for the specified scene. In determining which action should be executed, the iLux device checks the state of all lights programmed in the scene. If any light in the scene is on, this function causes the lights to go off. If all lights in the scene are off, this function recalls the scene.
LED action	Blinks while lights are actively fading in either direction. On when any light in scene is on, while not fading.
Applies to	Standard Rocker, Shifted Rocker, Remote Button
Rocker behavior	If the “Enable Raise or Lower on Scene Recall Buttons” option is set, then the right and left rockers perform “Scene Raise” and “Scene Lower” functions, whether or not scene feedback LED for that button is lit. To toggle the scene, press the center of the button. If the “Enable Raise or Lower on Scene Recall Buttons” option is not set, then the right, left, and center presses all perform the same function.
Notes	Toggle function intended only for scenes that do not affect shades.

FUNCTION NAME	RAISE LIGHTING LOAD (1–6)
Behavior	The specified lighting load raises for as long as the button is held. It stops when the button is released. Rate is the global ramp rate. If they hit the high-end limit, the lights stop at that point, but the bar graph display continues to rise. If going up from OFF, lights immediately go to the low-end limit, and the bar graph display starts rising from 0. When the display (i.e., the internal ramp value) reaches the low-end limit, the lights start moving up in sync. For non-dim load, lights immediately go to full on.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	This is the same as pressing the right side of front panel function button when the device is in Lights Mode.

FUNCTION NAME	LOWER LIGHTING LOAD (1–6)
Behavior	The specified lighting load lowers for as long as the button is held. It stops when button is released. Rate is the global ramp rate. If loads hit the low-end limit, the bar graph continues to go down, but lights stay at low-end limit level until they reach OFF—at which point they turn off. If the load is starting from above the high-end limit, the bar graph lowers, but the lights stay at high-end limit level until the display reaches the high-end limit. Then the light and bar graph start moving in sync. For non-dim load, lights immediately go to off.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	This is the same as pressing the left side of the front panel function button when the device is in Lights Mode.

FUNCTION NAME	RAISE OR LOWER LIGHTING LOAD (1–6)
Behavior	Pressing left side of button acts the same as Lower Lighting Load. Pressing right side of button acts the same as Raise Lighting Load.
LED action	On while left or right button is pressed
Applies to	Shifted Rocker
Rocker behavior	Described in Behavior
Notes	N/A

FUNCTION NAME	MASTER RAISE LIGHTING LOADS (LAST SCENE, ALL LIGHTS, ON SCENE, SCENES 1–15)
Behavior	Same as Raise Lighting Load, except acts on all dimmable Lighting Loads affected by specified scene. All lights ramp at the same rate. Non-dim loads are not affected. Shades are not affected.
LED action	On while button is pressed
Applies to	Standard Rocker, Shifted Rocker, Remote Button
Rocker behavior	Left, right, and center presses all perform the same function.
Notes	N/A

FUNCTION NAME	MASTER LOWER LIGHTING LOADS (LAST SCENE, ALL LIGHTS, ON SCENE, SCENES 1–15)
Behavior	Same as Lower Lighting Load, except acts on all dimmable Lighting Loads affected by the specified scene. All lights ramp at the same rate. Non-dim loads are not affected. Shades are not affected.
LED action	On while button is pressed
Applies to	Standard Rocker, Shifted Rocker, Remote Button
Rocker behavior	Left, right, and center presses all perform the same function.
Notes	N/A

FUNCTION NAME	MASTER RAISE AND LOWER LIGHTING LOADS (LAST SCENE, ALL LIGHTS, ON SCENE, SCENES 1–15)
Behavior	Pressing left side of button acts the same as Master Lower Lighting Loads. Pressing right side of button act same as Master Raise Lighting Loads. For up/down button: bottom button = left button => lower top button = right button => raise
LED action	On while button is pressed
Applies to	Standard Rocker, Shifted Rocker, up/down (Last Scene and All Lights only)
Rocker behavior	As specified under “Behavior”
Notes	N/A

FUNCTION NAME	TOGGLE-DIM SCENE (ON, 1–15)
Behavior	Similar to the “Toggle Scene” function, except that a maintained press of the button causes the lights to enter “cycle-dim” mode. That is, all lights programmed in the specified scene either raise or lower until the button is released. The behavior is the same as Raise Scene function. A subsequent maintained button press causes the lights to dim in the opposite direction. If the button is tapped instead of held down, it behaves identically to the “Toggle Scene” function.
LED action	On when any light in scene is on
Applies to	Remote Button
Rocker behavior	N/A
Notes	This function intended for use only on scenes that do not affect shades.

FUNCTION NAME	OPEN SHADES FULL (ALL, GROUP 1–6)
Behavior	Sends the specified shades to Full Open position.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to another (either when directly connected or when linked through a Cresnet system). If all shades are to open in a multi-unit system, define a scene to do that.

FUNCTION NAME	CLOSE SHADES FULL (ALL, GROUP 1–6)
Behavior	Sends the specified shades to Full Open position.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). If all shades are to close in a multi-unit system, define a scene to do that.

FUNCTION NAME	STOP SHADES (ALL, GROUP 1–6)
Behavior	Stops the specified shades at current position.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	OPEN SHADES MOMENTARY (ALL, GROUP 1–6)
Behavior	Specified shades move toward the Open position for as long as the button is pressed. Movement stops when button is released.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	CLOSE SHADES MOMENTARY (ALL, GROUP 1–6)
Behavior	Specified shades move toward the Closed position for as long as the button is pressed. Movement stops when button is released.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	JOG SHADES OPEN (ALL, GROUP 1–6)
Behavior	Specified shades move toward the Open position for the specified jog time, and then stop.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Jog time defaults to 0.05 sec. Other values can be set in iLux Designer. Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	JOG SHADES CLOSED (ALL, GROUP 1–6)
Behavior	Specified shades move toward the Closed position for the specified jog time, and then stop.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Jog time defaults to 0.05 sec. Other values can be set in iLux Designer. Shade commands with “All” parameter only affects the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	OPEN MOMENTARY/OPEN FULL (ALL, GROUP 1–6)
Behavior	A quick tap of the button performs a “Full Open.” A maintained press performs a “Momentary Open” until the button is released. If the shade is already moving in the open direction, a tap stops it. If the button is tapped once, it starts moving to full open; then if tapped again, it stops. If the shade is moving in the close direction, a tap sends to full open. A longer press performs a “Momentary Open” until the button is released.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	When the shade changes direction, there may be a short time when the shade is stopped before it starts moving in the opposite direction. This is the lockout time for the shade controllers. This time is fixed for the C2N-SSC shades; it can be changed for the C2N-SDC and C2N-SDC-DC controllers via iLux Designer. Shade commands with “All” parameter only affect the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	CLOSE MOMENTARY/CLOSE FULL (ALL, GROUP 1–6)
Behavior	Same as “Open Momentary/Open Full Shade Group 1–6” except Close.
LED action	On while button is pressed
Applies to	Remote Button
Rocker behavior	N/A
Notes	Same as “Open Momentary/Open Full Shade Group 1–6.”

FUNCTION NAME	OPEN/STOP/CLOSE/STOP (ALL, GROUP 1–6)
Behavior	Function alternates between the “Full Open,” “Stop,” and “Full Close” commands for the specified shade group(s) each time the button is pressed.
LED action	On while button is pressed
Applies to	Standard Rocker, Shifted Rocker, Remote Button, up/down (All only)
Rocker behavior	Pressing center of the button acts the same as non-rocker open/stop/close/stop. Pressing only one side of the button while the shade is stopped always sends it in specified direction rather than in opposite of previous direction. Pressing any part of the button while the shade is moving stops it. For up/down rocker button behavior, see below: bottom button = left button => close top button = right button => open
Notes	Shade commands with “All” parameter only affects the shade groups connected to the given iLux device module. They do not pass from one iLux device module to the other (either when directly connected or when linked through a Cresnet system). To accomplish this function for all shades in a multi-unit system, use SIMPL programming.

FUNCTION NAME	EXTERNAL FUNCTION (1–32)
Behavior	Activates the corresponding “press” digital signal (press1–press32 on the External Functions slot) on the Cresnet system connected to the CONTROL SYSTEM port. Signal remains high for as long as the button is pressed.
LED action	On when the corresponding “fb” digital signal (fb1–fb32 on the External Functions slot) from the control system is high.
Applies to	Shifted Rocker, Remote Button
Rocker behavior	Left, right, and both all do the same thing
Notes	Note that these should be assigned only to an iLux device that is directly connected to a Cresnet control system, or to keypads connected to that unit’s local devices network.

FUNCTION NAME	DUAL EXTERNAL FUNCTION (1/2 ...31/32)
Behavior	Activates the corresponding “press” digital signal (press1–press32 on the External Functions slot) on the Cresnet system connected to the CONTROL SYSTEM port. Signal remains high for as long as the button is pressed. The left button corresponds to the lower number. The right button corresponds to the higher number.
LED action	On if feedback for either join number is high, off if feedback for both join numbers is low
Applies to	Shifted Rocker
Rocker behavior	See “behavior” above
Notes	Note that these should be assigned only to an iLux device that is directly connected to a Cresnet control system. If assigned to unit that is connected to the local devices network of another iLux device, they do not function.

FUNCTION NAME	SHIFT
Behavior	If shift function is assigned to the up/down button in iLux Designer, pressing this button alternates between lower and upper functions for the six front panel function buttons
LED action	N/A
Applies to	up/down
Rocker behavior	Top, bottom, and both all perform the same function
Notes	N/A

Appendix F: Room Combining

The iLux device supports a room-combining concept, whereby two adjacent rooms are considered separate when a partition is closed, and combined when the partition is open. Refer to the illustrations on the following page for examples of room combining.

In a system that can include a master iLux device and up to eight slave iLux devices, there are 36 possible partitions between rooms.

- Master/Slave1
- Master/Slave2
- ...
- Master/Slave8
- Slave1/Slave2
- ...
- Slave1/Slave8
- Slave2/Slave3
- ...
- Slave7/Slave8

Partition sensing is accomplished with the GLS-SIM device (one partition per device) and a third-party partition sensor.

In order to indicate which partition is being attached to a given GLS-SIM, each of the 36 possible partitions is given a specific Cresnet ID for the GLS-SIM. Refer to the "Room Combining Possible Partition Combinations" table within this appendix.

The DIP switches on the GLS-SIM allow it to work with various partition sensors. For more information, refer to the GLS-SIM Installation and Operation Guide (Doc 6768) at www.crestron.com/manuals. Keep the following information in mind.

- Use input channel 1 only on the GLS-SIM when for partition sensing.
- When normal polarity is used, the presence of a contact closure or voltage below threshold indicates that a partition is CLOSED and the rooms are separated. Adjust the GLS-SIM's polarity DIP switch accordingly based on the partition sensor's behavior.

Two iLux devices, either master/slave or slave/slave, that are in rooms separated by a closed partition have no effect on one another when functions are triggered on either unit.

In the absence of a partition separating two iLux devices (i.e., there is no GLS-SIM present at the appropriate Cresnet ID), the two iLux devices are always combined.

If two iLux devices are separated and then become combined at some later time, there is no immediate change. A combinable function must first be triggered on either unit in order to see an effect on the other unit.

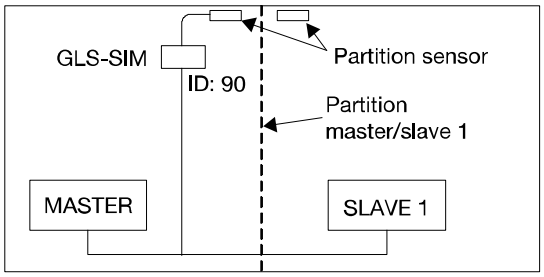
Below are combinable functions.

- Recall - Off Scene, On Scene, Scene1…15
- Raise or Lower - Master, scene1…15, last active scene

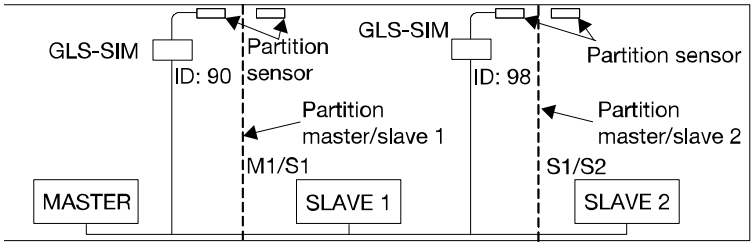
- Occupancy motion and activity joins
- Override is shared for all combined and uncombined rooms (when triggered from the master iLux device)

An iLux device that is combined with another iLux device that is, in turn, combined with a third shall be considered combined with that third iLux device.

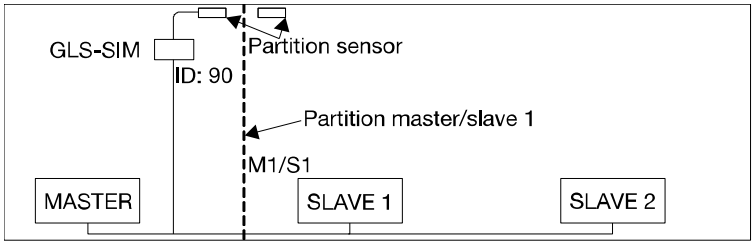
Example 1: Two Rooms



Example 2: Three Rooms



Example 3: One Small and One Large Room



In example 3, since there are no partitions separating Slave 1 and Slave 2 or Master and Slave 2, iLux Designer software must be used to indicate the default status of these missing partitions. In this case, the following defaults should be set.

- Master/Slave 1 default can be set to either Open or Closed, as the physical partition sensor determines the actual state anyway.
- Master/Slave 2 default must be set to Closed since they are not directly partitioned, assuming that Master and Slave 1 are separated by the partition.
- Slave 1/Slave 2 default must be set to Open since they are physically located in the same room and thus must always be combined.

Refer to iLux Designer help for more details.

Room Combining Possible Partition Combinations

PARTITION BETWEEN	GLS-SIM CRESNET ID
Master & Slave 1	0x90
Master & Slave 2	0x91
Master & Slave 3	0x92
Master & Slave 4	0x93
Master & Slave 5	0x94
Master & Slave 6	0x95
Master & Slave 7	0x96
Master & Slave 8	0x97
Slave 1 & Slave 2	0x98
Slave 1 & Slave 3	0x99
Slave 1 & Slave 4	0x9A
Slave 1 & Slave 5	0x9B
Slave 1 & Slave 6	0x9C
Slave 1 & Slave 7	0x9D
Slave 1 & Slave 8	0x9E
Slave 2 & Slave 3	0x9F
Slave 2 & Slave 4	0xA0
Slave 2 & Slave 5	0xA1
Slave 2 & Slave 6	0xA2
Slave 2 & Slave 7	0xA3
Slave 2 & Slave 8	0xA4
Slave 3 & Slave 4	0xA5
Slave 3 & Slave 5	0xA6
Slave 3 & Slave 6	0xA7
Slave 3 & Slave 7	0xA8
Slave 3 & Slave 8	0xA9
Slave 4 & Slave 5	0xAA
Slave 4 & Slave 6	0xAB
Slave 4 & Slave 7	0xAC
Slave 4 & Slave 8	0xAD
Slave 5 & Slave 6	0xAE
Slave 5 & Slave 7	0xAF
Slave 5 & Slave 8	0xB0
Slave 6 & Slave 7	0xB1
Slave 6 & Slave 8	0xB2
Slave 7 & Slave 8	0xB3

Appendix G: RC5 Code Expansion

RC5 codes are now assigned for all iLux device functions that can be accessed via SIMPL Windows. Refer to the following table.

RC5 Codes Function Table

CODE	FUNCTION
Key 1	On Scene
Key 2	Off Scene
Key 3	Scene 1
Key 4	Scene 2
Key 5	Scene 3
Key 6	Scene 4
Key 7	Scene 5
Key 8	Scene 6
Key 9	Scene 7
Key 10	Scene 8
Key 11	Scene 9
Key 12	Scene 10
Key 13	Scene 11
Key 14	Scene 12
Key 15	Scene 13
Key 16	Scene 14
Key 17	Scene 15
Key 18	Light zone 1 up
Key 19	Light zone 1 down
Key 20	Light zone 2 up
Key 21	Light zone 2 down
Key 22	Light zone 3 up
Key 23	Light zone 3 down
Key 24	Light zone 4 up
Key 25	Light zone 4 down
Key 26	Light zone 5 up
Key 27	Light zone 5 down
Key 28	Light zone 6 up
Key 29	Light zone 6 down
Key 30	N/A
Key 31	N/A
Key 32	N/A
Key 33	N/A
Key 34	Last active scene up
Key 35	Last active scene down
Key 36	All lights up

Continued on following page)

RC5 Codes Function Table (Continued)

CODE	FUNCTION
Key 37	All lights down
Key 38	N/A
Key 39	N/A
Key 40	N/A
Key 41	Slave 1 light zone 1 up
Key 42	Slave 1 light zone 1 down
Key 43	Slave 1 light zone 2 up
Key 44	Slave 1 light zone 2 down
Key 45	Slave 1 light zone 3 up
Key 46	Slave 1 light zone 3 down
Key 47	Slave 1 light zone 4 up
Key 48	Slave 1 light zone 4 down
Key 49	Slave 1 light zone 5 up
Key 50	Slave 1 light zone 5 down
Key 51	Slave 1 light zone 6 up
Key 52	Slave 1 light zone 6 down
Key 53	Slave 2 light zone 1 up
Key 54	Slave 2 light zone 1 down
Key 55	Slave 2 light zone 2 up
Key 56	Slave 2 light zone 2 down
Key 57	Slave 2 light zone 3 up
Key 58	Slave 2 light zone 3 down
Key 59	Slave 2 light zone 4 up
Key 60	Slave 2 light zone 4 down
Key 61	Slave 2 light zone 5 up
Key 62	Slave 2 light zone 5 down
Key 63	Slave 2 light zone 6 up
Key 64	Slave 2 light zone 6 down

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12.16
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