# ILC –xxx/Virtual Terminal Family Quick Reference Installation Guide (with e-Node for communication)

The Converging Systems ILC-x00™ family of LED lighting controllers are networkable devices which can provide support for Converging Systems' Flexible Linear Lighting Arrays™ (FLEX) RGB, RGBW, and monochrome LED devices. The devices are supported using either RS-232 serial connection (IBT-100) or Ethernet (e-Node). Typically for systems with more than one ILC-x00 controller or in cases where you wish to have bi-directional communication, initially you must set up with e-Node™ even though you will be using the IBT-100™ within the system. *Full Installation Manuals are available for ILC-xxx family controllers, the e-Node, and IBT-100 at http://www.convergingsystems.com/lighting_install_library.php*

SOFTWARE SETUP-Virtual Terminal Requires the e-Node, alternative operation with keypads and 3ʳᵈ party control systems (except Lutron) is OK with IBT-100 or e-Node
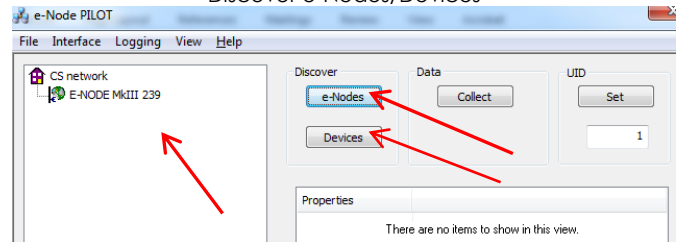
Figure 1 e-Node Software Download and Launch	**Figure 2** Discover e-Nodes/Devices
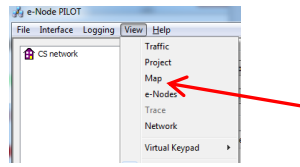
Download and Launch Pilot. Download and launch the (PC compatible) e-Node Pilot application available from the Converging Systems website http://www.convergingsystems.com/downloads_library.php (under **System/Software**). Before running, please make sure you **unzip** the file. You may need to enter a username and password (username is csidealer, password is 4212color).

Note: If you are using e-Node Pilot Virtual Keypad, wired or wireless communication is typically acceptable. However , if you are using e-Node Pilot to make any system changes (not recommended for the end-user), it is highly advised to make a *hardwired* Ethernet connection from the e-Node to your network switch and another *hardwired* Ethernet connection from your switch to your computer running the Pilot application, otherwise data may be lost or corrupted.


Discover e-Node. From the **View/Map** window, select the **Discover e-Node** button and any e-Nodes that have been powered-up and which exist on the same subnet as your computer will populate within the left window.

Discover Devices. From the **View/Map** window, select the **Discover Devices** button and any ILC-0xx controllers that have been powered-up and previously activated on the same subnet as your computer will populate within the left window with either their alias or **UID** (Unique ID number).

Figure 3 Virtual Keypad Launch	**Figure 4** Virtual Keypad Setup and Initial Test
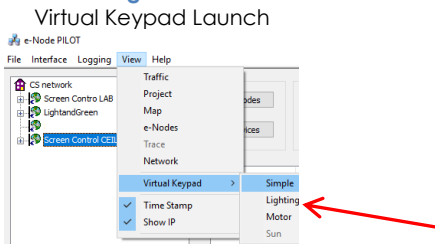
Launch Virtual Keypad/Lighting. From the **View/Virtual Keypad** window, select the **Lighting** button and launch the pop-up keypad. For convenience, should you wish to view other Pilot windows available, drag the pop-up to another location on your desktop.
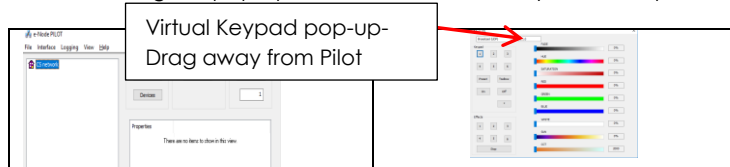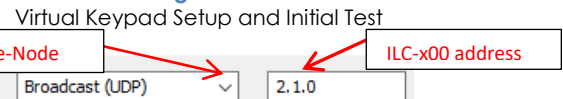
Virtual Keypad pop-up-Drag away from Pilot

e-Node — Broadcast (UDP) ILC-x00 address — 2.1.0

Select e-Node. Should you have multiple e-Nodes, elect the applicable e-Node within the left window. Otherwise **Broadcast (UDP)** will work for entire system.

Select Address. Should you have multiple ILC-x00 controllers enter the address for the target controller (i.e. **2.1.1**). Note, an address of **2.1.0** is provided by default where the "0" represents a wildcard for any device with addresses from 2.1.1 to 2.1.254. For proper bi-directional feedback enter the specific address (with no 0's in address). See Figure 9 for more information.

Initial Test. Select the **On** or **Off** buttons and verify system operation. Note: **On** will turn unit to previous state before an **Off**. If previous state was very dim or not set, **On** may not be applicable now. In this case, go to Figure 5 and set a light level or color.

On   Off

|	
Figure 5 Light Level Controls	**Figure 6** Keypad Recalls
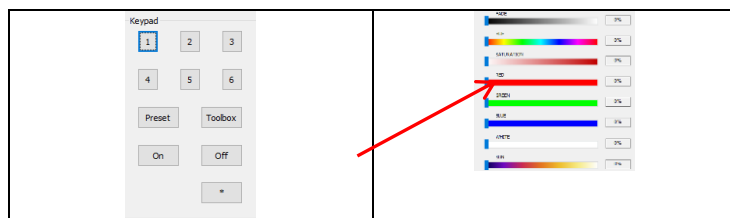
Adjust Light Level Parameter. Move the slider tab to make adjustment. Refer to table below for definitions. The *HSL Color Space* is recommended. The address that is specified in Figure 4 will respond.

Fade	In *HSL (Color)* Space, relative darkness or lightness of a color
Hue	In *HSL (Color)* Space, wavelength of a color (i.e. red, yellow, etc.)
Sat	In *HSL (Color)* Space, absence or presence of white in color
Red	In *RGB (Value)* Space, amount of Red
Green	In *RGB (Value)* Space, amount of Green
Blue	In *RGB (Value)* Space, amount of Blue
White	In *RGB (Value)* Space, amount of White (not relevant for monochrome output)
Sun	For RGBW output only, Circadian Tuning (Sunrise to Sunset)
CCT	For RGB and RGBW only, Correlated Color Temperature

Hint. To make White in HSL color space, select any **Hue** with Hue slider and then desaturate (lower **SAT** slider) until White is obtained. Make sure that you have sufficient brightness to see the Hue (or White color).
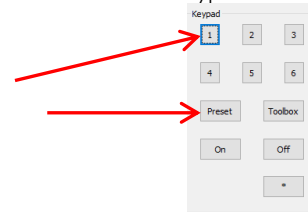

Select Preset. If you have been in the Toolbox mode within 10 seconds, select the **Preset** Button, otherwise just select a Keypad # button (#1 to #6) corresponding to your desired preset.

Note: The User Field column is provided as a convenience if custom colors have been set and a written reference is desired.

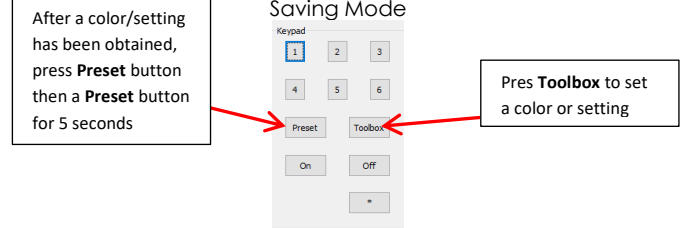| Keypad #	Standard	Custom 1*	User Field (reserved for user input)
1	Red	2400K	
2	Yellow	2700K	
3	Green	3000K	
4	Cyan	5000K	
5	Blue	6000K	
6	Magenta	P6	

*Special factory configuration

Figure 7
Effect Menus
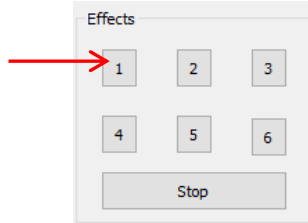
Select Effects. One or more **Effects** can be selected through this keypad. Refer to table below for definitions. If you desire the Effect sequence to terminate, either hit the **Stop** button or select some other command from the Virtual Keypad menu.

| #	Description
1	Autoplays any user stored Presets starting with Recall1 and continues until white is encountered (240.240.240.(240))
2	Flaming/flickering LED sequence
3	Rainbow effect-starts with current color and proceeds through space
4	Random effect-starts with current color and proceeds randomly
5	Demo mode 1-moves up/down through available color temperatures
6	Demo mode 2-moves up/down through circadian settings (sunrise to sunset)

Figure 8
Saving Mode

After a color/setting has been obtained, press **Preset** button then a **Preset** button for 5 seconds

Pres **Toolbox** to set a color or setting

Saving Color States (Presets). Use Sliders shown in Figure 5 to select light levels or colors. Once desired color/setting is obtained, press and release the **PRESET** button (**IMPORTANT**), then press and hold for five (5) seconds any of the **Number** buttons (#1 to #6) until the desktop speaker beeps. At that point the new color/setting has been stored into that Numbered location (i.e. Button #1 is Preset 1, Button #2 is Preset 2, etc.)

Figure 9
Bi-Directional Communication & Test
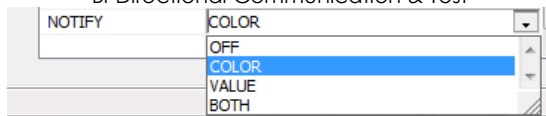
Enable Bi-directional Communication. In order to invoke bi-directional communication so that a control system with compatible sliders can show feedback when there are changes in ILC-x00 controller's color state (i.e. colors change or states), set the **NOTIFY** Flag to either **COLOR** (for the HSV or Hue, Saturation, Value color space) or to **VALUE** (for the old school Red, Green, Blue Value color space—*old school because there is no dimmer in this color space*). If you want to have both sets of sliders (not really recommended in larger systems where bus traffic may become excessive), set the flag to **BOTH**.

Test. Launch the **Virtual Keypad/Lighting** and test by entering an appropriate (**Z.G.N**) address and adjust sliders. Connected LEDS should react as adjustments are made.