ILC LightSync Touch Screen 2 Configuration Software Manual

Revision A
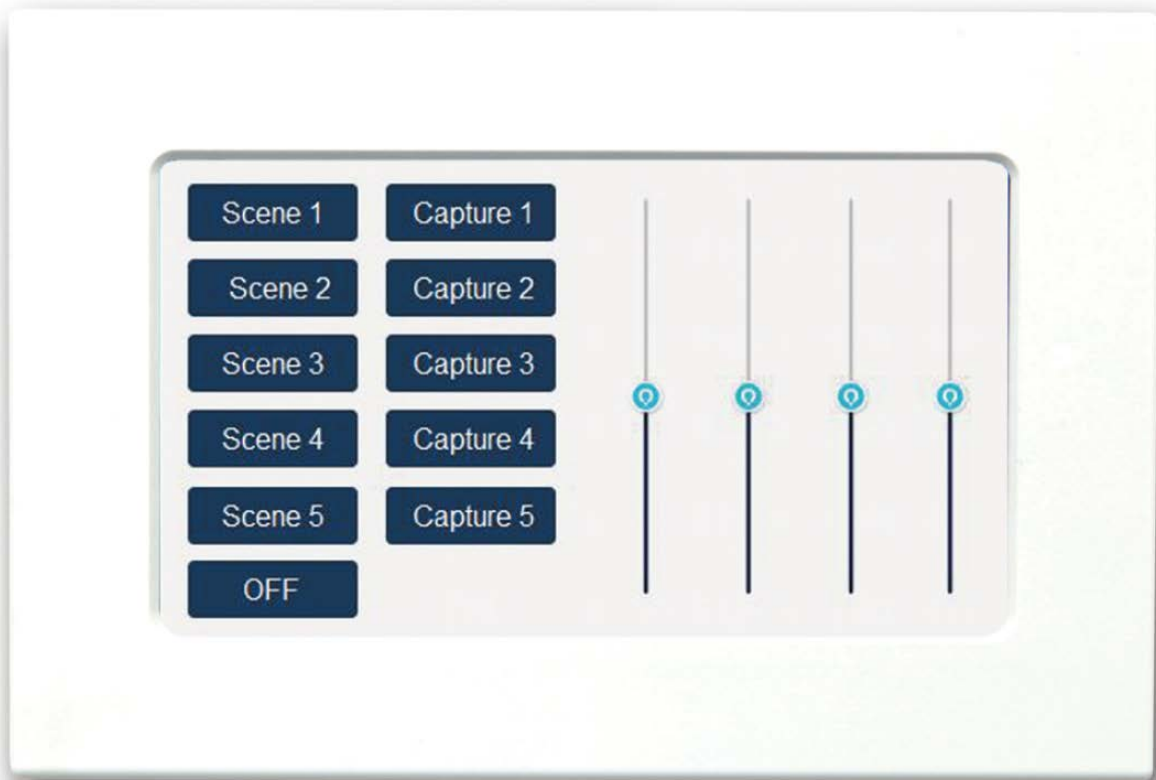
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Section 1 Program Description

1.0 Overview

The ILC LightSync Touch Screen Station 2 Pro Software is an ILC proprietary software package designed for programming LS-TSS2 devices provided by ILC. These screens can be programmed to control lighting relays and dimming outputs as if they were LightSync devices on the data line. With the use of this software, up to 16 custom screens can be designed with up to 32 control/navigation buttons, 32 status indicators, 8 dimming sliders, Color Control navigation button , and 16 text captions per screen.

Note: This software will program the Touch Screen Station 2 devices released in March of 2020. These models include a 3.5" 4.3" and 7" LS-TSS2 devices. Examine the Touch Screen for a label indicating LS-TSS2 should be found on the back of the device.

If you have an existing model not labeled LS-TSS2 please contact ILC for Instruction manual with details for the legacy product. 952-842-2578 or techsupport@ilc-usa.com

1.1 Suggested Minimum System Requirements

The following are the minimum system requirements to run the ILC LightSync Touch software. Running this software with less than the minimum hardware requirements or operating systems other than listed may provide unexpected results.

- Personal Computer or Laptop
- I7 7700 4.2Ghz
- Windows 10 Pro
- 64 bit OS
- USB 1.0
- 8 Gb Ram
- SVGA monitor 1024 x 768
- Full Administrator Rights
- SD-Micro or SD Card interface

1.2 Installing the Program

Follow this procedure for installing the ILC LightSync Touch Configuration software on your computer. This must be installed with a user with administrative rights and with any antivirus program disabled.

Run the setup by double-clicking the ILC LightSync TS2 Pro Setup Revxxx Build2.exe file provided by ILC. Select "Run" if any security warning messages appear. Select "NEXT", and then" Install". Press "Finish" to complete the software install. The Silicon Laboratories Bridge Driver Install window will open. Select "Install" to load the proper driver for communications. Once installed you will be prompted to restart the system to finalize the installation, click on "Yes".

1.3 Running the Program

Double click on the icon installed on your desktop as shown in Figure 1 to run the ILC LightSync Touch Screen Pro program. The opening software window is shown in Figure 2.
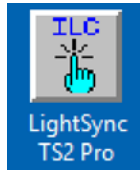

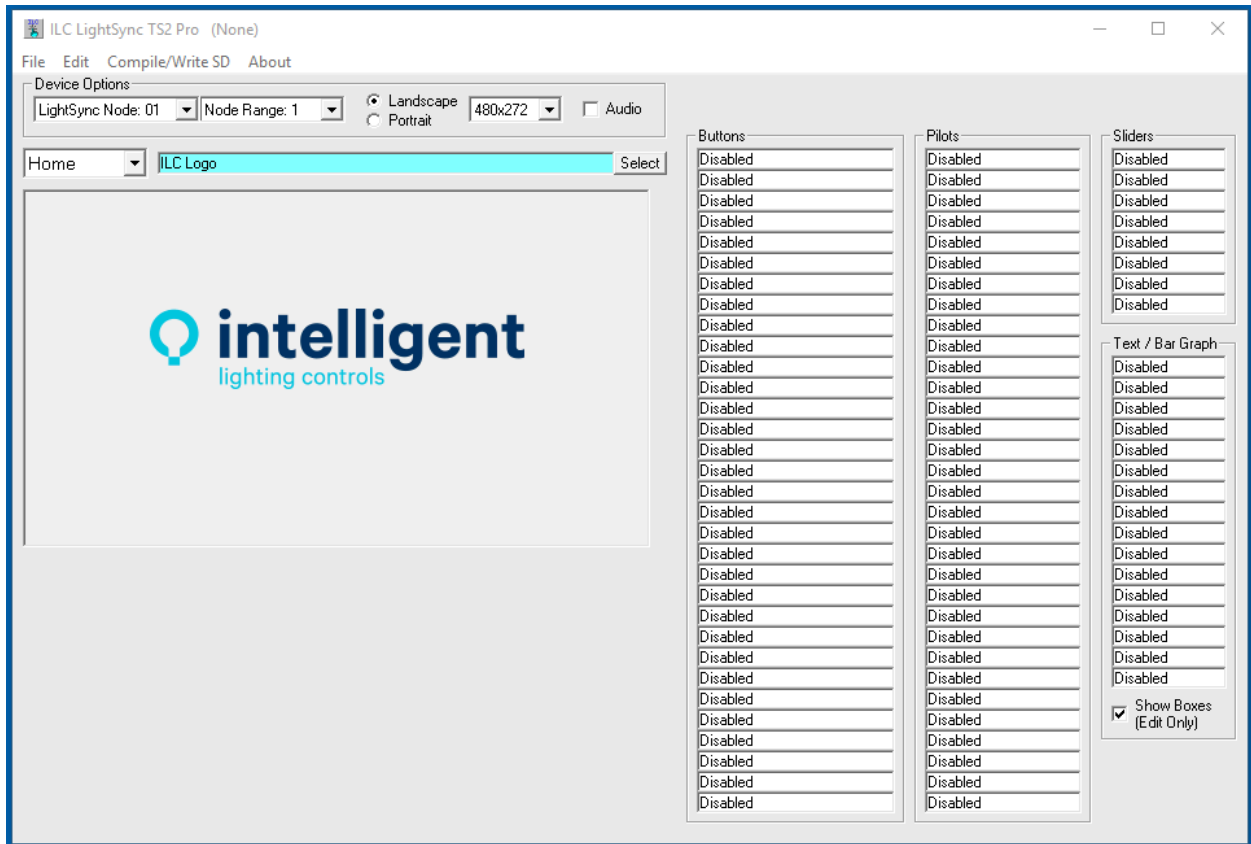Figure 1 LightSync Touch Program Icon

Figure 2 Opening Software Window

1.4 Navigating the Program

The following items can be found on the opening software window.

File: This pull-down menu has options for you to create a new program file, open an existing program file, save a program file, save-as, export screen, import screen, and exit the program.

Edit: In this pull-down menu, you will find options for New icon for the current screen to create a control button, status pilot, slider, or text. There is also a Clear screen option in this menu that clears all objects including the background from the current screen. Show Grid, Grid Size, Grid Color, Snap To Grid and Undo Snap are all used for aligning the control icons on the screen.

Compile/Write SD: This tool will compile the program images and layout of controls and write to the SD card, this will take you to the SD card write screen.

About: this will display the software revision, Example: ILC LightSync TS2 Pro, Software Rev 3.00
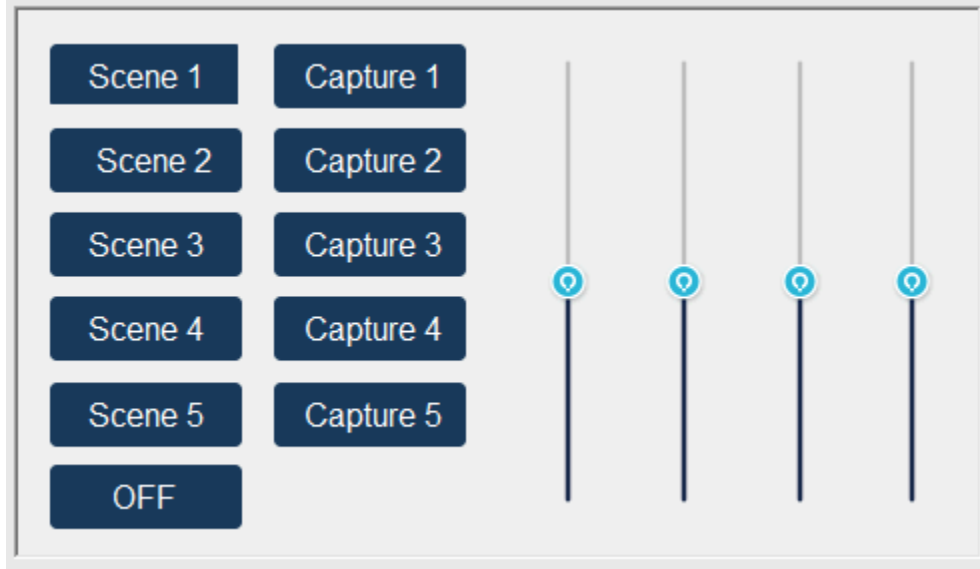
Device Options: Located in the upper section of the program, there is a pull-down menu to set the base or starting LightSync device node address, the Range of LightSync node addresses used, screen orientation, screen size, audio enable.

Screen Selection: From a pull-down menu, you can select from 1 of 16 screens to program including the "Home" screen. The default Home screen is the ILC Logo on a standard gray background, by pressing the select button, you can choose the background color or previously designed custom graphic screen in a .bmp file format.

Screen Design Area: This area is the same size as the screen and is the design area where all of the objects will be added to create your screen. These screens will appear very similar to the actual touch screen. Take care to not place buttons at the edge of the screen area, consider the first 3-5 spacing points an area where the plastic bezel may come in contact with the screen causing false triggers.

Screen Programming Objects: In the right-hand area of the program window, you will find control buttons, status pilots, slide dimmers, and text/bar graph options. Choose Edit from one of the items to start programming. You will also find a check box for show text boxes this will allow a grayed-out area to appear where the text box is placed for alignment.

Section 2 Programming Control Screens

2.0 Overview

This section will describe the default screen layouts and will describe how to program each screen with the functions desired to control the lighting circuits. Touch screens can be as simple as a single screen with control buttons, to elaborate configurations with multiple screens and custom backgrounds. Before starting, it is suggested that a flow diagram is laid out with the design for the screens showing navigation, security, and controls. Multi-screen layouts should include navigation buttons to go back or to home screens so there is a full-circle flow.

2.1 Default Screen Settings

Overview: The LS-TSS2 stations will come with a default screen configuration and settings pre-loaded onto the SD card in the LS-TSS2. The default screens are based on using the station as a 5-Scene w/capture and 4-Zone dimming slider controls that would be most common with a LightLEEDer EVO 4-zone panel in a single room. This programming will work with EVO Applications OC and OD for conference rooms, these default screens are shown below for each of the 3 screen sizes in Figure 3.

To use a default screen configuration:

1. The device address is set for LightSync Node: 18 and a Node Range of: 8 devices
2. The entire graphic area of the home screen is a "Target" with "Goto Screen 1" command
3. The buttons for setting a scene are device 18 inputs 1 to 6
4. The buttons for capture a scene are device 19 inputs 1 to 5
5. The slide dimmers are device 1A, 1B, 1C, 1D and are set for E/Track Dev

6. On the 3.5" screen navigation buttons where added to go from scene and capture screen to the dimming control screen.

3.5" Home, Screen1 and Screen2

4.3" and 7" Home and Screen 1

Figure 3 Default LS-TSS2 Pre-Configured Screens

2.2 Initial Screen Settings

Base LightSync Node Setting: From the "Device Options", use the pull-down menu to select the first or starting LightSync device address number that you would like to assign to the unit. This can be set from LightSync Node 01 to Node FE. Note: This must be a unique device address, and not one currently used on the LightSync network with other hardware. Addresses will be in succession from this base address setting.

Node Range: From the "Device Options", select the node range from the pull-down menu, select the total number of consecutive devices you would like to assign for all of the screens. You can set this from 1 to 64 devices. Note: The address range must not conflict with other LightSync device addresses on the

LightSync network. Example: LightSync Base address OB, Node Range 4, the device uses LightSync device addresses OB, OC, OD, and OE. Refer to 3.7.2 for more details.

Screen Orientation: From the "Device Options", select the screen orientation desired from the pull-down menu provided. Note: The orientation correlates with the direction the touch screen will be mounted.

Screen Resolution: From the "Device Options", from the pull-down menu, select the screen resolution for the hardware provided with the pull-down menu. See the documentation provided for screen resolution. 3.5" = 320x240, 4.3" = 480x272, 7.0" = 800x480.

Audio: From the "Device Options", select the box to enable the audio beeper on the touch screen.

Screen Select: There are 16 screens that can be configured, with the first screen being the Home screen. The ILC Logo will be used in the default programs for home screen.

Screen Background: By pressing the "Select" button the background graphics can be set as a solid color, or a custom .bmp graphics that can contain logos, text, and custom buttons.

2.3 Setting up a Screen Background

The background graphics can be configured as a simple solid color or custom graphics that can contain photos, logos, text, and custom buttons. Custom graphics can be designed with any program that can be saved in a .bmp format. There are 16 screens that can be configured, with the first screen being the Home screen. The Home screen will be the opening screen seen when powered up, or when other screens time-out. Refer to Figure 4 for the following.

1. From the pull-down "Screen Select", choose the screen number to be programmed.
2. Press the "Select" button to choose a background.
- **Solid Color:**
  Select "Solid Color", then one of the standard colors, or adjust the red, green and blue to create a custom color. Note: The ILC default background color is a Light Gray.
- **Custom Background:**
  Select "BMP Image", and then select "Browse". Select the pre-drawn graphics and then "Open". (This Bitmap background should be sized to the resolution of the screen, in a landscape or portrait layout and saved as a 24bit Bitmap)
- **ILC Logo:**
  Select ILC Logo to set the screen for the premade ILC logo with matching ILC default background
3. Press "Save" to set background selection for the current screen.
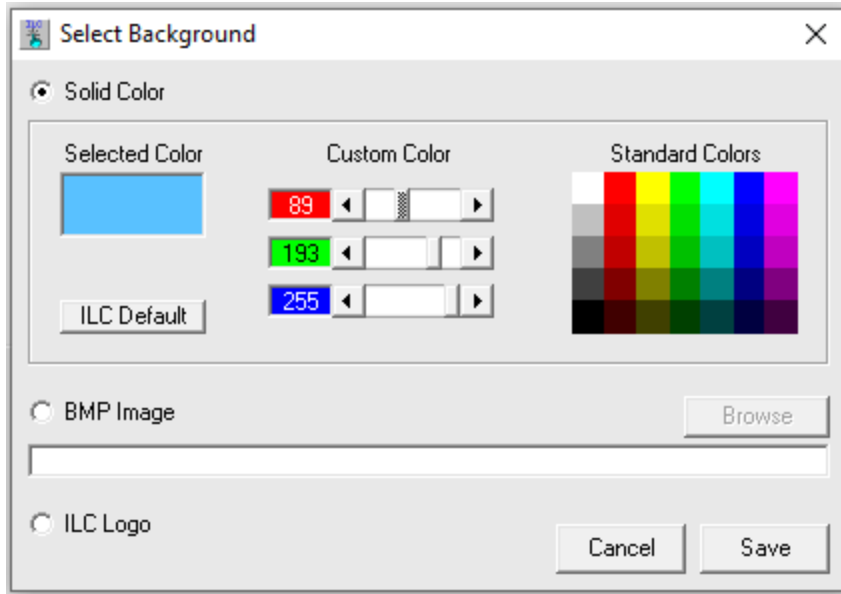4. Save your project to protect your settings.

Figure 4 Select Background Color or Graphics

2.4 Adding Control Buttons

Control buttons can be added to the screen for control and navigation. The control buttons mimic LightSync devices, and from the lighting controller appear as LightSync data line switches, LightSync inputs, or LightSync photo sensors.
Navigation buttons go-to another screen with/without a password.

The buttons can be set to the following types:

Push-Button Input: This type has 1 to 8 inputs; they operate like a LightSync data line switch "push button on/off" when you push the button it will send a closure signal to the LightLEEDer panel once. This option is used to control relays, LightLEEDer groups, activate or capture a LightLEEDer scene, activate a LightLEEder preset and as an input for a LightSync dimmer output.

Turn ON Input: This option type has 1 to 8 inputs and will only turn the selected input ON.
Turn OFF Input: This option type has 1 to 8 inputs and will only turn the selected input OFF.

Note: Turn On and Turn Off inputs must be attached to the same input and LightSync device. These two buttons create a maintained closure and should be mapped in the LightLEEDer panel as a "Maintained ON/Off" type. These inputs must not be configured as a Push-Button on this or <u>any other screen</u>. These inputs create a maintained or held ON closure and must have an OFF Input to turn off.

Go-to Screen Button: This option provides a button for navigating to another screen.
Go-to Screen w/ Password Button: This option provides a button for navigating to another screen with a 6-digit password. Unique passwords can be set up for each navigation button.

Color Control: This option creates a navigation to the color control screen as command only control.
Color Control With Tracking: This option creates a navigation to the color control screen with status tracking of the dimmer outputs.
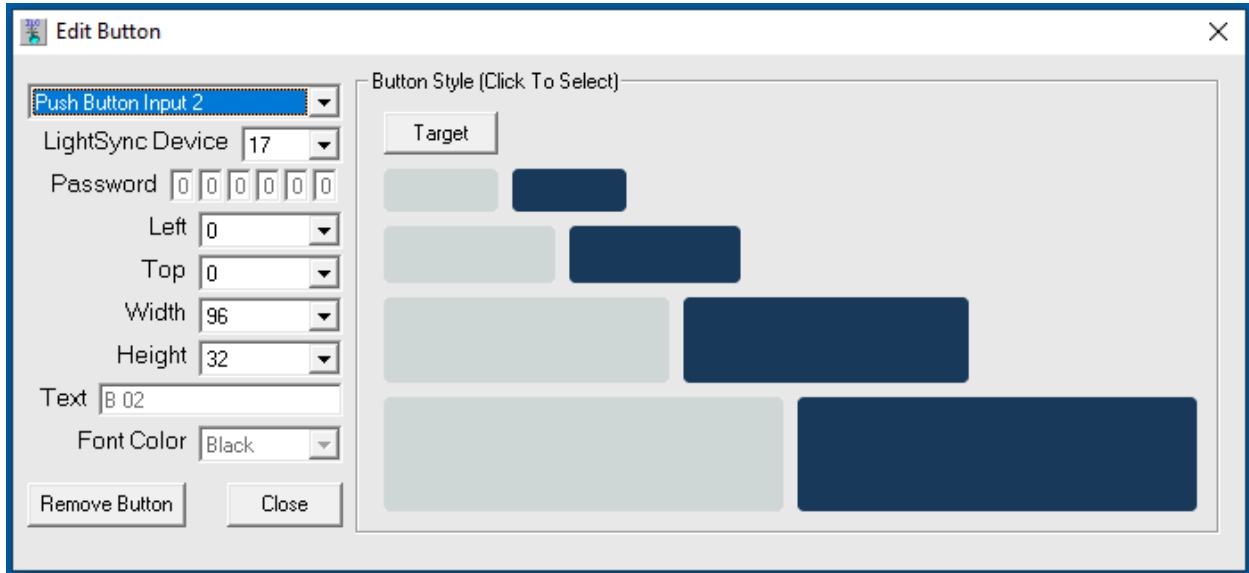

Figure 4 Edit Button Screen

2.4.1 Add an Input Control Button:

To add an input control button to the screen:

7. From the main screen, select Edit from an unused Button.
8. Select one of the 8 buttons from the library available on the Edit Button screen as shown in Figure 4. You may also select the Target control button option, which is a button without graphics (Invisible button) and can be made to any size. With this option, custom button graphics can be incorporated into the background Bitmap to give your button any look desired. This can also be used on a screen where the entire screen is to be used as a single navigation button (From a HOME company logo screen, to the First control screen)
9. If a "Target" button is selected, adjust the "Width" and "Height" to the size desired.
10. From the pull-down menu, select the input type desired for this button.
11. Select the LightSync device address that you want to assign this button.
12. Enter or remove the button text from the box provided. Font color will be black for the gray buttons and white for the dark blue buttons you can chose black or white if needed.
13. Press Close to exit.
14. From the screen that the button has been placed, take your mouse pointer and left click and hold the upper left corner of the button and drag it to the desired location. Note: Dragging

buttons from another area may move the text on the button or cause other issues. A message will appear for the first time as shown in figure 5.
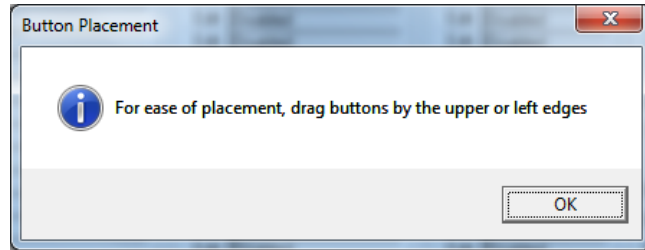

Figure 5 Button Placement

15. Right clicking the button on the screen will open the Edit Button properties screen again.
16. Fine adjustments can be made with the position with the Left and Top pull down selection.
17. Press Close to exit.

To remove the button from the screen, from the Edit Button window, press "Remove Button", and then "Close".

Button Copy: After adding a button onto a screen, you can add an identical copy of this button by selecting "Edit", and then "New Button Ctrl+B" (or just the keyboard command "Ctrl+B"). This option simplifies the process when placing multiple buttons on the screen. Once added, inputs, text, and other properties can be adjusted for each button.

Note: The password option is available for Go-to-Screen W/Password navigation screens only.

2.4.2 Add a Go-to- Screen Navigation Button: To add a go-to navigation button, follow the same procedure for an Input Control Button except select Goto Screen XX or Goto Screen XX W/Password. All of the control properties are the same, except for the password, if that type is selected.

To add a Go-to control button to the screen:

1. From the main screen, select Edit from an unused Button.
2. Select one of the 8 buttons from the library available on the Edit Button screen as shown in Figure 4. You may also select the Target control button option, which is a button without graphics and can be made to any size. With this option, custom button graphics can be incorporated into the background to give your button any look desired.
3. If a" Target" button is selected, adjust the "Width" and "Height" to the size desired.
4. From the pull-down menu, select the Goto Screen XX or Goto Screen XX W/Password.
5. If Goto Screen XX W/Password was selected, enter a 6 digit decimal value in the boxes provided.
6. Enter or remove the button text from the box provided. Font color can also be changed to white if needed.
7. Press Close to exit.

8. From the screen that the button has been placed, take your mouse pointer and left click and hold the upper left corner of the button and drag it to the desired location. Note: Dragging buttons from another area may move the text on the button or cause other issues. See Figure 5.
9. Right clicking the button on the screen will open the Edit Button properties screen again.
10. Fine adjustments can be made with the position with the Left and Top pull-down selection.
11. Press Close to exit.

2.5 Adding Status Pilots: Status pilot indicators placed on the screen indicates the true status of a relay, LightLEEDer Group, LightLEEDer Scene last selected or LightLEEDer Preset state. These pilots are mapped to the LightSync device pilot. The displayed icon will change from Gray (off) to Dark Blue(On) with the toggle circle moving left to right. Refer to Figure 6 . Pilots can also be linked to an input as a target type for full status and control, touching the status icon will act in the same way as a button.

2.5.1 Configuring Status Pilots:

1. From the main screen, select Edit from an unused Pilot Configuration.
2. Click on one of the 6 pilot icons desired for your status indication as shown in Figure 6.
3. From the pull-down menus on the "Edit Pilot" screen, select the LightSync device address and pilot number.
4. Press Close to exit.
5. From the screen that the pilot has been placed, take your mouse pointer and left click and hold the icon and drag it to the desired location.
6. Right clicking the button will open the Edit Button screen again.
7. Fine adjustments can be made with the Left and Top pull-down selection.
8. Press Close to exit.

To remove the pilot from the screen, from the Edit Pilot window, press "Remove Pilot", and then "Close".

Pilot Copy: After adding a pilot onto a screen, you can add an identical copy of this pilot by selecting "Edit", and then "New Pilot Ctrl+P" (or just the keyboard command "Ctrl+P"). This option simplifies the process when placing multiple pilots on the screen. Once added, LightSync device, pilot, and other properties can be adjusted for each pilot.

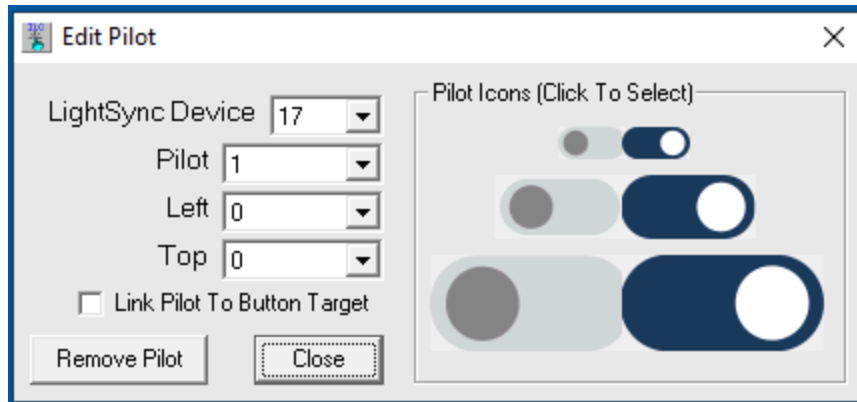Note: Pilots can be placed next to, or on a switch.

Figure 6 Edit Pilot Options

2.5.2 Linking a Pilot to a Button Target: when selected the Pilot will link to the corresponding control button as a "Target" type button style, sized for the pilot selected. Moving the pilot and target button is done together. Mapping the target button is still done from the Edit Button screen.

To link pilot to a button target:

1. From the main screen, select Edit from an unused Pilot Configuration and unused corresponding button.
2. Click on one of the 6 pilot icons desired for your status indication as shown in Figure 6.
3. From the pull-down menus on the "Edit Pilot" screen, select the LightSync device address and pilot number.
4. Check the "Link Pilot To Button Target" option
5. Press Close to exit.
6. Click on the corresponding Button line and edit the button for the input and device. The button will default to the first button and first device number. You can select the same device and button as the pilot, or a different control device and button point as needed. See Figure 7.
7. Press Close to exit.
8. From the screen that the pilot has been placed, take your mouse pointer and left click and hold the icon and drag it to the desired location.
9. Right clicking the pilot will open the Edit Pilot screen again. To Edit the button place your mouse on the button line and right click.
10. Fine adjustments can be made with the Left and Top pull-down selection under pilot.
11. Moving the button or status icon will move both as long as they are linked in the pilot screen.
12. Un-checking the Link to Pilot Target option release the link between the pilot and button.
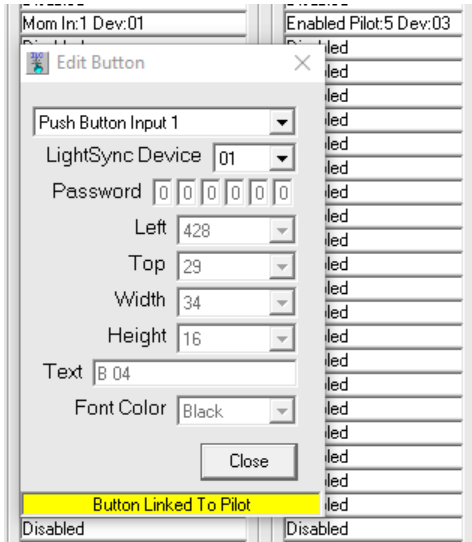13. Press Close to exit.

Figure 7 Button Linked To Pilot

2.6 Add Dimmer Slider: Dimmer sliders can be added to each screen that can take control of LightSync 0-10V or LightSync Line Voltage Dimmer outputs in the lighting control system or to drive a DMX Driver module set for the dimmer address.

To add a slider to the screen:

1. From the main screen, select Edit from an unused Slider Configuration.
2. Click on one of the 10 slider icons desired for your dimming as shown in Figure 8.
    Note: The large sliders may not fit on the smaller screens in the landscape orientation.
3. From the pull-down menus on the Edit Slider screen, select the LightSync device address.
4. Check the "Track Dimmer Level" to make the slide dimmer linked to the dimmer status, if not checked the slider is a command state only icon and will not automatically track the dimmer and change its displayed state to match.
    Note: In the LightLEEDer Pro software the pilot status for the input device (configured as: Photocell 2 Sec Filter) will need to have its Feedback Configurations set for "Dim Out Bit", with the Dimmer Device XX and Output XX, and "ALL 8 Bits" selected to return the dimmer status level to the touch screen.
5. Press Close to exit.
6. From the screen that the slider has been placed, take your mouse pointer and left press and hold mouse over the icon, then drag it to the desired location.
7. Right-clicking the slider will open the Edit slider screen again.
8. Fine adjustments can be made with the Left and Top pull-down selection.
9. Press Close to exit.

To remove the slider from the screen, from the Edit Slider window, press "Remove Slider", and then "Close".

Slider Copy: After adding a slider onto a screen, you can add an identical copy of this slider by selecting "Edit", and then "New Slider Ctrl+S" (or just the keyboard command "Ctrl+S). This option simplifies the process when placing multiple sliders on the screen. Once added, LightSync device and other properties can be adjusted for each slider.
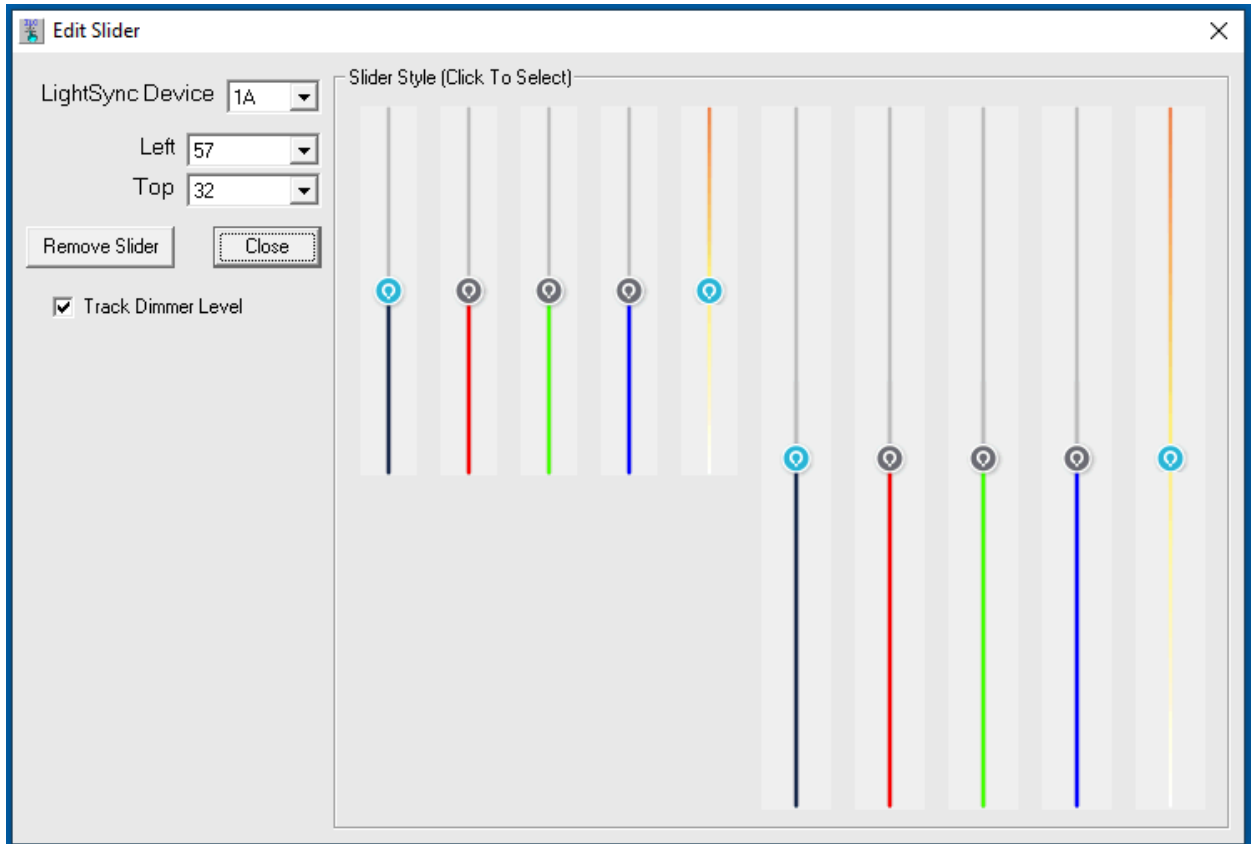

Figure 8 Dimming Slider Options

2.7 Add Color Control Wheel Navigation Button to a Screen:

You can add a Color Control wheel button that will navigate to a hidden screen that will allow full spectrum color selection and intensity control. This can be selected as "Color Control" for command only or "Color Control With Tracking" to track current output levels in the same manner as the Slider with tracking or E/Track. The Full color wheel display will not be pre-viewed in the software but will appear on the screen when the color navigation button is activated. See example Color Control in Figure 10

To add a Color Control Navigation Button to the screen:

1. From the main screen, select Edit from an unused Button
2. Select one of the 8 buttons from the library available on the Edit Button screen as shown in Figure 9. You may also select the Target control button option, which is a button without graphics (invisible button) and can be made to any size. With this option, custom button graphics can be incorporated into the background bitmap to give your button any look desired.
3. If a" Target" button is selected, adjust the "Width" and "Height" to the size desired.
4. From the pull-down menu, select the Color Control or Color Control With Tracking.
5. Select the LightSync starting device address that you want to assign this Color Control.
6. Enter or remove the button text from the box provided. Font color can also be changed if needed. See Figure 9.
7. Press Close to exit.
8. From the screen that the button has been placed, take your mouse pointer and left click and hold the upper left corner of the button and drag it to the desired location. Note: Dragging buttons from another area may move the text on the button or cause other issues.
9. Right clicking the button on the screen will open the Edit Button properties screen again.
10. Fine adjustments can be made with the position with the Left and Top pull-down selection.
11. Press Close to exit.

Note: The Color Control wheel will utilize 4 LightSync input device addresses in series for Red, Green, Blue and overall Brightness control, these LS devices can be used on other screens and should be configured in the control panel as a Photocell (2-sec Filter) with Feedback Configuration set for Dim Out Bit, Device xx, Output xx, and All 8 Bits selected. These 4 controls will drive a set of 4 LightSync dimmer outputs.
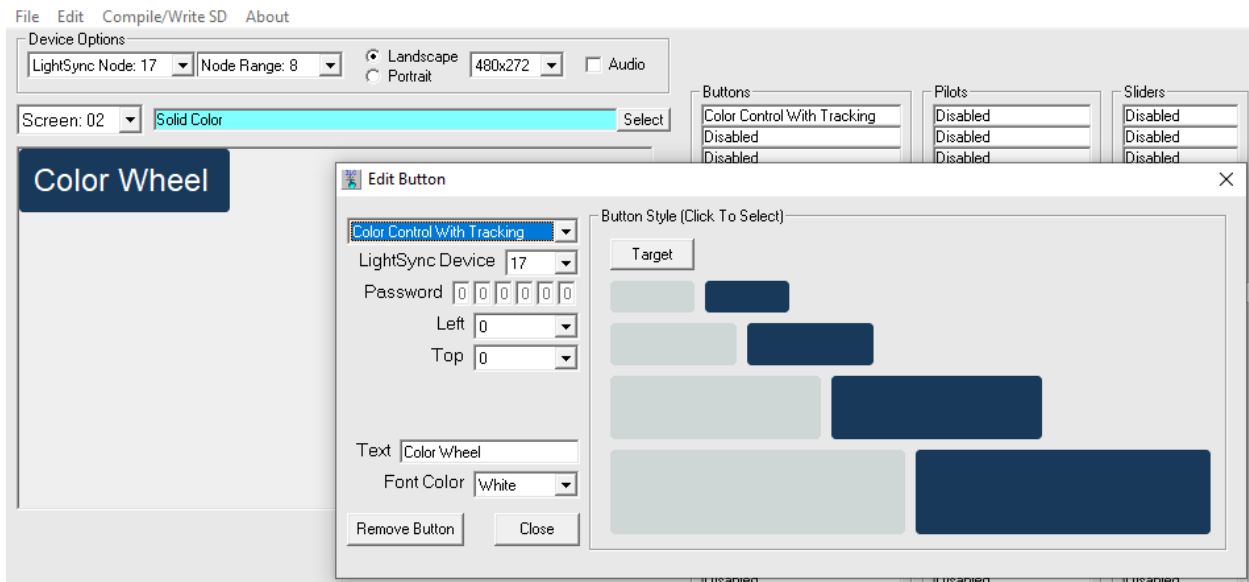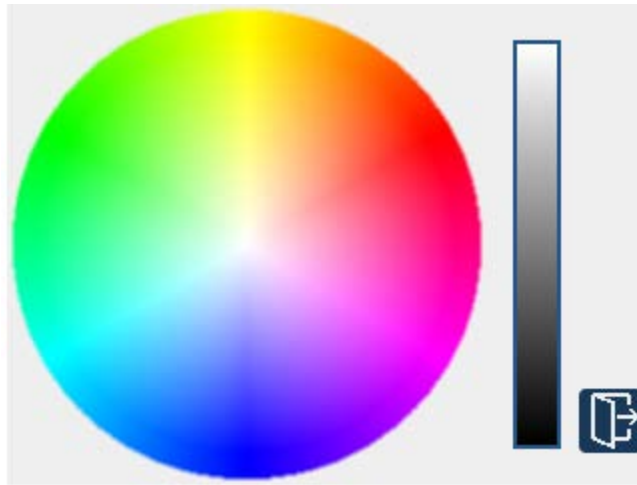

Figure 9 Color Wheel Options

Figure 10 Color Control Wheel Screen

2.8 Add Text Captions to Screen:

You can add static text on the screen for captions and any other information desired. Up to 50 characters/spaces can be added with this feature. If more characters, font size, or font style are required, the text can be added onto the background screen as a Bitmap. See section 2.3 for information on custom backgrounds.

1. To add text, from the main screen, select Edit from an unused text configuration.
2. From the pull-down menu select "Text" as shown in Figure 11.
3. Set the font size and font color from the pull-down menus.
4. Enter the desired text in the box provided.
5. Adjust the width and height so the text is completely visible. In the Text / Bar Graph area a checkbox is available to select "Show Boxes" to allow display of the text box area for sizing.
6. Press Close to exit.
7. From the screen that the text has been placed, take your mouse pointer and left press and hold the icon and drag it to the desired location.
8. Right-clicking the text will open the Edit text screen again.
9. Fine adjustments can be made with the Left and Top pull-down selection.
10. Press Close to exit.

To remove the text from the screen, from the Edit Text window, press "Remove Text", and then "Close".

Text Copy: After adding a text onto a screen, you can add an identical copy of this text by selecting "Edit", and then "New Text Ctrl+T" (or just the keyboard command "Ctrl+T"). This option simplifies the process when placing multiple text items on the screen. Once added, the properties can be adjusted for each text item.

Note: Text added to the screen can be on a single line and cannot be wrapped to a second line.
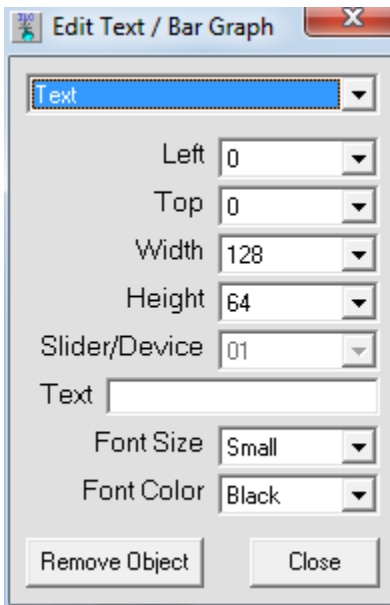

Figure 11 Text / Bar Graph Caption Properties Box

2.9 Add Slider or Dimmer Percentage Display Text

You can add a slider or dimmer values to your screen to give you a 0 – 100% text display. Slider values will show the end user exactly % where the slider sits on the scale. The dimmer value displays the actual LightSync 0-10V or LightSync Line Voltage Dimmer output % from the lighting control panel.

1. To add a slider or dimmer display text, select Edit / Bar Graph from an unused text configuration.
2. From the pull-down menu select Slider Value or Dimmer Value, Size and Color.
3. Set the font size from the pull-down menus provided.
4. Enter the device address for the slider or dimmer.
5. Press Close to exit.
6. From the screen that the text has been placed, take your mouse pointer and left press and hold the icon and drag it to the desired location.
7. Right-clicking the text will open the Edit text screen again.
8. Fine adjustments can be made with the Left and Top pull-down selection.
9. Press Close to exit.

2.10 Add Dimmer Bar Graph

You can add a dimmer value bar graph display to your screen to give you a multi-segment display that can be placed next to the slide dimmer. The dimmer bar graph value displays the actual LightSync 0-10V or Line Voltage Dimmer output from the lighting control panel. This displayed Dimmer level

1. To add dimmer bar graph display, select Edit /Bar Graph from an unused text configuration.
2. From the pull-down menu select Dimmer Bar Graph, Size, and Color.
   Enter the device address for the dimmer.
   Note: In the LightLEEDer Pro software the pilot status for the input device (configured as: Photocell 2 Sec Filter) will need to have its Feedback Configurations set for "Dim Out Bit", with the Dimmer Device XX and Output XX, with "ALL 8 Bits" selected to return the dimmer status level.
3. Press Close to exit.
4. From the screen that the bar graph has been placed, take your mouse pointer and left press and hold the icon and drag it to the desired location.
5. Right-clicking the bar graph will open the Edit the size or color again.
6. Fine adjustments can be made with the Left and Top pull down selection.
7. Press Close to exit.

To remove the text, percentage display or dimmer bar graph from the screen: From the Edit Text window press "Remove Object", and then "Close".

Text Copy: After adding a text area, percentage display text or dimmer bar onto a screen, you can add an identical copy of this by selecting "Edit", and then "New Text Ctrl+T" (or just the keyboard command "Ctrl+T". This option simplifies the process when placing multiple percentage display text items on the screen. Once added, the properties can be adjusted for each percentage display text item.

2.11 Using Grid options

You can turn on or off a Grid on the screen to assist with aligning the button icons, slide dimmers, dimmer bars and text icons you have created. You can select a grid sizes of 8x8, 16x16, 32x32 and 64x64. Change grid color from Gray to Black or White. Once activated you can "Snap To Grid" all items on the screen, this will always snap the upper Left corner of the icon to the nearest grid intersection moving Up and to the Left. You will also be able to "Undo Snap", placing the icons back in the original position. To use the Grid from the title bar select Edit, then select Show Grid.

1. From the title bar, pull-down menus select Edit, then Show Grid.
2. Select the grid size.
3. Select grid color.
4. Align Icons, Slide Dimmers, and Dimmer Bars on screen
   with the top left corner set close to grid intersection desired.
5. Select Snap to Grid.

To Un-snap items return to Edit, and select Undo Snap, this will return icons, slide dimmer and dimmer bars and text, to their original position.

Section 3 File Management

3.0 Overview: This section will describe to you how to save your file; import/export screens, and compile the data for the touch screen.

3.1 Starting a New File: By starting a new file, you will be clearing all data and graphics from the program. From the File pull-down menu, select "New" to create a clear program file.

3.2 Saving your Programming: Be sure to save your work at the beginning of a new project and throughout the programming of the project. From the File pull-down menu, select Save or Save As, enter the file name and press Save. Files will be saved as the filename.LTC.

3.3 Import and Export Screen Data: The software has the ability to export any screen data and then import it back into another screen. This is very important to keep consistency throughout the screens along with ease-of-use. All of the data will be retained in any exported screens for graphics, control buttons, and text.

1. From the screen, you want to export, select File from the title bar, and then select "Export Screen".
   Enter a name for the screen and save. The screen will be saved as the filename.LTS .
2. From the screen that you want the data imported into, go to "File", and then select "Import Screen", select the screen with the name previously exported.
3. Click Open.

3.4 Compiling Images: Once all the programming has been completed, the screen background images and controls must be compiled for use on the touch screen. This places all the programmed items on the background and compiles it into a data file.

1. From the title bar, select "Compile/Write SD" to convert the programming images. Once the process has been completed, a window as shown in figure 12 will pop up.
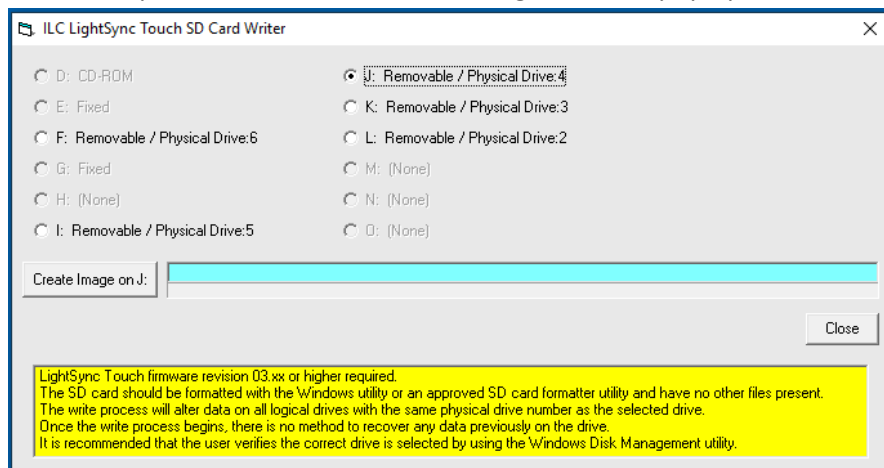

Figure 12 SD Card Writer Screen

3.5 Screen Preview: Designed and compiled screens can be viewed using a windows graphics viewer or with MS paint. The complied screens are located at C:\ILC LightSync TS2 Pro\Screen Preview. Note: these are for viewing only, and cannot be modified directly; they must be modified in the program.

3.6 Downloading Graphics to SD Card: Once the file has been compiled as described in the last section, the graphics need to be downloaded to the SD memory card. Follow the following steps to complete this task.

1. Connect to your PC the Micro SD card provided, either using a card reader or an adapter. Note: The Micro SD card needs to be a minimum of 4 GB SDHC Class 4 card. Note: When the SD card is connected to the computer, you may be prompted to format the disc, the SD card needs to be formatted for FAT32 type.
2. Browse your computer and verify the drive letter and logical/physical drive that the SD card has been assigned. **Caution: Selecting the wrong drive could potentially wipe all data from that drive.**
3. Select the drive letter for the SD card. Figure 9 shows "J: Removable" selected.
4. Press the "Create Image on (Drive Letter):" to write to SD card. You will be prompted to write data to the drive. If you are sure this is the correct drive, select "Yes". Data will be written to the drive, with the progress shown. See Figure 13
5. Once completed, a "Write Data Complete" window will open, select "OK".
6. Select "Close" to exit the SD Card Writer.
7. Remove Micro SD card from the computer and install the touch screen in the slot provided on the touch screen. Note: A needle-nose pliers or tweezer may be used to insert the SD card in the screen.
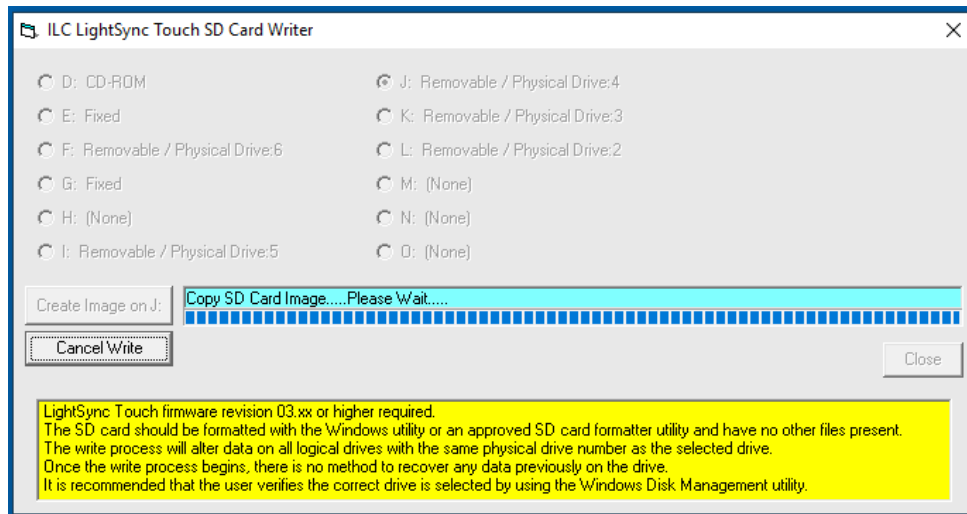

Figure 13 SD Card Writer Screen

3.7 Setting the Base Address and Number of Devices:

1. Set the "Base" address with the 2 rotary switches on the back of the LightSync Touch Screen. See figure 14 and 18. Note: This will be the same as programmed in the "Device Options" for "LightSync Node: 24".
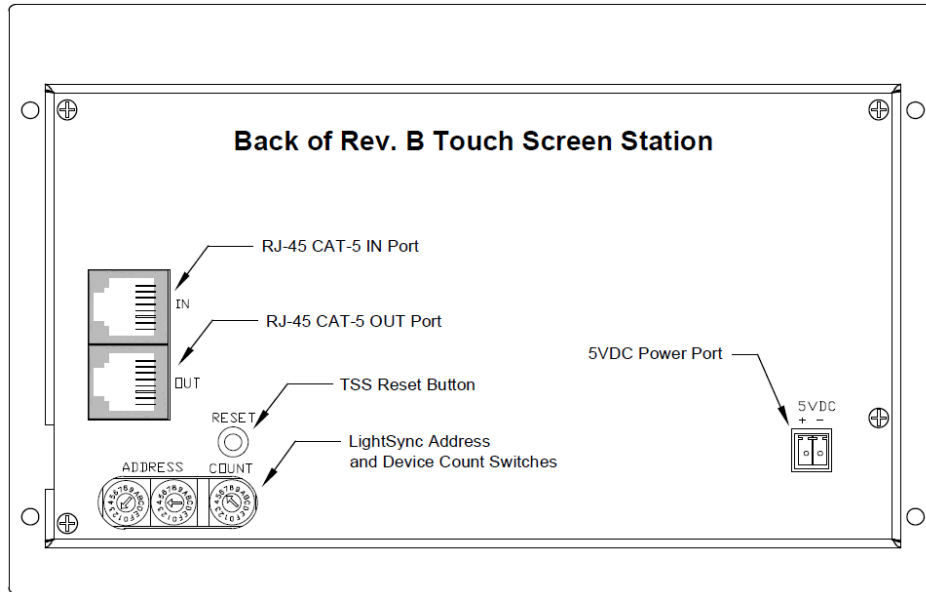

Figure 14 Back of Rev. B Touch Screen Showing Address and Device Count Switches

2. Adjust the rotary "Count" switch to the number of devices set in the software for "Node Range". Note: Each switch number equals a set of 4 devices starting at 0 as shown in Table 1.

Count	Value
0	4
1	8
2	12
3	16
4	20
5	24

Table 1 Node Range Count Switch Values

3.8 3.5" Touch Screen Station 2 Configuration Details:

3.8.1 Cat-5 wiring From TS-TSPI to 3.5" TSS2

1. Install Cat-5 cable from the T-SPI, Touch Screen Power Injector mounted separately to the 3.5" LS-TSS2 location as shown in Figure 15
2. Plug into the LightSync In port, an LightSync Out port is provided to allow connecting a second 3.5" LS-TSS2 in the same area as shown in Figure 16
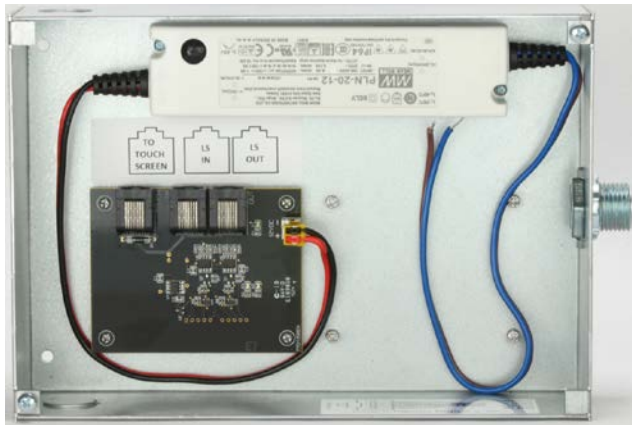
Figure 15 LS-TSPI Power Injector enclosure

Figure 16 Cat-5 connection

3.8.2 SD Card Install, Setting the Base Address and Device Count

1. After downloading the configuration to the SD card as instructed in 3.6, Install in LS-TSS2 station As shown in Figure 17
2. Set the "Base" address with the 2 rotary switches on the 3.5" LightSync Touch Screen Station 2 As shown in Figure 18. Note: This will be the same as programmed in the "Device Options" under "LightSync Node: xx .
3. Set the LightSync Node Range, adjust the rotary count switch to the number of devices required. Note: Each switch number equals to 4 devices starting at 0. Refer to Table 1 and figure 14.

Figure 17 SD Card Installation

Figure 18 Setting Address and Count

Section 4 Notes and Additional Details:

- Up to 512 inputs and status pilots can be programmed into one touch screen station.
- Each Slide dimmer use 1 LightSync device address and is programmed in the LightLEEDer panel as a photo sensor 2 second input, each screen can be configured with up to 8 Sliders.
- Slider Value (0-100%) will display the Slide Dimmer current command state.
- Dimmer Value (0-100%) and Dim Bar Graphic will display the output state of the ILC dimmer and can be set to the same address as the Slider type control input/photo sensor. In the LightLEEDer panel programming the a Photocell -2 second input device, the Pilot Configuration is set for "Dim Out Bit", "Device 0#" for the dimmer device to be tracked and "Output #" (1 to 4). Then activate the "ALL 8 Bits" selection (Data for all 8 LS LED are used for the return data). Example pilot return set for Dim Out Bit, Dimmer Device 02, Output 1, All 8 Bits as shown in Figure 19
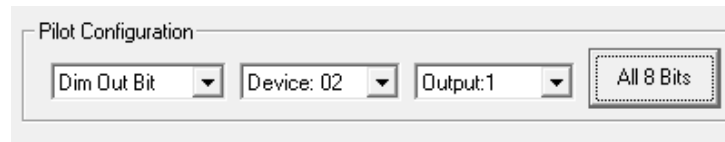

Figure 19 Dim Out Bit Pilot Setting for Dimmer Status

- Buttons and dimmers with the same LightSync address can be used on more than one screen.
- LightSync addresses cannot be used on other LightSync devices including other touch screens.
- Go-to buttons are required to navigate between screens.
- LightSync devices must be programmed in the lighting control panel to function, including buttons, pilots, and photocells for sliders for VDI inputs.
- LightSync input devices must be set in the lighting control panel as 6 button/8 input device, with Input Type set as one of the following; PB ON/OFF, PB ON, PB OFF, PB Toggle, Timed-On, HID Bi-Level, 2 Step, 4 Step, Set Preset, Set Scene, Capture Scene, or Force Timer. Slide dimmers must be set as 2sec Photocell device.
- Slide Dimmers can be mapped to the dimmer output as a Photocell or in one of the 16 control lines as a Variable Dimmer Input "VDI Input"
- Dimmer output Ramp-Up and Ramp-Dn operations are not supported, Rase 10% and lower 105 per button push is supported.
- Turn ON Input and Turn OFF Input are mapped to the same LightSync device and button so that a LightLEEDer panel receives a maintained closure for use as a maintained On/Off, relay conditionals, dimmer overrides, and motor control operations.
- LightSync device addresses used in the touch screen cannot be used elsewhere in the system including other touch screens.
- To clear a single screen of all items and background, select "Edit" and then "Clear Screen Ctrl+X".