Variable Dimmer Input "VDI"
Technical Bulletin

The Variable Dimmer Input "VDI" can be used to control any ILC Dimmer output point from a LightSync Slide Dimmers or dimming control Sliders from a touch screen station. This operation expands the ability of touch screen stations to have multiple VDI control points going to the same dimmer output, or creation of a Master slide dimmer, and allows both a slide dimmer VDI and a standard photocell for the same dimming zone for daylight harvesting.

Configuring a VDI Input Point

These VDI inputs are still seen by the ILC panel as a Photocell input type, when programming you will set the LightSync input as a Photocell VDI (was "2 Sec Filter" previously) to allow the quickest response time of any change, as seen in Figure 1.
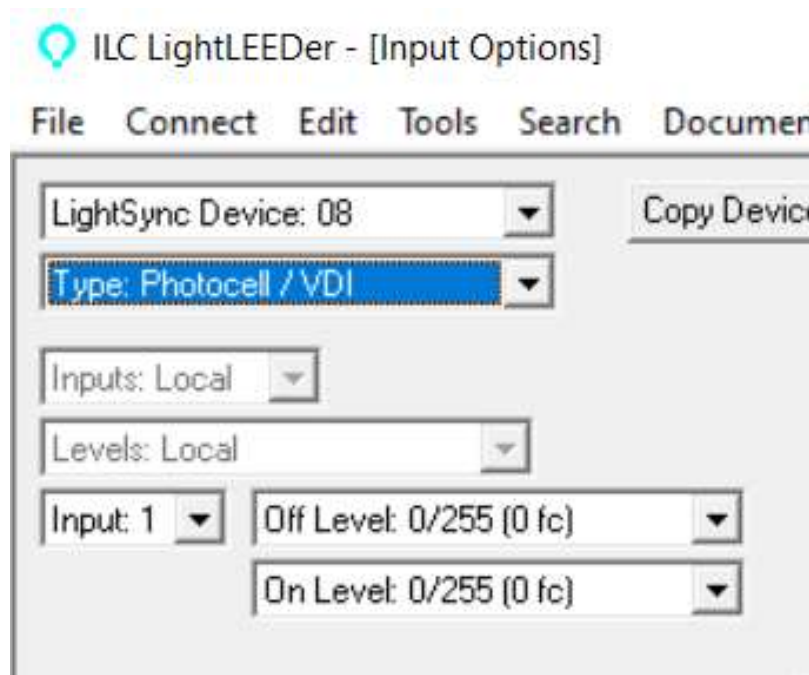

Figure 1

On and Off input levels are not required unless the slide dimmer is intended to turn on/off relay at specific set points. The "Input: local" and "Levels: Local" defaults are kept unless the control needs to operate dimmers in another panel, then you would need to set it to "Global" and set the Levels for a DeadBand of 2, 4 or 8 for how much change is needed locally before a global level is updated across the network. Note: VDI control over the network is possible but not recommended due to slower response times, this will also slow down the entire network communication.

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Configuring a VDI Control Line in the Dimmer Output

In the Dimmer output screen of the software, VDI can be selected as one of the 16 control option lines. You will select the Node "N:xx" and LS Device address "D:xx" just like any LightSync input used for a control option. This input type will typically be set for "Instant" transition rather than fade, with a "Never Revert" to photocell.

If a photocell is required for daylight harvesting it will still be set up as the PC Tracking input with "Max Output: PhotoCell" operation to limit the output to the maximum level allowed for the area by the photocell. A standard fade rate of 4 to 10 seconds is used to allow smooth photocell dimming in the daylight zone as seen in Figure 2.
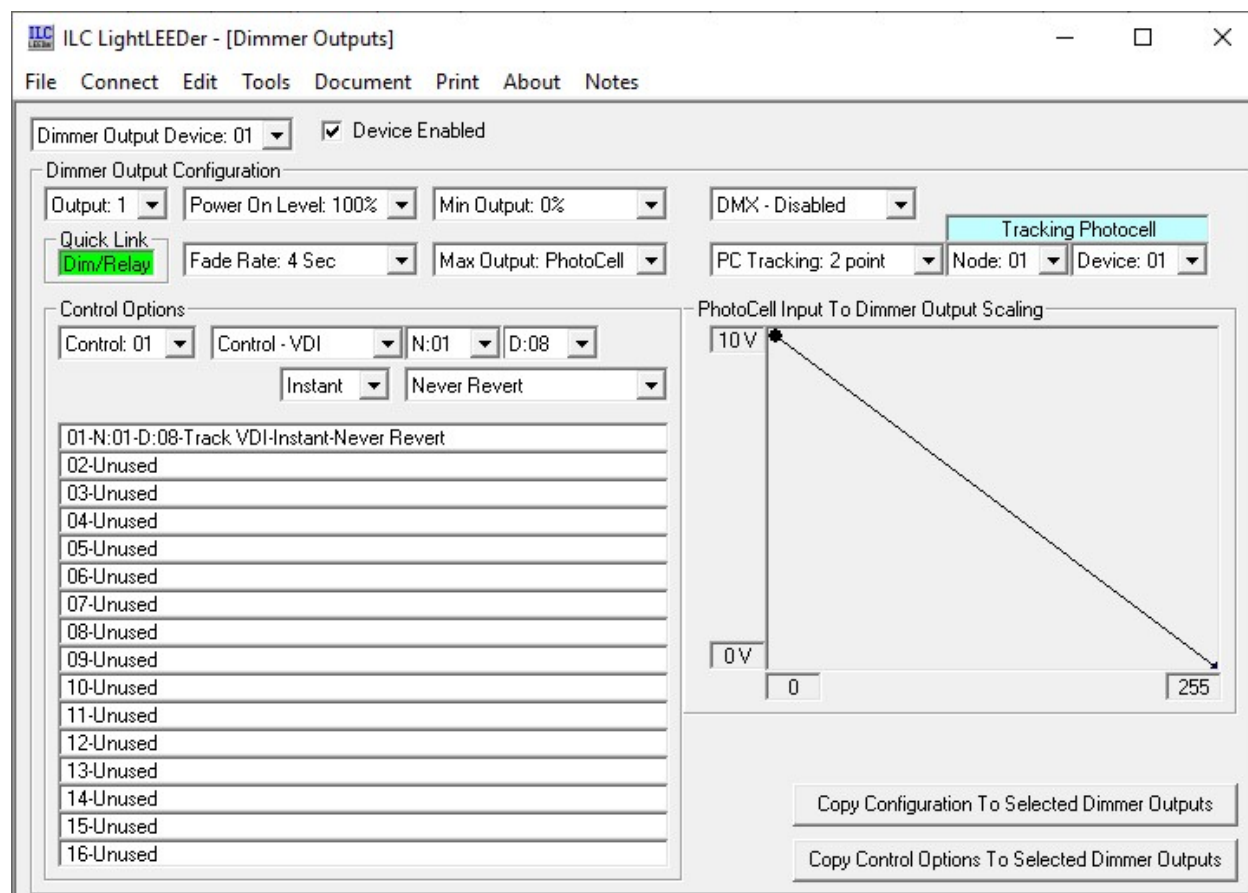

Figure 2

Multiple VDI inputs can control the same dimmer outputs as needed. The VDI inputs and other inputs like a LSG3-MZD station with ramp-up/ramp-down will all control the dimmer on a last action takes precedence basis. In the example below I have the first 2 control inputs set as a VDI inputs from 2 independent touch screens (LS:10 and LS:1A) and control inputs 4 and 5 are ramp up/ ramp down control from a MZD station (LS:05), as shown in Figure 3.

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01-N:01-D:10-Track VDI-Instant-Never Revert
02-N:01-D:1A-Track VDI-Instant-Never Revert
03-Unused
04-N:01-D:05-I:1-Ramp Up-Fade-Never Revert
05-N:01-D:05-I:2-Ramp Down-Fade-Never Revert
06-Unused
07-Unused
08-Unused
09-Unused
```

Figure 3

Configuring a Slide Dimmer in the TS2 Software for VDI

When configuring the slide dimmers in the LightSync TS2 station you would normally select "Track Dimmer Level" for each slide dimmer, these display as "E/Track Dev" under Sliders as shown in Figure 4. This will allow touch screens to track the dimmer level and update the slider button icon state as any change is made to the output from any control input or photocell. The user will see true status tracking of the dimmer control. If "Track Dimmer Level" is not selected, then the slider control will only display its last command state and will be listed as "Enabled Dev" under sliders.
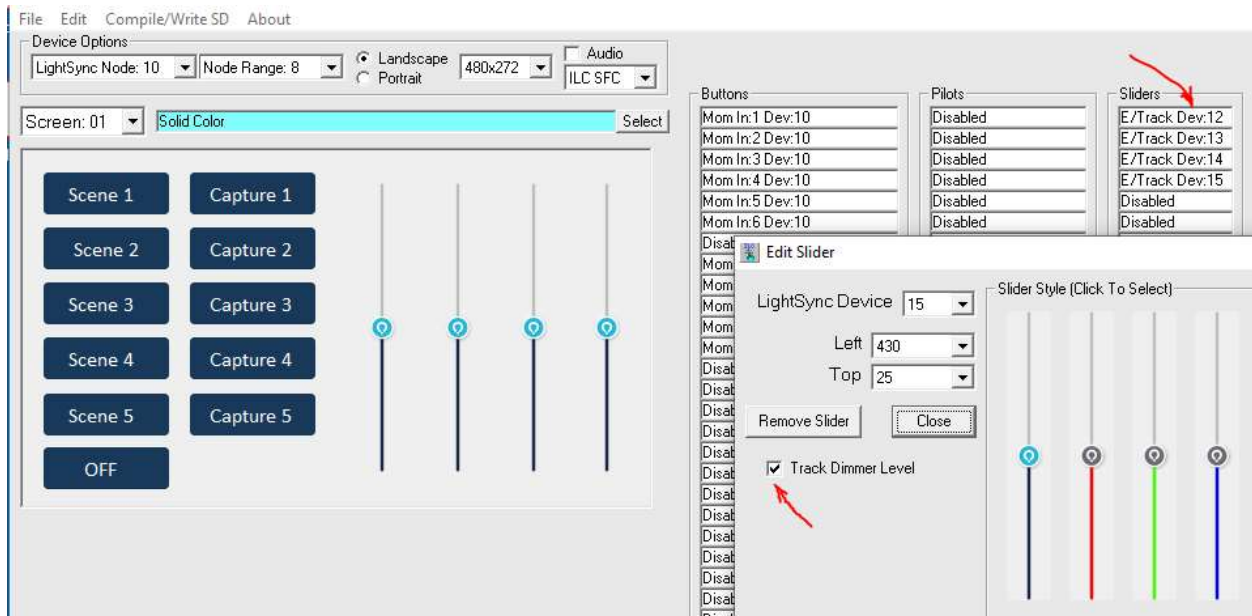

Figure 4

Configuring a VDI Control for Room Combine Using Echo Device

This operation is used in a space where room combine is required for two or more touch screens to provide the same controls when the rooms are combined and independent control when a dividing wall is pulled out and the rooms are closed off from each other.

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TB1603 Rev. C

The programmer would use "Echo Device" to create a virtual copy of the second rooms physical slide dimmer control, this would be set to echo the slide dimmer control actions of the first rooms VDI, and then applying the virtual VDI control to and matching dimmer output in the second room. When the rooms are not combined, we then disabled the virtual device using the "Conditionals – Input Disable" operation. Typically, this is triggered by an IR beam sensor located in the path of the moving partition wall, or a key switch or other button operating a status relay. In the LightLEEDer Pro software "Tools" menu you will find an "Add Echo Device" tool for easily creating the operation, see Figure 4.
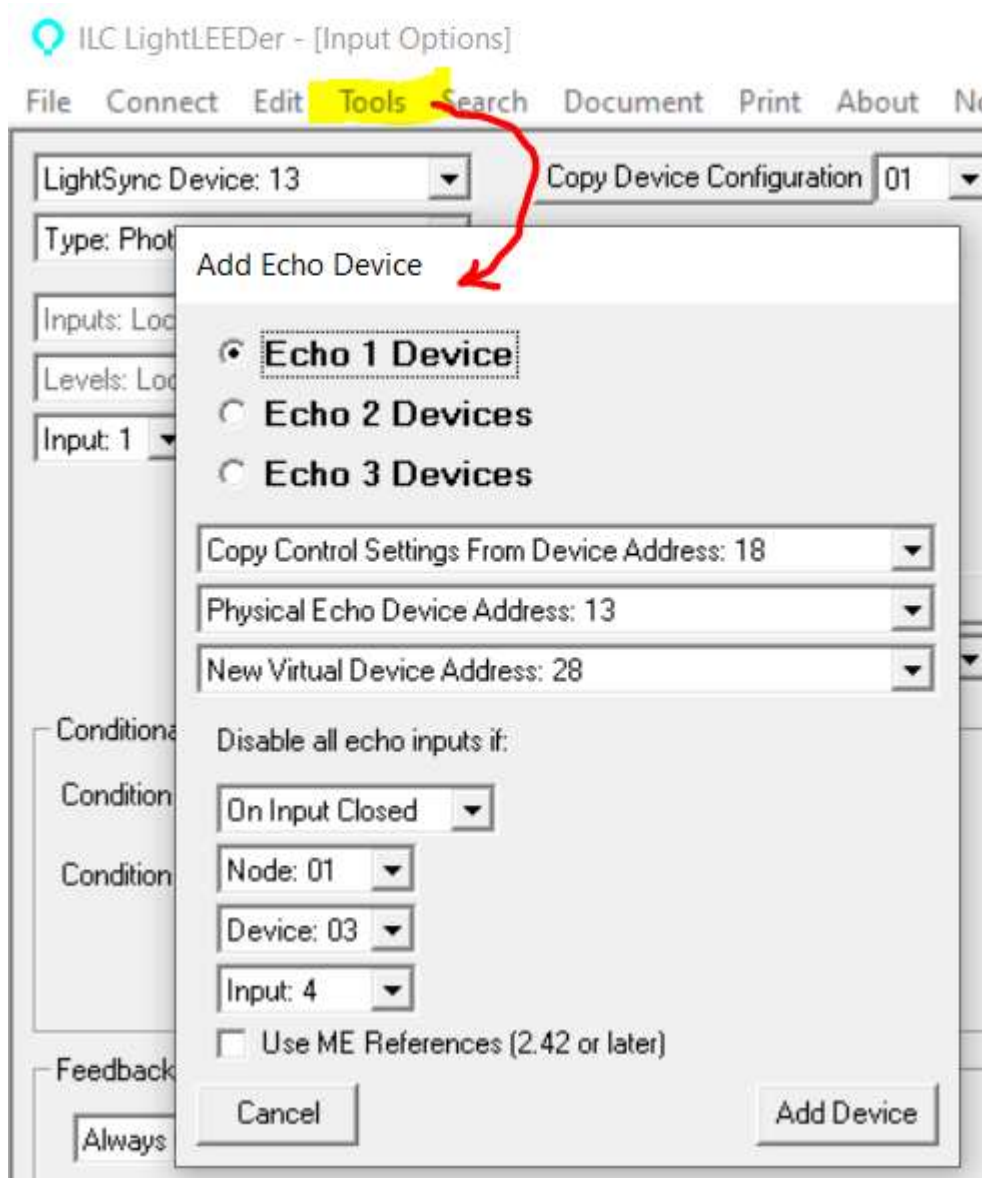

Figure 4

Note: I have chosen "On Input Closed" to match up with the IR Beam sending a closure when the room partition is closed rather than open. The IR beam does have a NC/NO contact set so this can be done with either *On Input Closed* or *On Input Open* and work the same way. Verify the closure type that was

landed at the input for when the wall is extended, and the rooms are closed off from each other (not combined) then adjust your program to match.

The Example below is of a LightSync Photocell (VDI) input device 28 as the virtual device that is echoing the physical actions of VDI device 13 and will providing the same control as VDI input 18, this virtual VDI control device 28 will then be disabled when the IR beam connected to device 3, Input 4 is in the closed state, see Figure 5.
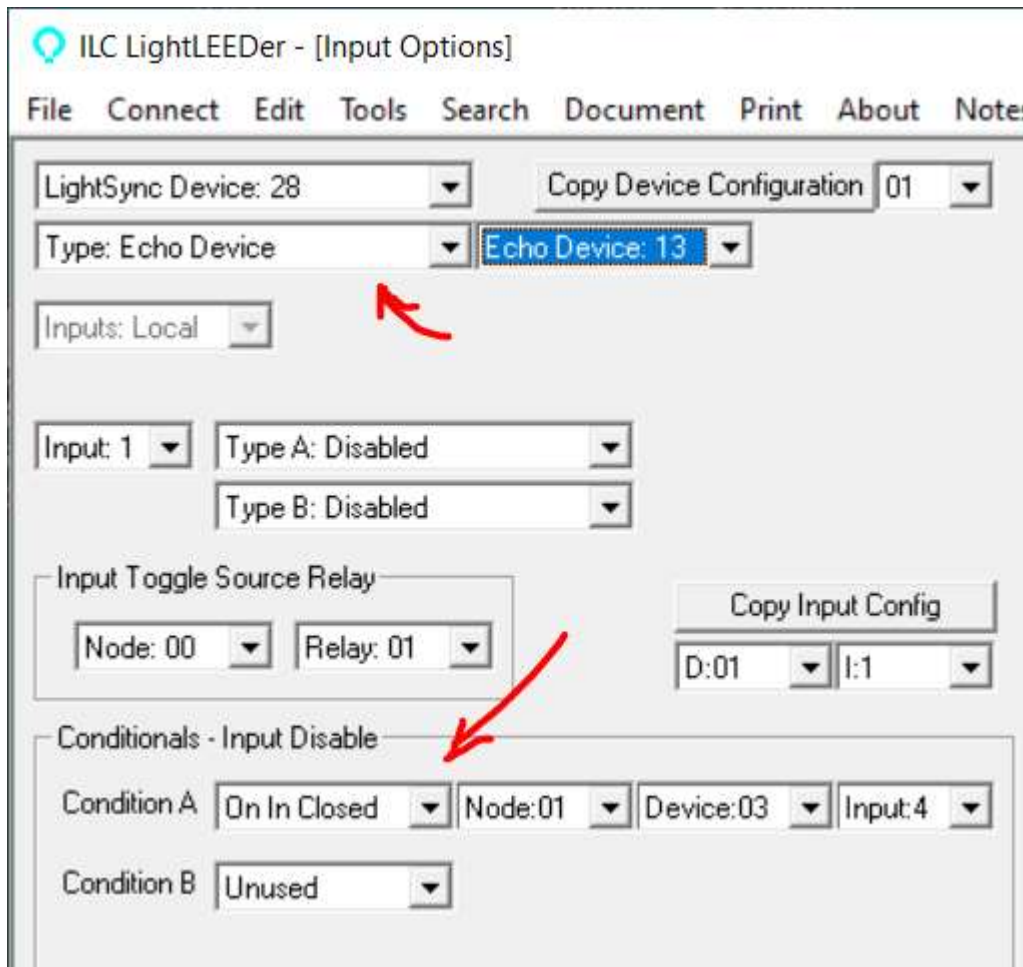

Figure 5

Note: Device Echo only applies to a single panel node, you cannot echo a device input in another panel node over the ILC network.