Trigger Inputs

External Power Input

Push Button

Status LED's

PNET Jacks

Mode Switches

Trigger Indicators (x4)

Mounting Holes (x4)

# PNET Opto-Input

## Quick Start Guide
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Complete details can be found in the full length Layout Lighting Users Manual.
You may download it from the PRICOM web site at www.pricom.com.

# 1   Quick Start

The PNET Opto-Input board is a versatile way to bring Optically-Isolated Event Sources into the PNET World. This manual will get you going as quick as possible. Here are the basic steps to using your new PNET board.

1. Unpack the PNET OptoInput.
2. Connect the Optional External Power Input.
3. Connect the Input Trigger Sources.
4. Set the DIP Switches.
5. Connect the PNET cable.
6. Test your new Trigger Input source.
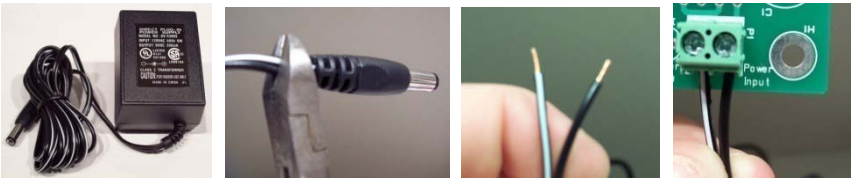
# 2   Power Input (Optional)



**Figure 1 - Power Connection**

The PNET Opto-Input board does not require external power input, it can simply obtain it's power from the PNET. If you have a situation where you need to have external power, simply connect an external DC power input. Typically a wall transformer, or wall-wart is used, but any suitable power supply can be used. Any DC voltage from 9V to 12V can be used, but 12V is typical. If this optional external power source is used, it is blocked from entering the PNET bus. If your desired power-supply comes with a connector on the end, simply clip it off, and strip it as shown above. Secure the stripped wire ends to the 2 terminals of the Power Input terminal strip. Terminal-1 is the GND, and Terminal-2 is the positive. A protection diode prevents any damage due to reversed polarity.

# 3   Connecting Trigger Input Sources

The Trigger Inputs are Optically Isolated which means you can wire an external device as a trigger input for your PNET, but maintain a completely isolated system. As a convenience to your wiring, you may use the power supplied on the Trigger Input Terminal Strip, but doing so will defeat the isolation offered by the Opto-Isolators. If you are simply wiring switches or buttons, there isn't much chance of a 'ground loop' or 'noise', so we give you the best of both worlds. See the complete User Manual or our web site for examples of

connecting various devices to the Trigger Inputs. See Figure 2 for the trigger input terminal strip pinout.

| Terminal | Name | Description |
|---|---|---|
| 1 | GND | Convenience power supply ground |
| 2 | Trigger-1 | Opto-Isolated Trigger #1 Input |
| 3 | Trigger-2 | Opto-Isolated Trigger #2 Input |
| 4 | Trigger-3 | Opto-Isolated Trigger #3 Input |
| 5 | Trigger-4 | Opto-Isolated Trigger #4 Input |
| 6 | POS | Opto-Isolator Shared Power Input |
| 7 | 5V | Convenience power supply (5VDC) |

**Figure 2 - Trigger Input Terminal Strip Pinout (P2)**

# 4   Set the DIP Switches

Operating modes are set using the on-board DIP Switch. The most important setting is the "slot number". The slots are numbered from 0-15, using the DIP Switch position 1-4 to set the slot number desired.

| Slot | Switch 1 2 3 4 | Binary | Slot | Switch 1 2 3 4 | Binary |
|---|---|---|---|---|---|
| 0 | ↓↓↓↓ | 0000 | 8 | ↓↓↓↑ | 0001 |
| 1 | ↑↓↓↓ | 1000 | 9 | ↑↓↓↑ | 1001 |
| 2 | ↓↑↓↓ | 0100 | 10 | ↓↑↓↑ | 0101 |
| 3 | ↑↑↓↓ | 1100 | 11 | ↑↑↓↑ | 1101 |
| 4 | ↓↓↑↓ | 0010 | 12 | ↓↓↑↑ | 0011 |
| 5 | ↑↓↑↓ | 1010 | 13 | ↑↓↑↑ | 1011 |
| 6 | ↓↑↑↓ | 0110 | 14 | ↓↑↑↑ | 0111 |
| 7 | ↑↑↑↓ | 1110 | 15 | ↑↑↑↑ | 1111 |

**Figure 3 - Slot DIP Switch Settings**

The Slot setting is important so that devices can talk to each other on the PNET. There can be any number of devices with the same slot number, so you don't have to worry about making a mistake. If you have a Dream Player PRO, and the DIP switch on it is set for slot #2, you would need to set your PNET Opto-Input to the same slot number for the Dream Player PRO to recognize the Trigger as being intended for it. With a PRICOM Layout Lighting Controller, you can start any events from any trigger on any slot, so there is much more flexibility of slot assignments.

The other Switch Setting of interest is Switch #8 which selects the LED mode for the Trigger Indicators E1, E2, E3, and E4. When switch #8 is off, the E1-E4 indicators will display when the Local Trigger Input chan is triggered. This can be very helpful for diagnosing wiring problems or seeing when trigger sources are active. When switch #8 is ON, the indicators will light when ANY PNET Trigger Source with the same slot number is sending out a trigger event on the PNET. This can be helpful in monitoring all the trigger messages on the PNET.

# 5  Connect the PNET Cable

The PNET Jacks are both the same, giving you the flexibility to 'loop' through and connect many devices to the PNET network. The cables are 6-wire Modular cables and can be flat or twisted pairs. PNET cables include 12VDC power that comes in very handy for the PNET Opto-Input as the 12VDC on the cable can power many of these boards. PNET Cables should be wired as "Straight Through" and not "flip" anywhere along the path. Nothing will be damaged if a cable is reversed, but the PNET Communications Data lines would be reversed making PNET malfunction. PNET cables can be plugged or un-plugged with the power on.

| Pin | Name | Description |
|-----|------|-------------|
| 1 | +12VDC | PNET Power Supply |
| 2 | GND | PNET Signal Ground |
| 3 | PNET | Communications Data |
| 4 | PNET | Communications Data |
| 5 | GND | PNET Signal Ground |
| 6 | +12VDC | PNET Power Supply |

**Figure 4 - PNET Jack Pinout**

# 6  Test Your New Module

With the power applied through the PNET cable, you should see the Green LED light showing a functional board. The Red LED will show anytime this board sends data on the PNET, or if this board receives any data.

If you have any further questions you can consult the full length manual from our website www.pricom.com. You may also visit www.bobsbench.com for some fun Layout Lighting and Dream Player applications.