The Converging Systems eNode/dmx is a network color computer enabling up to 32 DMX fixtures to be controlled from third-party automation and lighting systems. The built-in web Pilot application is used to set various setup and addressing parameters to map Converging Systems’ Zone/Group/Node (Z/G/N) addresses to a specific DMX fixture types and addresses (1-512) within a single DMX universe. For each set of 1-32 DMX Fixtures added to the system (up to 128 DMX addresses), just one eNode/dmx is required. More fixtures or more DMX address require additional eNode/dmx devices. For more information refer to full installation Manual for the eNode/dmx refer to http://www.convergingsystems.com/lighting_install_library.pdf.

**HARDWARE SETUP** of eNode/dmx Controller and 3rd party DMX Fixtures

**Step 1**
eNode/dmx wiring

- **Network Cable (CAT5 type)**
- **DC Input**

**eNode/dmx to Network connections:** Interconnect the LAN (silver) port on your eNode/dmx next to the 2-pin power connector to your network switch using standard CAT5 or better cabling. The maximum distance from the switch to the eNode is 100m (328ft). The eNode requires external power. A POE option is available optionally.

**Note:** The RJ-45 marked Port 1 or Port 2 is not the LAN port and should not be used here.

**Optional Wi-Fi Adapter:** See separate Quick Start Guide for information on this adapter.

**eNode/dmx power connection:** Connect the eNode/dmx to an available DC power source (12v-24vdc 90 ma) using two-conductor cabling (22 awg or larger). Pay attention to the polarity markings on the eNode. If you have obtained the optional eNode DC power supply, simply plug in the supplied two-pin connector into the eNode. With the optional POE daughter card, no external power adapter is required.

**SOFTWARE SETUP** - Commissioning requires the eNode/dmx embedded Web Pilot application (not traditional PC standalone application).

**Step 2**
eNode/dmx — DMX Fixture Connectivity

- **DMX wiring:** Port 1 or 2 on the eNode/dmx is used for data connection to the first DMX fixture. Additional fixtures should be daisy-chained to the first fixture (max 32 fixtures on chain). Consult the table below for creating your own RJ-45 to DMX Fixture cable (cable not supplied).

<table>
<thead>
<tr>
<th>E-Node RJ-45</th>
<th>XLR connector</th>
<th>Std RJ-45 DMX*</th>
<th>Philips RJ-45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1 (48+)</td>
<td>Pin 3</td>
<td>RJ-45 Pin 1</td>
<td>RJ-45 Pin 2</td>
</tr>
<tr>
<td>Pin 2 (48-)</td>
<td>Pin 2</td>
<td>RJ-45 Pin 2</td>
<td>RJ-45 Pin 1</td>
</tr>
<tr>
<td>Pin 7 (Gnd)</td>
<td>Pin 1</td>
<td>RJ-45 Pin 7</td>
<td>RJ-45 Pin 7</td>
</tr>
<tr>
<td>(all other pins)</td>
<td>N/C</td>
<td>*Std wiring</td>
<td>N/C</td>
</tr>
</tbody>
</table>

*Use standard (straight) CAT 5 cable.

**Step 3**
New uPnP Discovery Mechanism

Use a Windows computer and open File Explorer and search for the Network tab to expand to see available uPnP devices. Any connected eNodes should appear.

- Double click on the eNode icon to expose its webpage.

**Click on the triple dash menu icon and you may be asked for a Password.** Unless the Password has been changed or blanked out, enter **Admin** and select **Logon**.

*Note on uPnP:* You may have to turn on Discovery or load the uPnP service within Windows to enable this type of Discovery.

**Step 4**
Discover eNodes/IP Addressing

**eNode Network Parameters:** By default the eNode is set to DHCP ENABLED. To change to a Static IP address, select the eNode tab to reveal the above setup screen. Select the **ETHERNET** tab and enter a static IP addresses under **STATIC_IP**. Then, enter gateway IP address under **GATEWAY_ADD**. Next, select **DHCP DISABLED** and hit **Restart** to reboot the eNode to establish the new parameters.

**Step 5**
Discover DMX device/DMX Setup

**Add (DMX) Devices:** Select the DMX tab. Click on the + button to add each DMX fixture (up to 32 per eNode/dmx). Initially, just add all fixtures and later (in Steps 6, 7, and 8) customize those fixtures.

**Step 6**
Set Initial DMX device parameters

**DMX Basic Device Parameters:** Under **Fixtures**, select the DMX device that you wish to program. Under the **Settings**, you will find existing or default information for that device. Under **ALIAS**, enter a new name if desired. Enter an **ADDRESS** in (Z/G/N) format (see Step 8) with periods. Under **NOTIFY** set to both (see Step 9). Under **BASE DMX CH**, select the starting DMX address from (1-512) that will be associated with this DMX device (note if the device is a 3-channel device with addresses 4-6, just enter “4”). Next, under **CHANNELS** change the entry to match the type of DMX fixture you will be controlling (i.e. 1 for monochrome, 3 for RGB, 4 for RGB, and other number <=15 for other devices).
**Step 7**
Assign Channels to Variable and Binary operations

**DMX Function Mapping Entries.** For each Channel assigned, an **ASSIGN CH** n entry will appear. Right-click under each entry and select an applicable Variable (V) or Binary (B) Operation.

| RED(V) | Std for 3 or 4-color devices which provide Red as control name |
| GREEN(V) | Std for 3 or 4-color devices which provide Green as control name |
| BLUE(V) | Std for 3-4 color devices which provide Blue as control name |
| WHITE(V) | Std for 4-color devices which provide White as control name |
| MONO(V) | Std for Monochrome (1-channel) devices (do not use White here) |
| FULL(B) | Use this to set channel to Full ON (if device has dimming channel) |
| OFF(B) | Use this to set channel to full OFF (use for channels bypassed) |

**Step 8**
Assign Z/G/N Address
Enter a discrete Zone/Group/Node address for each DMX Controller identified within the Step 5. For more information on addressing, review the Instruction Manual above or applicable Integration Note.

The factory default for the first DMX Controller is 2.1.1. The second DMX controller is set to 2.2.1. You may change these as appropriate. Standard feedback (if NOTIFY is Enabled—see Step 6) will occur from any unit whose address matches the output command (i.e. 2.1.1 will respond to a command given to 2.1.1).

**Wildcard Addresses.** Within your control system, if you select an address with a “0” in one of the Z/G/N fields, all fixtures with the other two Z/G/N fields identical will operate as a group. When a wildcard “0” is issued in a command (i.e. 2.1.0), feedback will occur but only from a unit present with a “1” in the wildcard field (i.e. 2).

**Step 9**
Bi-Directional Communication & Test
Enable Bi-directional Communication. In order to invoke bi-directional communication so that a control system with feedback can display current status (i.e. On/Off, color or fade level), a mandatory change has to be made. After Devices in Step 5 have been discovered and for each DMX Fixture where backchannel feedback is desired, under the DMX/Settings tab set the NOTIFY Flag to either COLOR (for the HSV or Hue, Saturation, Value color space) or VALUE (for the old-school Red, Green, Blue 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 Troubleshooting virtual keypad within the Web Plot application by selecting Logoff and select Troubleshoot and then select the appropriate DMX channel number and adjust slider(s). Connected DMX devices should react as adjustments are made.

**Note:** These sliders are bi-directional (if NOTIFY is enabled) and can be used to monitor and test your system very efficiently.

**Step 10**
**New “S3U” Lutron Programming**
Under the Lutron/Settings tab below, enter (i) the (Lutron) Adaptor ID, IP address, User Name and Password available from Lutron, then (ii) Connection: ENABLE and then Restart. The Disconnected message should shortly switch to Connected.

Under Lutron/Devices above, either (i) add an activated Lutron Device ID (ID) by selecting the * mark and manually typing in a valid Lutron DID number, (ii) depress an additional button on an assigned Lutron device as an auto-discover that DID by selecting the * -- if seen the DID (number) should appear in the Device window.

**Settings**

<table>
<thead>
<tr>
<th>Track</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lutron ID</td>
<td>LED RGBW 65.240.0.0</td>
</tr>
<tr>
<td>23,2,3</td>
<td>2.1.1</td>
</tr>
</tbody>
</table>

Finally, under Lutron/Table above, for each desired mapping of a Lutron button push to a resulting DMX action, enter all fields of (a)Lutron ID* (ID, button #, and type) (b) ZGN Address for DMX, (c)Device* (type), (d) Command*, and (e) Value (if required for Recalls, Stores, etc.) line by line. *For these fields, right click and select from available/valid choices. For more information consult the “e-Node Interfacing with Lutron” guide.

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Note: e-Node/dmx are equipped with dual functionality—standard DMX compatibility as well as CS-Bus compatibility (for ILC-x00 and FLA LED applications), to reboot into CS-BUS mode, depress Discovery button behind removable plastic shroud next to 2 pin power connector and hold until on-board LED on e-Node flashes the second time and release. To reconfigure into DMX mode, hold down Discovery button for three flashes and then release. (Programming within each mode will be lost when transitioning to the alternative mode.)