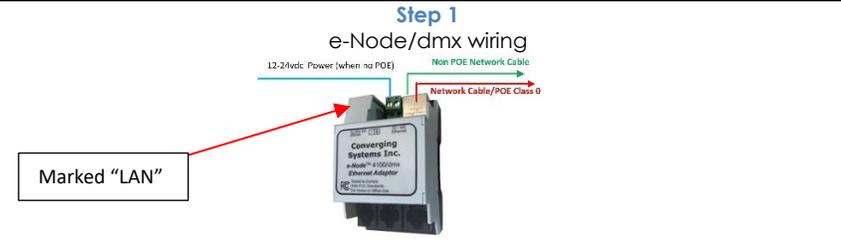


e-Node 2100/4100dmx™ Quick Reference Installation Guide (FW v02.03.23 and later).

The Converging Systems e-Node™/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 fixture address (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 e-Node/dmx is required. More fixtures or more DMX address require additional e-Node/dmx devices. For more information refer to full installation Manual for the e-Node/dmx refer to http://www.convergingsystems.com/lighting_install_library.php.

HARDWARE SETUP of e-Node 2100/4100 dmx Controller and 3rd party DMX Fixtures



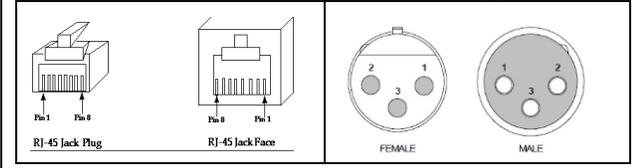
e-Node/dmx to Network connections. Interconnect the **LAN (silver)** port on your e-Node/dmx next to the 2-pin power connector to your network switch using standard CAT5 or better cabling (do not use the RJ-45 ports marked Port 1 or Port 2 for your LAN connection). The maximum distance from the switch to the e-Node is 100m (328ft).

Power connection. The e-Node 4100 can be powered as either a Class 0 POE device (2 watts) or by an external (optional) DC power source (12v-24vdc 100 ma) using two-conductor cabling (22 awg. or larger). Pay attention to the polarity markings on the e-Node. If you have obtained the optional e-Node DC power supply from us, simply plug in the supplied two-pin connector into the e-Node.

Note: Some POE switches (currently Araknis) have difficulty maintaining connections with low-wattage (2w) Class 0 devices. If you encounter that the e-Node reboots while POE powered, disable POE for its Port on your switch and connect a 12~24vdc (100ma min) external power source.



DMX Fixture wiring. Port 1 or 2 on the e-Node/dmx is used for data connection to the first DMX fixtures. 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).



E-Node RJ-45	XLR connector	Std RJ-45 DMX*	Philips RJ-45
Pin 1 (485+)	Pin 3	RJ-45 Pin 1	RJ-45 Pin 2
Pin 2 (485-)	Pin 2	RJ-45 Pin 2	RJ-45 Pin 1
Pin 7 (Gnd)	Pin 1	RJ-45 Pin 7	RJ-45 Pin 7
(all other pins)	N/C	*Std wiring	N/C

*Use standard (straight) CAT 5 cable.

SOFTWARE SETUP-Commissioning Requires the e-Node/dmx embedded Web Pilot application (not traditional PC standalone application).

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 e-Nodes should appear



Double click on the e-Node 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 e-Nodes/IP Addressing



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

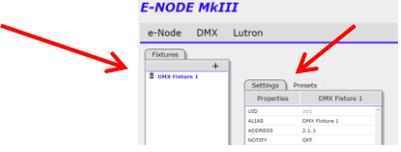
Step 5

Discover DMX device/DMX Setup

E-NODE MkIII



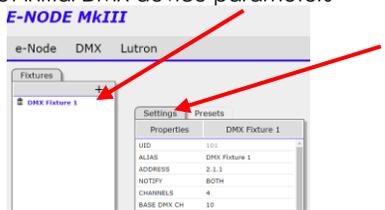
Add (DMX) Devices. Select the DMX tab. Click on the + button to add each DMX fixture (up to 32 per e-Node/dmx). Initially, just add all fixtures and later (in Steps 6, and 7) customize those fixtures.



Step 6

Set Initial DMX device parameters

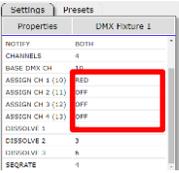
E-NODE MkIII



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 10) with periods. Under **NOTIFY**, set to Both (see Step 11). 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 (don't 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)
HUE(V)	Use this to support a native HUE channel (pass-through mode)
SAT(V)	Use this to support a native SAT channel (pass-through mode)
VALUE(V)	Use this to support a native Brightness channel (pass through)
CCT(V)	Use this to support a native CCT channel (pass-through mode)
PAN(V)	Use this to support a native PAN channel (pass-through mode)
TILT(V)	Use this to support a native TILT channel (pass-through mode)
SUN(V)	Not implement currently
OFF(B)	Use this to set channel to full OFF (use for channels bypassed)

Step 8

Example for Simple Channel setup (3 or 4 channel device)

DMX chn	Assignment (as per DMX fixture's manual)
1	Red
2	Green
3	Blue

DMX chn	Assignment (as per DMX fixture's manual)
1	Dimming
2	Red
3	Green
4	Blue
5	White

Properties	RGB-no dir
UID	200
ALIAS	RGB-no dim chn
ADDRESS	2.1.1
NOTIFY	BOTH
CHANNELS	3
BASE DMX CH	1
ASSIGN CH 1 (1)	RED
ASSIGN CH 2 (2)	GREEN
ASSIGN CH 3 (3)	BLUE

Properties	RGBW-
CHANNELS	5
BASE DMX CH	10
ASSIGN CH 1 (10)	FULL
ASSIGN CH 2 (11)	RED
ASSIGN CH 3 (12)	GREEN
ASSIGN CH 4 (13)	BLUE
ASSIGN CH 5 (14)	WHITE

Notes: Set Ch 1~3 as per the assignment found within the DMX fixture (see its manual).

Notes: Set DMX Dimming Chn to **FULL** to utilize the e-Node's more sophisticated technology.

Step 9

Example for Sophisticated Channel setup (units with HSB/CCT, etc.)

Dimmer + RGB+ W/W		4 + chn HSB device +CCT	
DMX chn	Assignment (as per DMX fixture's manual)	DMX chn	Assignment (as per DMX fixture's manual)
1	Dimming	1	Dimming
2	Red	2	Hue
3	Green	3	Saturation
4	Blue	4	CCT
5	Fixture's W1 mapped to e-Node's "White"		
6	Fixture's W2 mapped to (unused) "CCT"		

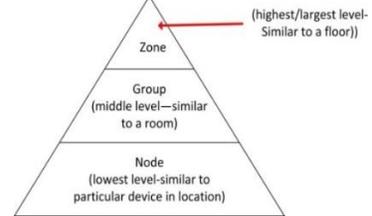
CHANNELS	6	CHANNELS	4
BASE DMX CH	30	BASE DMX CH	40
ASSIGN CH 1 (30)	VALUE	ASSIGN CH 1 (40)	VALUE
ASSIGN CH 2 (31)	RED	ASSIGN CH 2 (41)	HUE
ASSIGN CH 3 (32)	GREEN	ASSIGN CH 3 (42)	SAT
ASSIGN CH 4 (33)	BLUE	ASSIGN CH 4 (43)	CCT
ASSIGN CH 5 (34)	WHITE		
ASSIGN CH 6 (35)	CCT		

Note: The "CCT" virtual mapping is simply a mapping to a second W that can be called through our drivers to manage whatever it is attached thereto

Note: In this case "CCT" is actually controlling the devices's built-in CCT channel (using 0 ~255) or to whatever built-in CCTs exist within the fixture. Often there is little relationship between the scale on a typical dimmer and precise CCTs.

Step 10

Zone/Group/Node Addressing



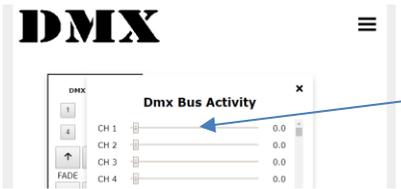
Assign Z/G/N Address. Enter a discrete Zone/Group/Node address for each DMX Controller identified within the Step 5. For more information on addressing, review the *Instruction Manual* above or applicable *Integration Note*.

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 11) will occur from any unit whose address exactly 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., 2.1.1)

Step 11

Bi-Directional Communication & Test

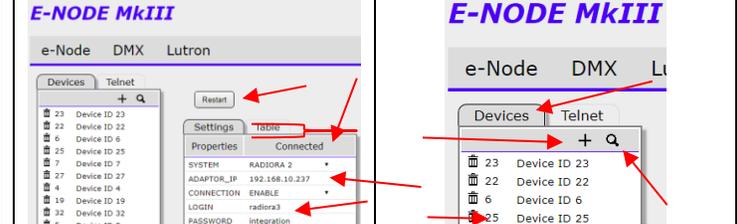


Change DMX Mode on e-Node: The e-Node/dmx is equipped with multi-functionality—(i) standard DMX compatibility, (ii) CS-Bus compatibility (for ILC-x00 and FLLA LED applications), and finally (iii) DALI-2 functionality. To reboot into an alternative mode, go to the **e-Node/Settings** page and under Mode select **Pure** (Mode) or **DMX** (Mode) or **DALI** mode as appropriate. Then hit the **RESTART** button to reboot. Network settings will be preserved, but other settings related to devices will be lost.

Step 12

New "SLIM" Lutron Programming

Under the **Lutron/Settings** tab below, enter (i) the (Lutron) **Adaptor IP**, (ii) an available Telnet **Login** and **Password** available from Lutron, then hit **Connection: ENABLE** and then **Restart**. The **Disconnected** message should shortly switch to **Connected**.



After the **Connected** message is display, all available Lutron devices will auto-appear.

Settings		Table			
Track	Command				
	Lutron ID	Address	Device	Command	Value
	23,2,3	2.1.1	LED	RGBW	65.240.0.0

Finally, under **Lutron/Table** above, for each desired mapping of a Lutron button push to a resulting DMX action, enter all fields (a) **Lutron ID*** (DID, button #, and type) (b) **ZG/N 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. In addition, see the Lutron [update](#) for Lutron OS 25.1 and later (for e-Node 4100).