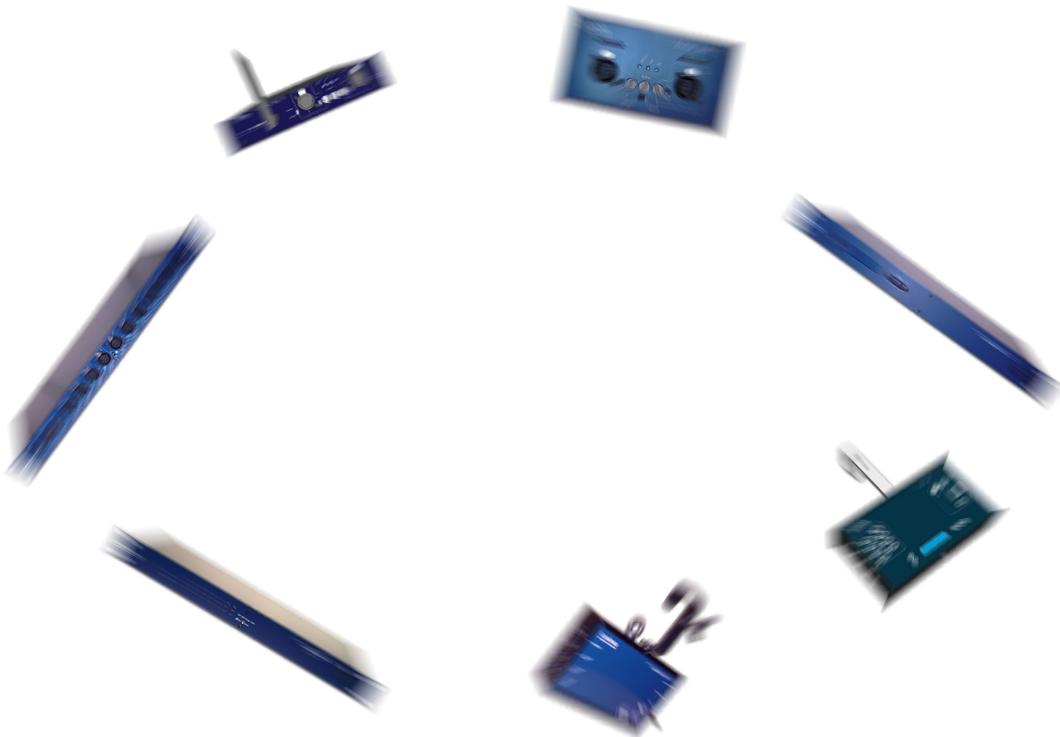


Luminex Lighting Control Equipment

Application Guide

Application examples



This application guide includes some (so not all) possible configurations or setups to be used with the whole Luminex product range; Most of these configurations can also be combined to give more possibilities.

The aim of this book is to help users, firstly, to show some possibilities of Luminex devices, and secondly, help them in configuring Luminex product to perfectly fit to their needs.

Each example is described, and all related products that fits for such applications are indicated in the title of the example. Usually, a screenshot of the builtin webserver of Luminex devices is displayed to help the user to configure its own product.

Table of Contents

Output Box.....	3
Input Box.....	5
Ethernet link between 2 DMX devices.....	7
Input/output box as dual splitter.....	8
Automatic DMX switcher.....	10
Input/Output Box for Media Server.....	13
Unicast.....	15
Local Merging.....	17
Local Backup.....	19
IP Merging.....	21
IP Backup.....	24
IP triggering.....	27
IP triggering with 2 media servers.....	32
Range Extender.....	34
Dual Ring.....	35

Application Guide Application examples
Document Application_guide_Web

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Output Box

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

In this setup, the related products will be used as single output boxes (Ethernet to DMX) connected to any kind of ArtNet source (lighting software, lighting desk, media server...).

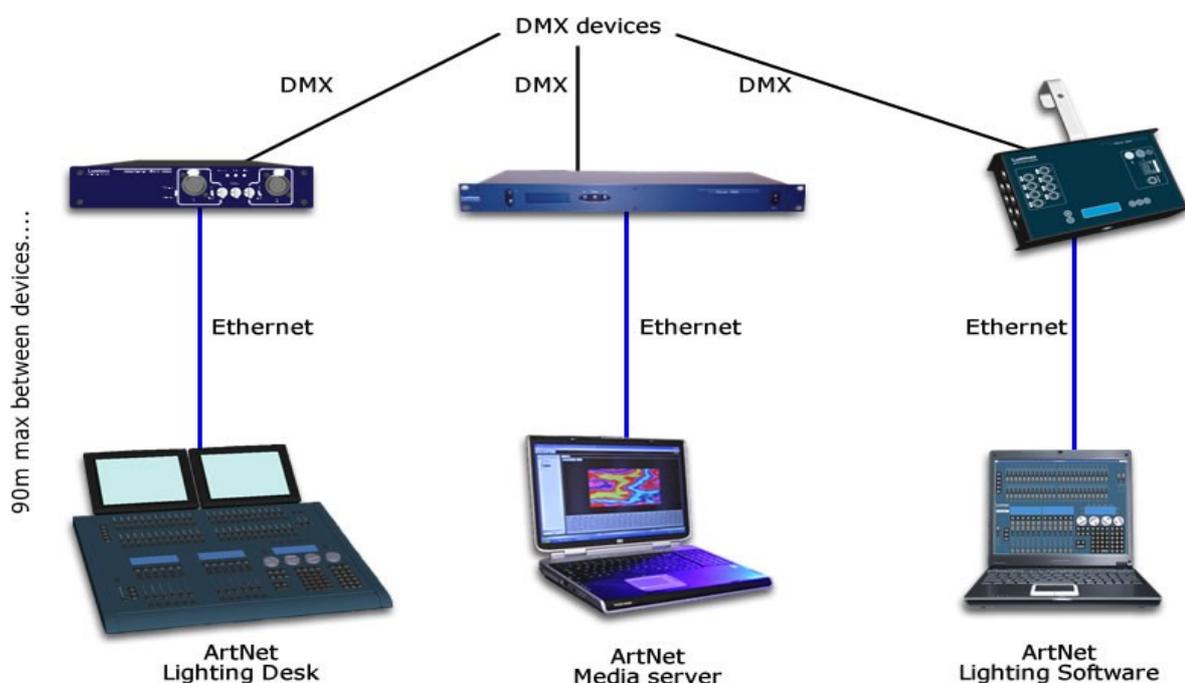


Illustration 1: Example of Ethernet to DMX conversion

Connect your Ethernet-DMX device to its ArtNet source. Use a cross-cable if you connect your Luminex device directly to the ArtNet source.

Be sure your Ethernet-DMX device is set with an IP address within the same IP range as the ArtNet source. Usually ArtNet devices use 2.x.x.x or 10.x.x.x IP addresses.

All Luminex Ethernet-DMX product can be set either from the front end or through the built-in Web server. If your ArtNet source does not have a Web browser, set your Luminex device from the front end, either by loading a complete "output" profile or by setting each outlet one by one with the desired universe address and mode.

If you're able to reach the built-in Web server of your Luminex device, you should see Illustration 2: Loading an "All out 0" profile examples of output configurations, which is achieved by loading an output profile (All OUT 0) or you will see Illustration 3: Setting all outlets separately by setting all outlets separately.

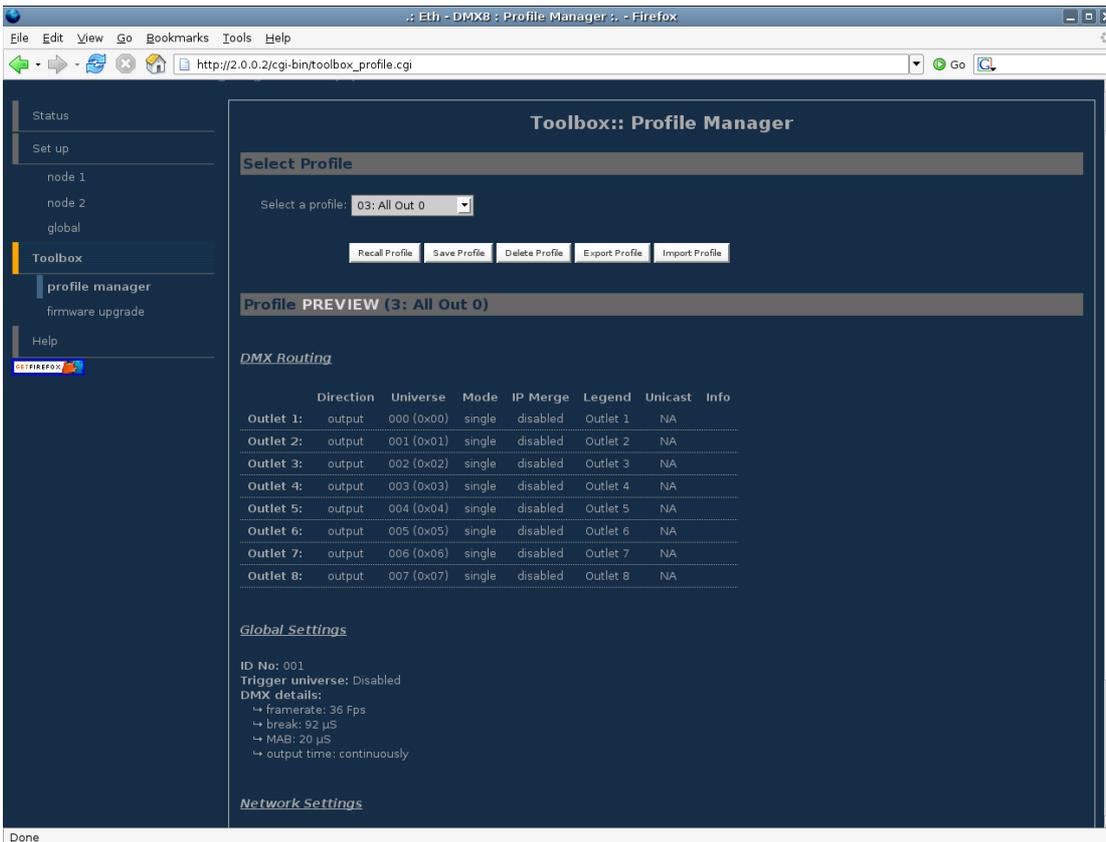
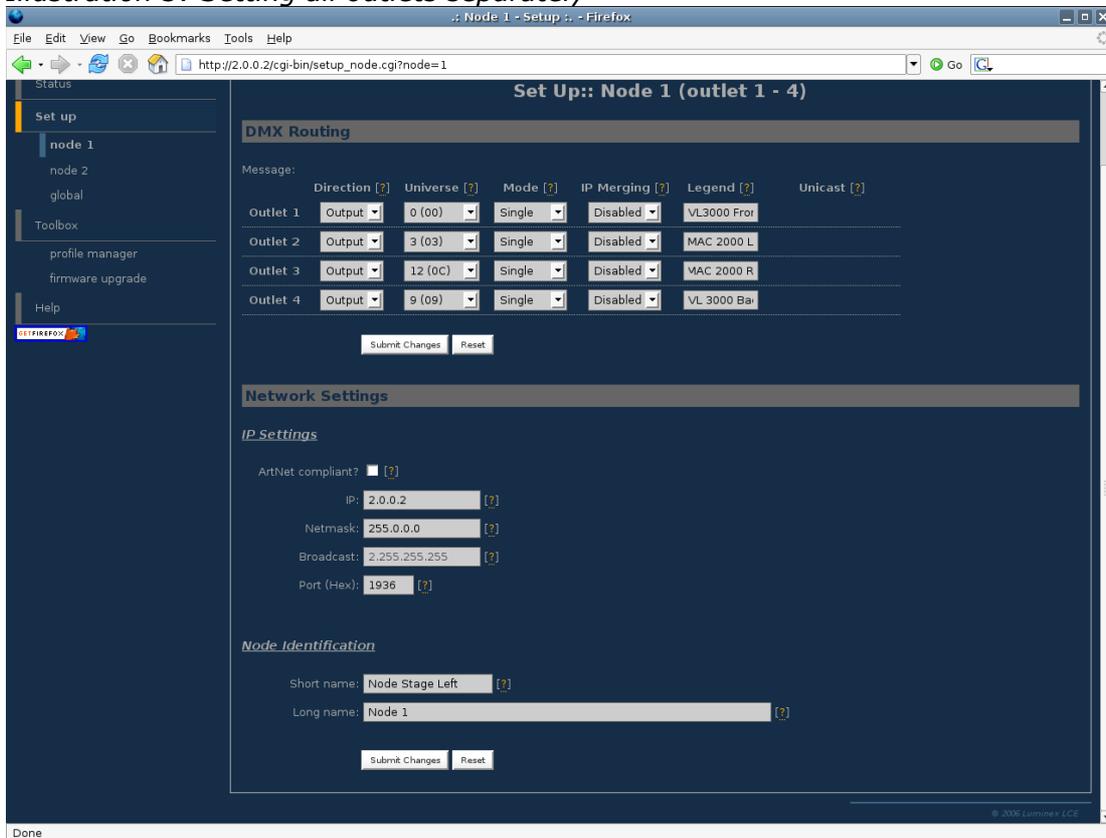


Illustration 2: Loading an "All out 0" profile

Illustration 3: Setting all outlets separately



Input Box

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

In this setup, the related products will be used as single input boxes (DMX to Ethernet). The Luminex device will convert DMX signal to ArtNet protocol in order to control a video Media server or any kind of ArtNet devices (see Illustration below).

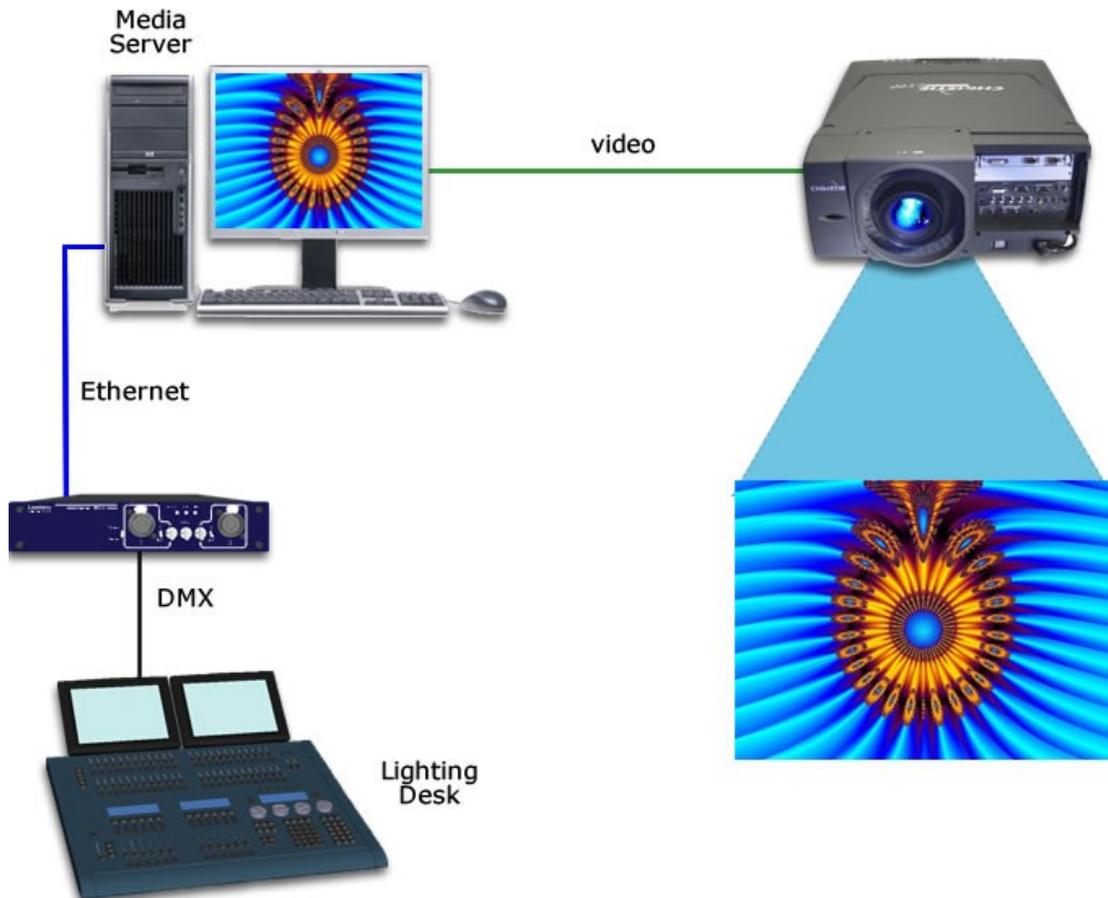


Illustration 4: Example of DMX to Ethernet conversion

Connect your Ethernet-DMX device to the DMX source with a male gender adaptor. This example shows the use of one single DMX line, but depending on the Luminex device you're using, you can convert up to 8 DMX lines to Ethernet.

Be sure your Ethernet-DMX device is set with an IP address within the same IP range as the ArtNet device to control. Usually ArtNet devices use 2.x.x.x or 10.x.x.x IP addresses.

All Luminex Ethernet-DMX products can be set either from the front end or through the built-in Web server. If the ArtNet device you wish to control does not have a Web browser, set your Luminex device from the front end, either by loading a complete "input" profile or by setting each outlet one by one with the desired universe address and mode.

If you're able to reach the built-in Web server of your Luminex device, see below 2 examples of input configurations , realized by loading an input profile (Illustration 5) or by setting all outlets separately (Illustration 6).

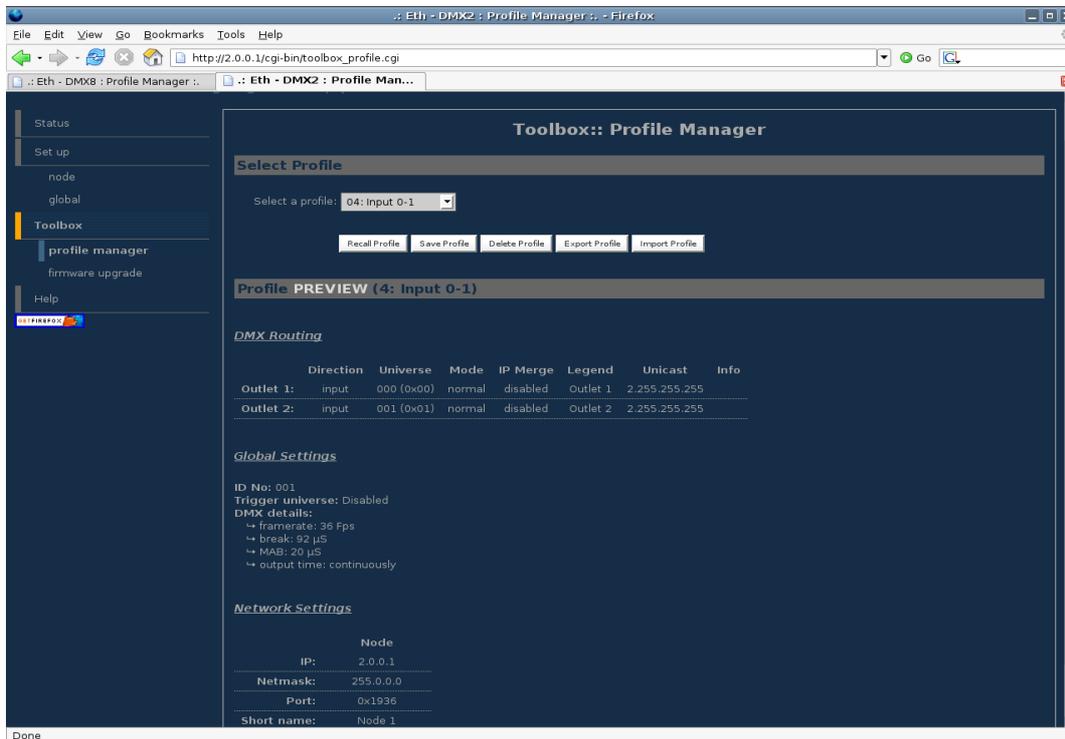


Illustration 5: Loading an Input profile (Input 0-1)

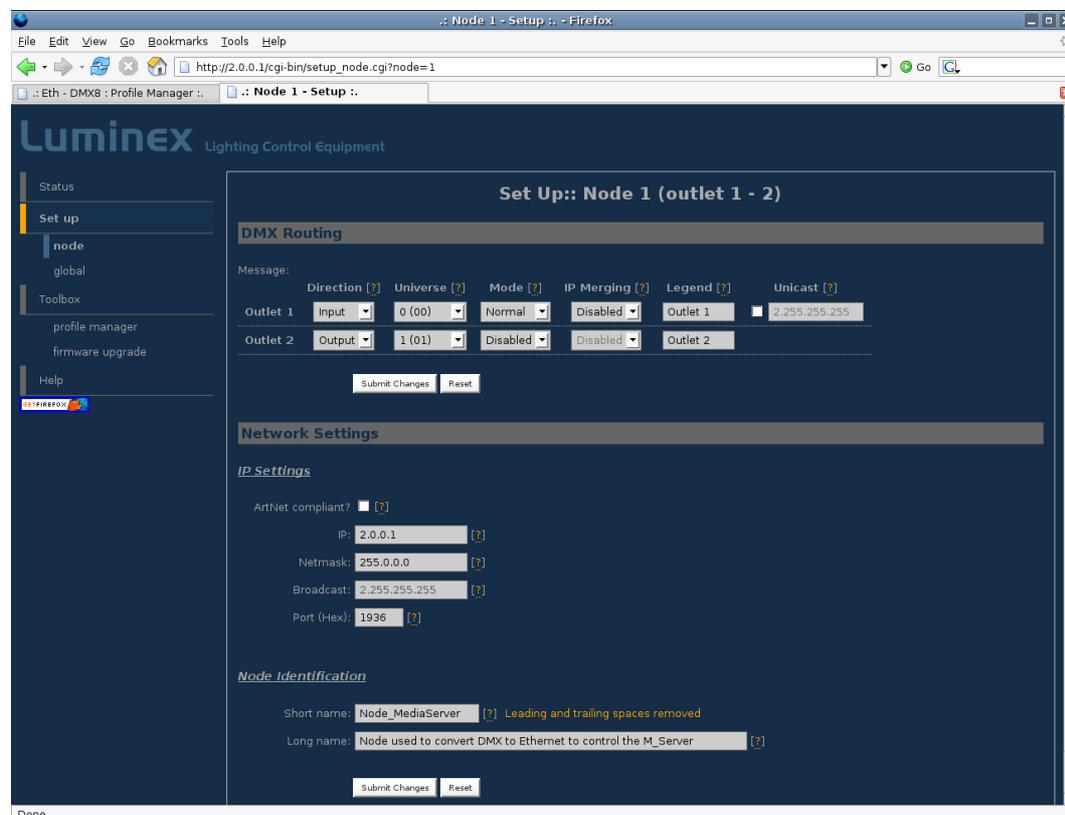


Illustration 6: Configure each outlet separately

Ethernet link between 2 DMX devices

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

In this setup, the related products will be used as input and output boxes . The first Luminex device will convert DMX signal to ArtNet protocol in order to run one single Ethernet cable instead of several DMX lines. However, please remember that Ethernet specification allows to use cables **no longer than 100m** between two active Ethernet devices.

Please notice that if you're not using an Ethernet switch to interconnect the 2 Ethernet devices, a crossover Ethernet cable will have to be used.

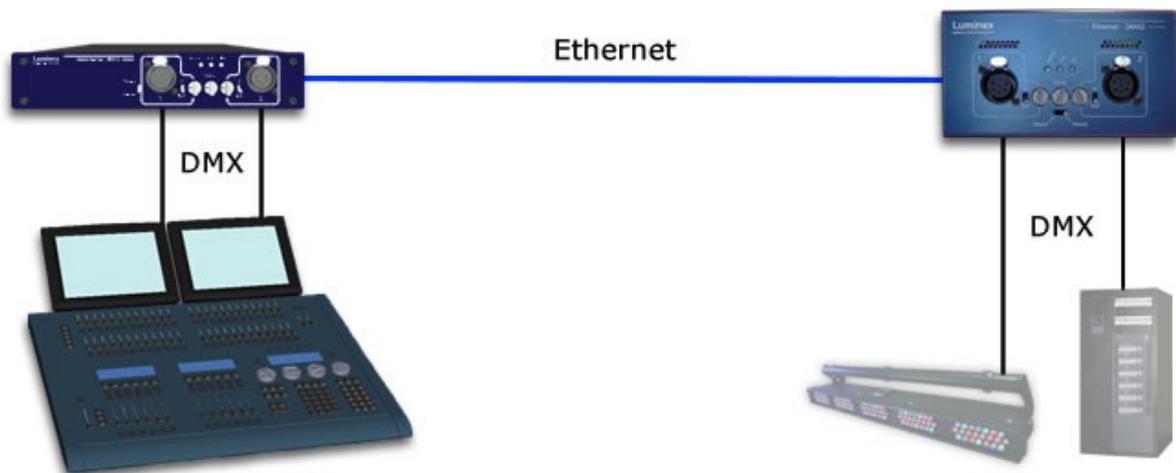


Illustration 7: Example of Ethernet link between 2 DMX devices

This kind of setup can be very useful for instance when you have to run your DMX signal through the existing network of a building or a venue.

Input/output box as dual splitter

Related products : [Ethernet-DMX \(8, 8/W, 8/T\)](#)

In this setup, the related products will be used as input/output boxes (see Illustration 8). The Luminex device is set to act as a dual splitter (1 input, 3 outputs on the same universe for each lighting desk).

The two lighting desks can run their dedicated DMX network on the same device. The node here can be compare to a Luminex 2.10 Splitter.

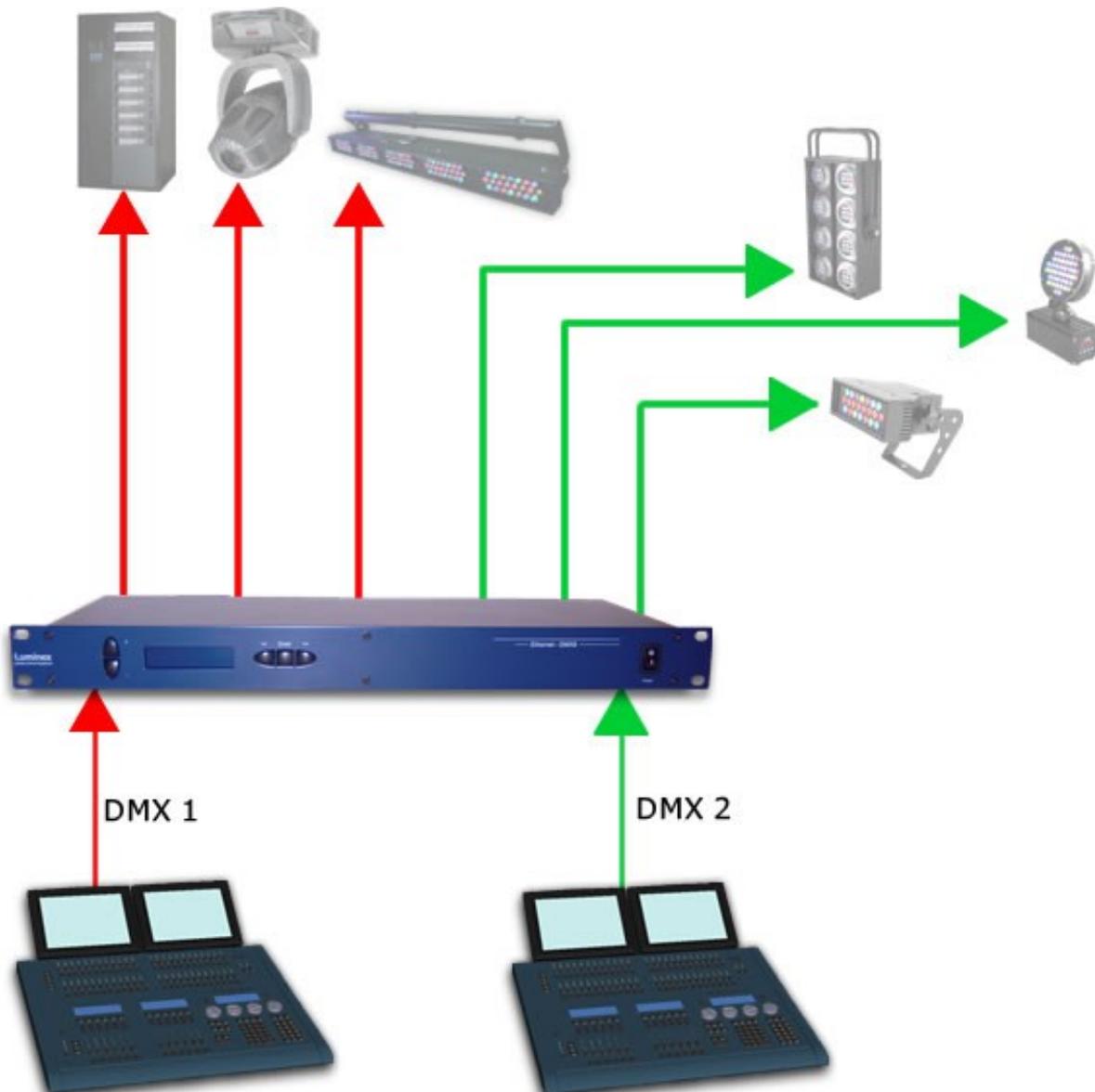


Illustration 8: Example of Input/output configuration : dual Splitter

The following screenshots (Illustration 9) display the “profile manager” page from the built-in Webserver. The selected profile is the one used in this example.

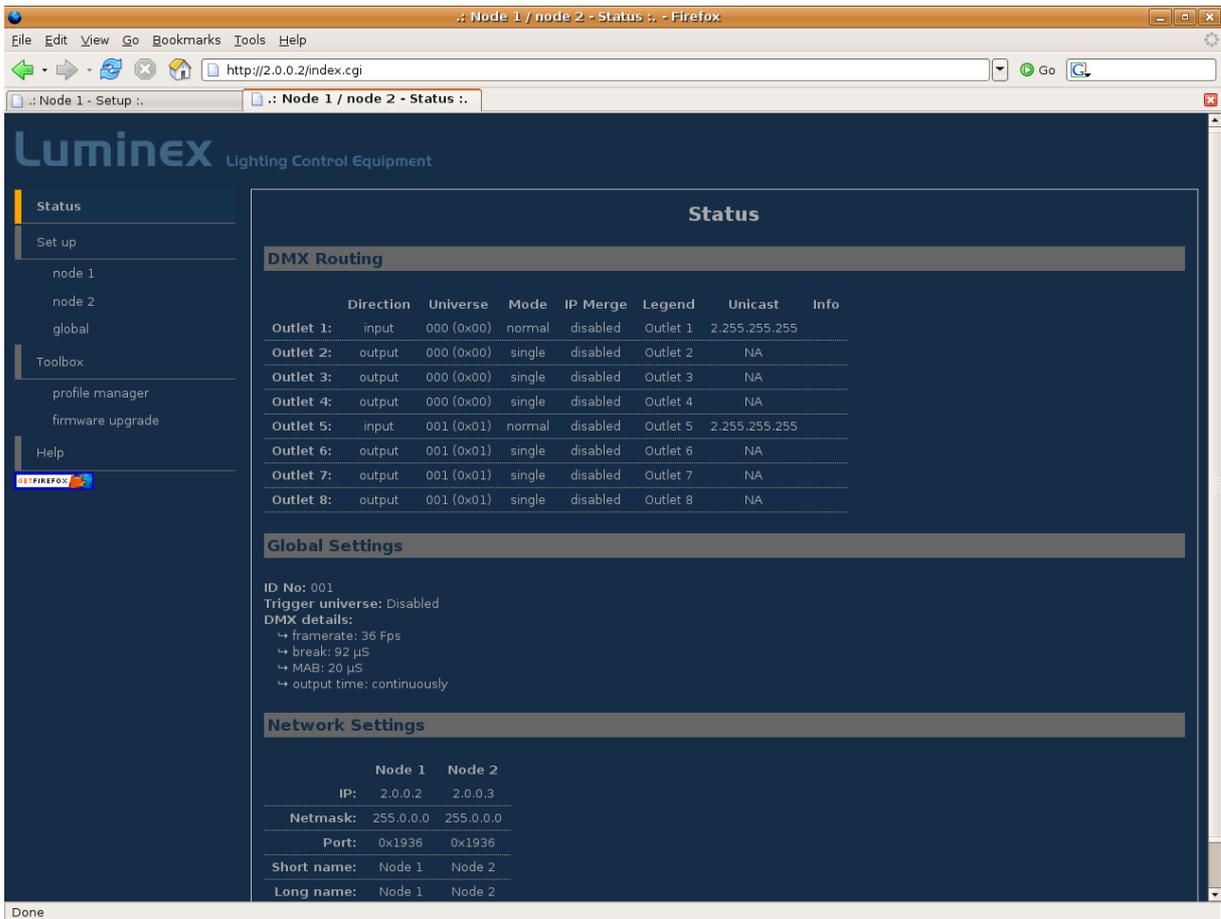
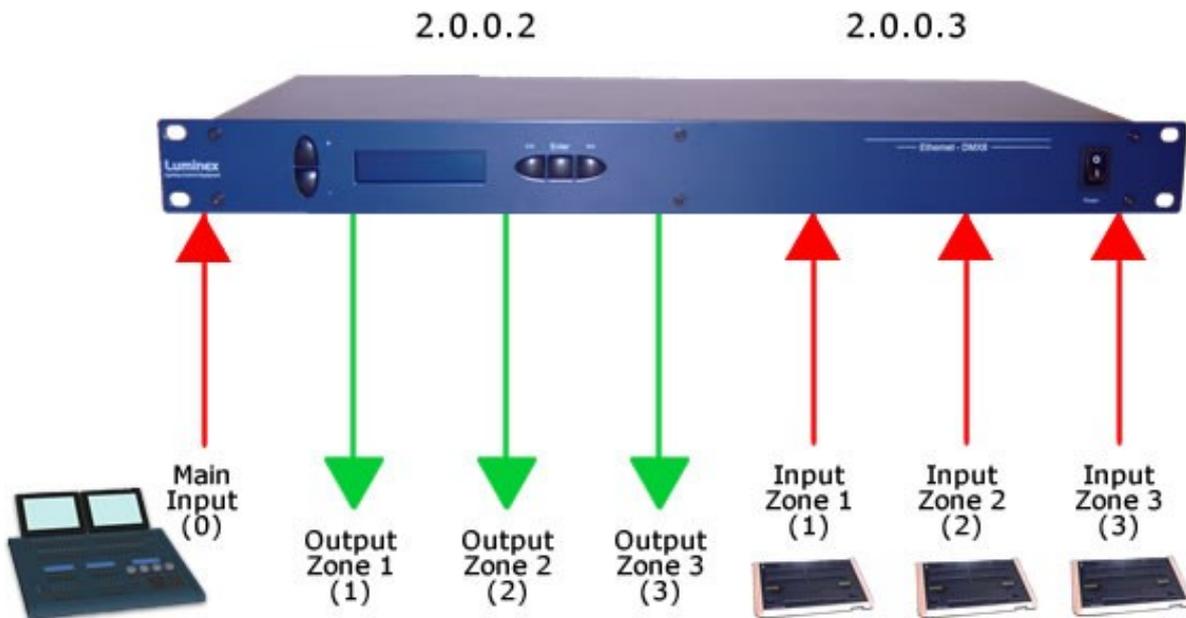


Illustration 9: Loading a "2X1.3 hub" profile

Automatic DMX switcher

Related products : [Ethernet-DMX \(8, 8/W, 8/T\)](#)

This setup is inspired from a real installation; it perfectly shows the ability of Luminex products to answer to all kind of configuration.



The aim of this installation is to provide an automatic DMX switcher between three small lighting desks and a main one; Each small lighting desk is controlling a dedicated zone, and the main desk can control all zones.

The difficulty of the setup is that the main desk is not always connected, so the Luminex device has to switch automatically to the dedicated Lighting desk, for this to control its own zone.

The aim was not to use a merging policy, but a real automatic switcher between DMX sources.

The main lighting desk is running one single universe, split on each zone through the Luminex devices outlets.

Of course, the main desk patch has been split on the three small lighting desks to avoid channel overlapping.

The main principle of this auto switching is to use the builtin backup feature of Luminex devices, base on ArtNet source IP addresses.

As the Luminex device use two IP addresses, it's easy to virtually use 2 different IP sources. In this case, the main desk is 2.0.0.2 and the small desks are 2.0.0.3.

The following screenshots show the main configuration of the Ethernet-DMX8 and a the detailed configuration (see illustration 11) of one of the 3 outputs.

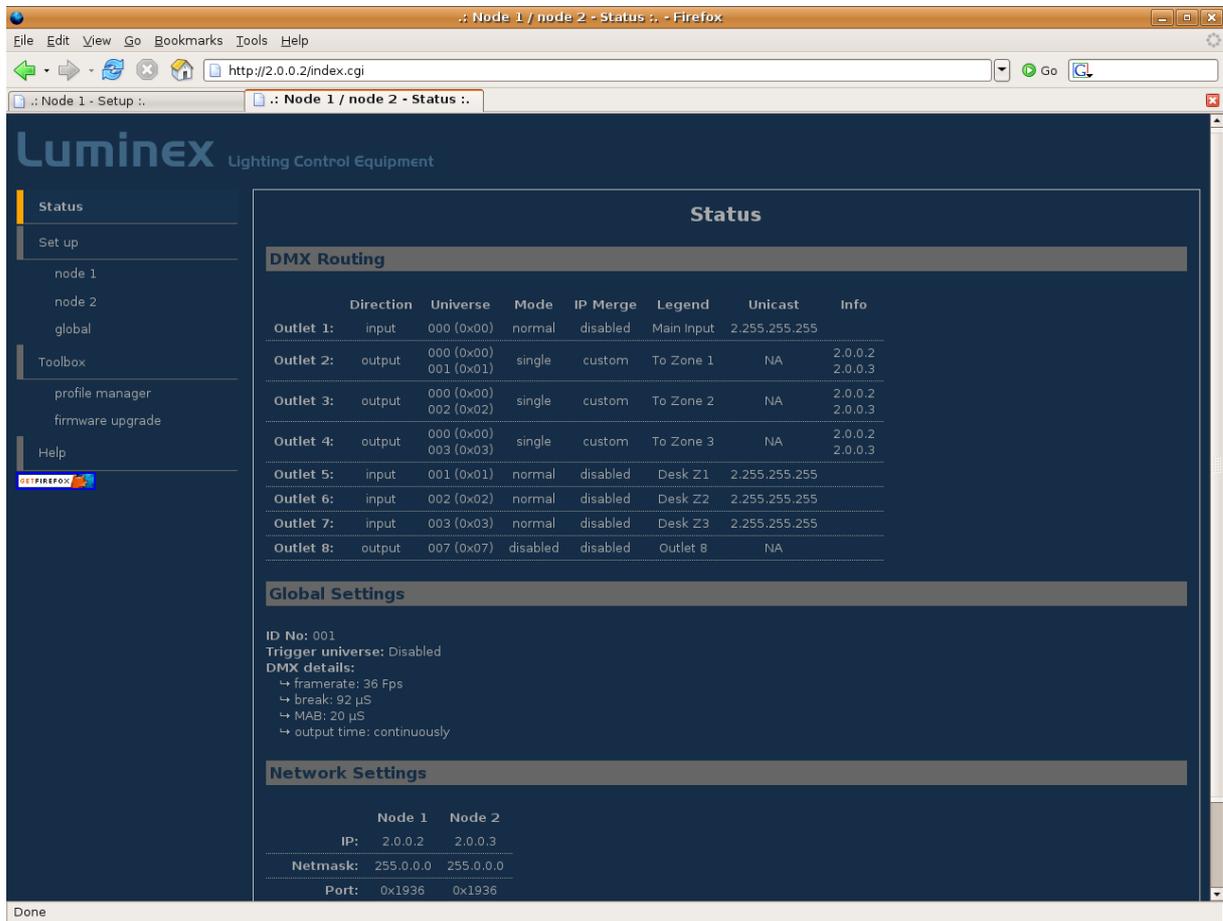


Illustration 10: main configuration

http://2.0.0.2 - Config outlet 4 - Firefox

Config Outlet 4

DMX Output Custom IP Merging

IP/Universe Settings

IP source 1: Universe: [?]

IP source 2: Universe: [?]

Backup time (ms): Auto recover: [?]

Default Settings

Offset S1: [?]

Offset S2: [?]

From: To: [?]

Mode: [?]

Trigger Chn: [?]

Output channel [?]	Source 1 channel [?]	Source 2 channel [?]	Mode [?]	Trigger [?]
1	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="S2 Backup"/>	-
2	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="S2 Backup"/>	-
3	<input type="text" value="3"/>	<input type="text" value="3"/>	<input type="text" value="S2 Backup"/>	-
4	<input type="text" value="4"/>	<input type="text" value="4"/>	<input type="text" value="S2 Backup"/>	-
5	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="S2 Backup"/>	-
6	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="S2 Backup"/>	-
7	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="S2 Backup"/>	-
8	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="S2 Backup"/>	-

Done

Illustration 11: Detailed output outlet configuration

Input/Output Box for Media Server

Related products : Ethernet-DMX (2/B, 2/W, 2/M, 8, 8/W, 8/T)

In this setup, the related products will be used as input/output boxes (see Illustration 12) . One outlet of the Luminex device will be set as an input in order to convert DMX packets from the lighting desk to control the ArtNet media server. Then, all the other outlets will be set to DMX output, to have artNet packets, coming from the Media server, converted to DMX universes.

All outlets can be configure one by one, but all Luminex devices offers to quickly recall a built-in profile to setup the unit.

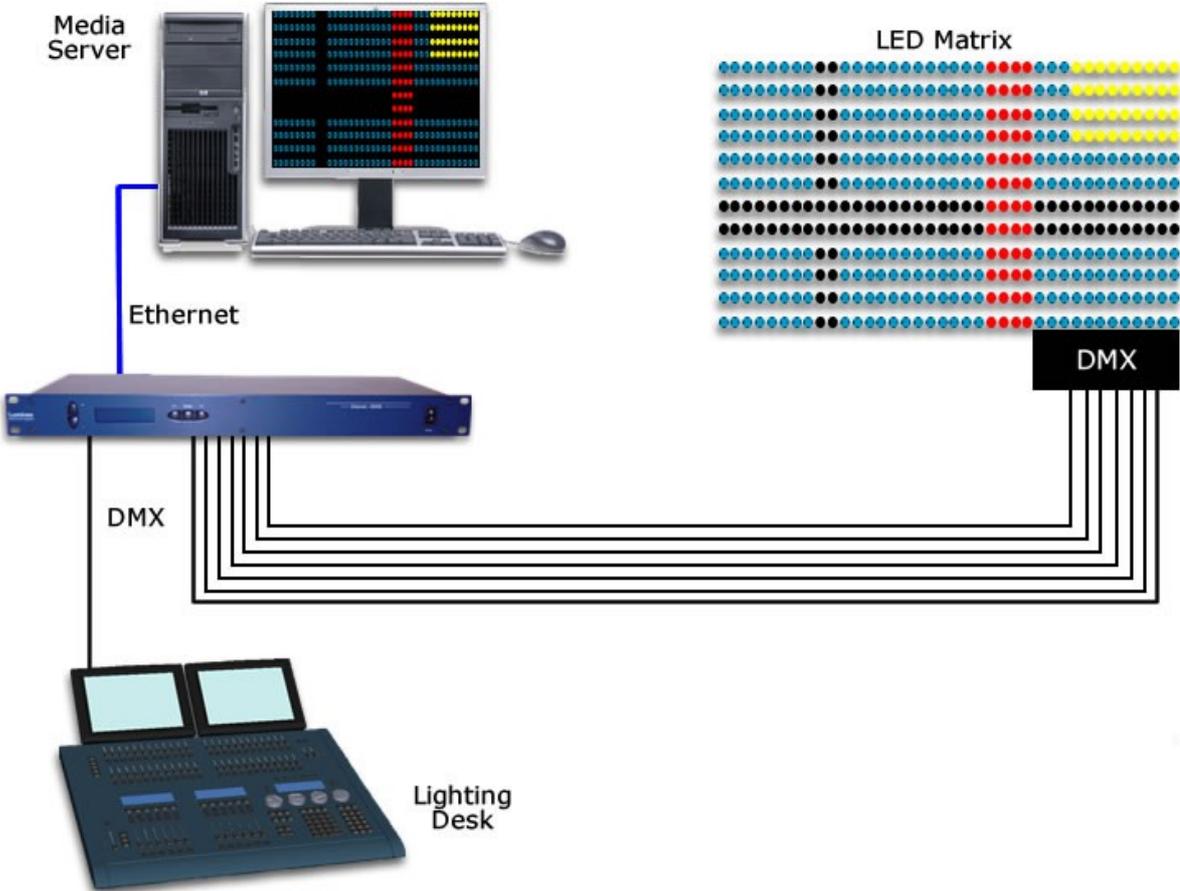


Illustration 12: Example 1 of Input/Output configuration

The following screenshots (Illustration 13) display the “profile manager” page from the built-in Webserver. The selected profile is the one used in this example.

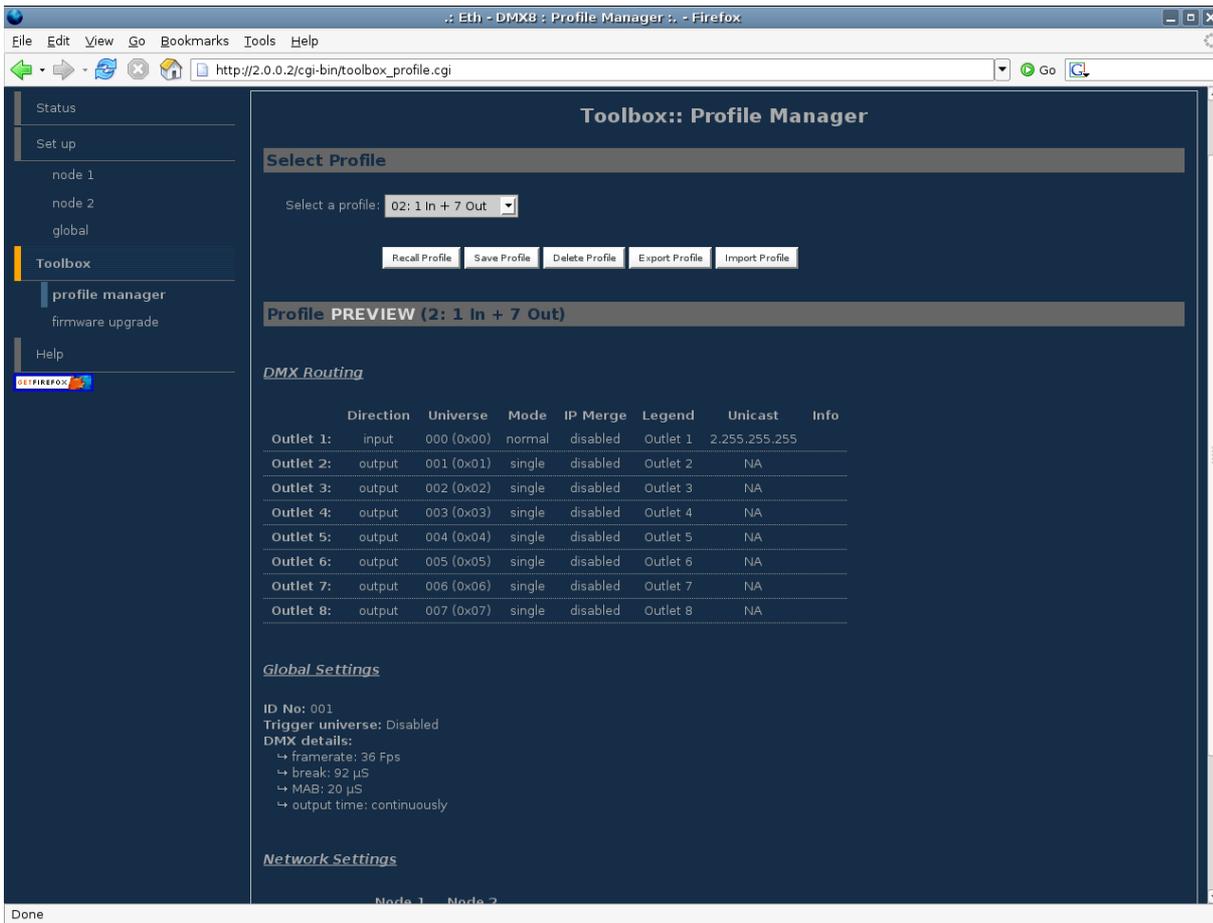


Illustration 13: Profile Manger : "1 in + 7 out" profile selected

Unicast

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

The ArtNet protocol used in all Luminex Ethernet-DMX devices is a broadcast protocol; this means every packet sent from a single transmitter will be received by all receivers on the network. This can be useful if by instance you wish universes 1 and 2 to be available on several points of the set up. However, some Ethernet equipments, that should not receive these packets, will see their link bandwidth consumption increase for no gain. This has not a big impact on wired network, depending on the type of converter you use.

But increase the number of universe on a wireless link can result in a very bad connection between your wireless nodes. This is why it can be sometimes useful to use unicast mode.

In the example below, we can stream through ArtNet the 4 universes needed here to each wireless node; but to avoid the bandwidth consumption problem, we use the unicast feature to send the universes to the dedicated output boxes.



The following illustration (14) shows how to set unicast address per universe.

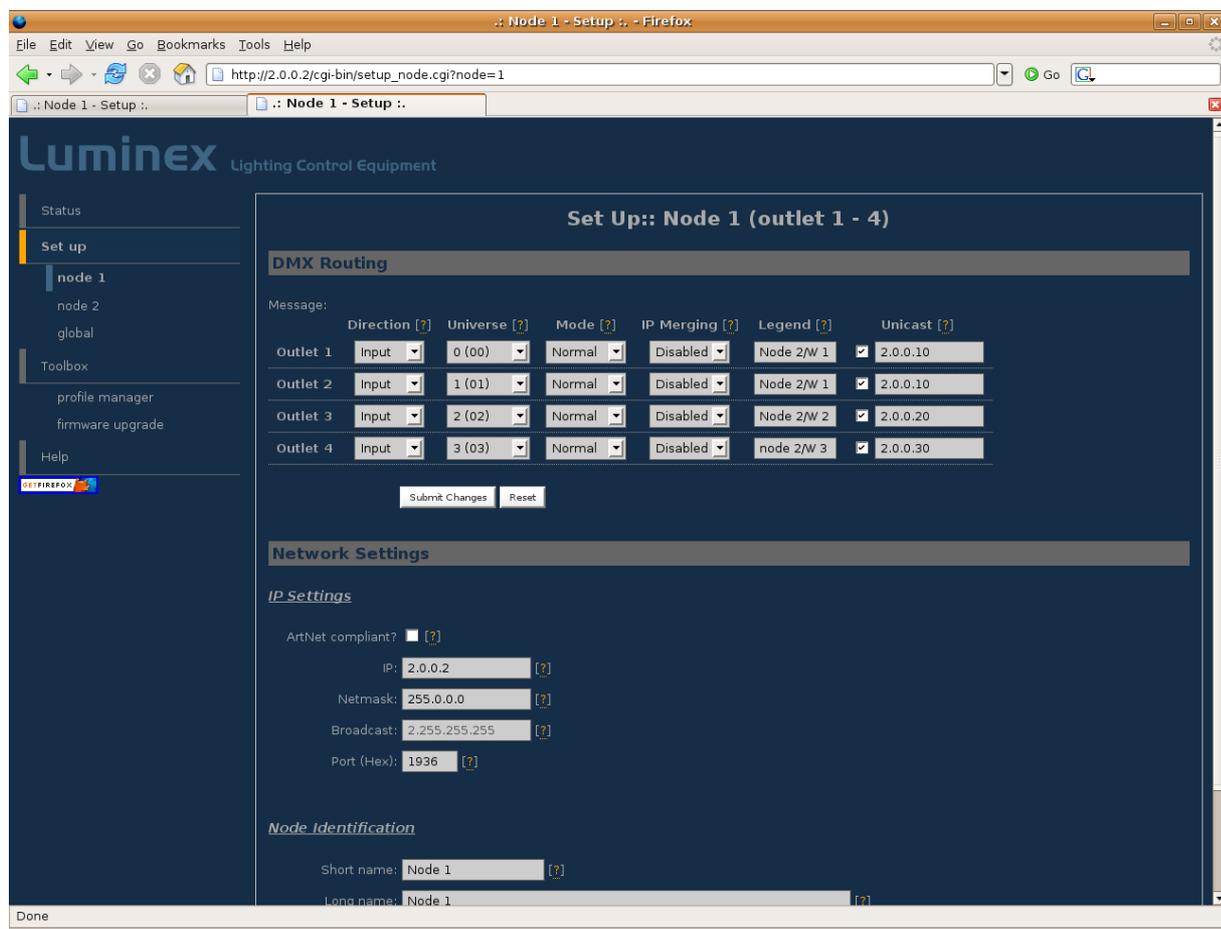


Illustration 14: Unicast example

Local Merging

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

In this setup (see Illustration 15), the related product will be used as a merger. The aim of this application is to merge two different DMX sources into one single Luminex device. This configuration can also be used if you want to have a main and backup desk system.

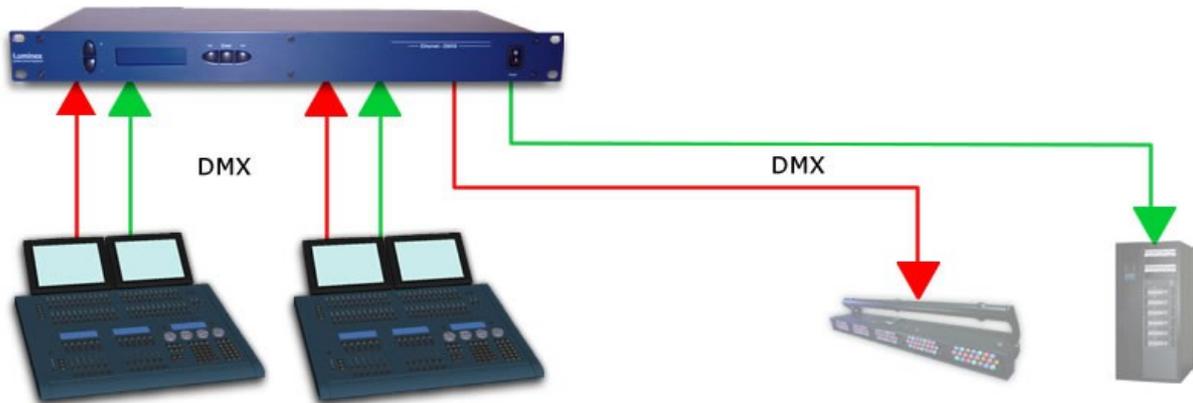


Illustration 15: Example of local merging

By using the built in Web server of each related product, you can create complexe merging policies on each channel of each outlet; for instance, merging channels 1 to 34 from both sources in HTP mode, then channels 35 to 256 in LTP. The rest of the channels can be set to act as backup source for the primary desk.

The following screenshots give you an overview of what can be done through the Web interface.

The first screenshot (Illustration 16) shows you how to quickly set up the second outlet as a merged input (in that example, all channels will be merged in HTP mode). For a deeper configuration of the merging policy, you can set the second outlet as a "Custom" input.

Then, a new pop up windows (see Illustration 17) allows you to set the desired merging policy on each channel. You can also notice that this system provides the opportunity to create a complete softpatch (the patch will be recorded directly into the node, but can also be saved and loaded).

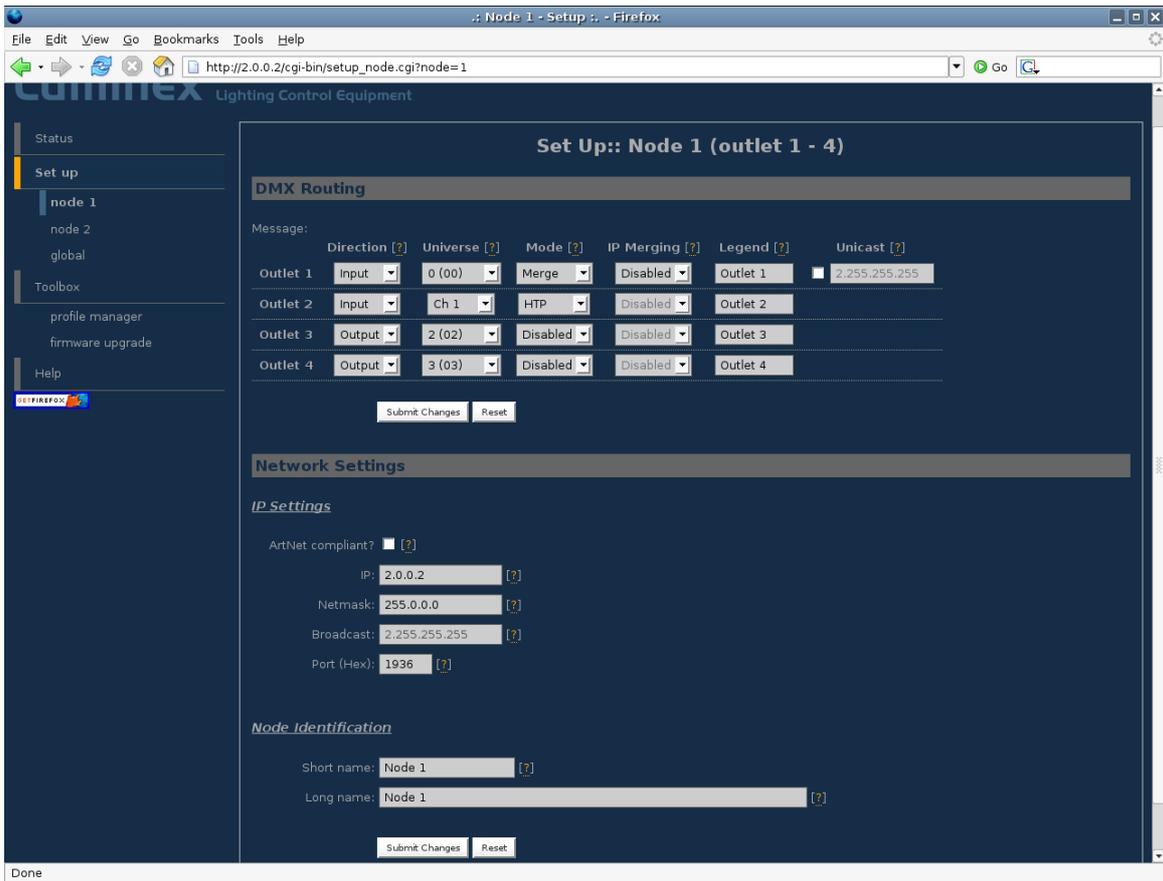


Illustration 16: Outlet 2 set as merged input in HTP mode

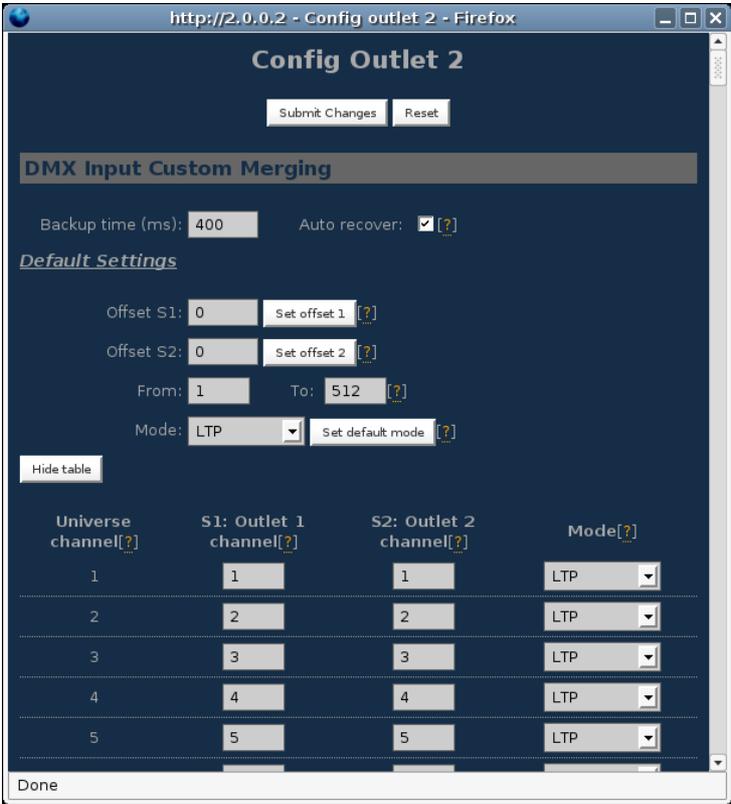


Illustration 17: Detail of a Custom merging policy

Local Backup

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

In this setup (see Illustration 18), the related product will be used as a backup switcher. In case of DMX failure from the first source, the Luminex device will automatically switch to the other source within the time you've chosen. The goal of this application is to deploy a backup solution to your lighting source. Connect your 2 DMX sources to the Luminex device, then configure either from the front end or the Web interface the backup time (time within the backup outlet has to wait before being activated in case of primary DMX source failure).

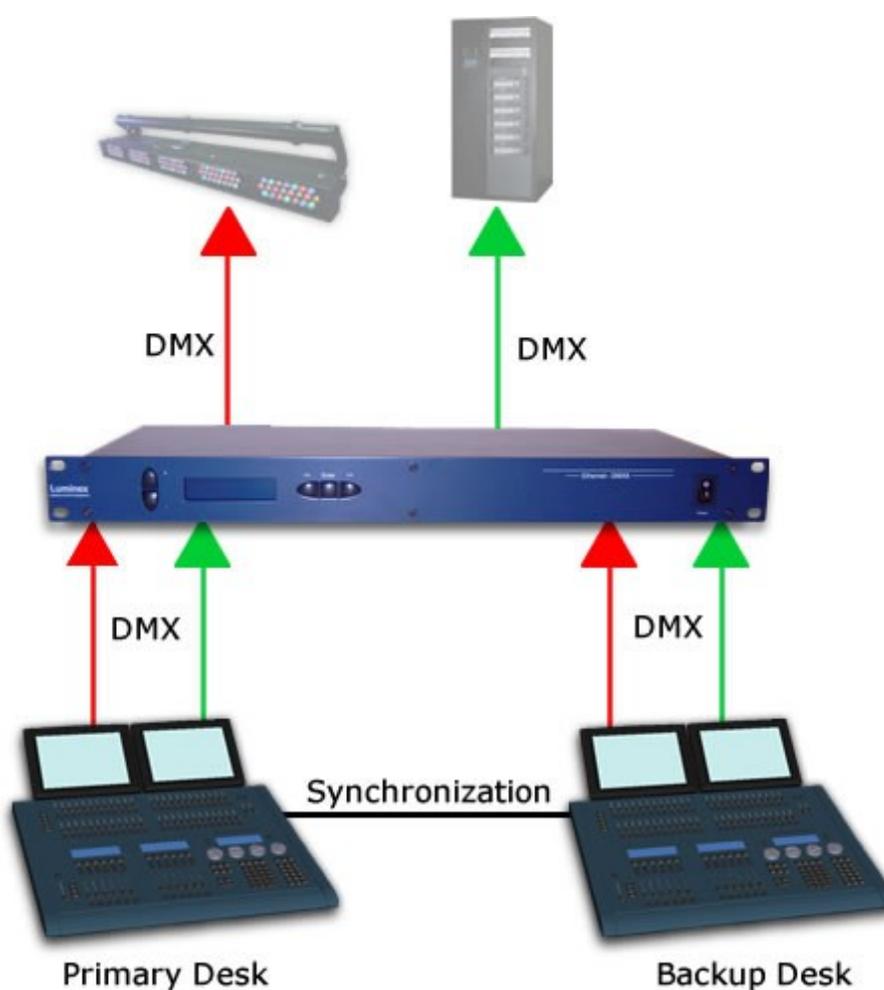


Illustration 18: example of local backup setup

The following screenshots (Illustration 19) display the configuration of the Luminex device to backup 2 DMX lines.

The screenshot shows the Luminex web interface for 'Node 1 / node 2 - Status'. The interface is divided into a left sidebar and a main content area. The sidebar contains navigation options: Status, Set up (node 1, node 2, global), Toolbox (profile manager, firmware upgrade), and Help. The main content area is titled 'Status' and contains three sections: DMX Routing, Global Settings, and Network Settings.

DMX Routing

	Direction	Universe	Mode	IP Merge	Legend	Unicast	Info
Outlet 1:	input	000 (0x00)	merged	disabled	Outlet 1	2.255.255.255	
Outlet 2:	input		backup	disabled	Outlet 2	NA	400 ms (Auto)
Outlet 3:	input	001 (0x01)	merged	disabled	Outlet 3	2.255.255.255	
Outlet 4:	input		backup	disabled	Outlet 4	NA	400 ms (Auto)
Outlet 5:	output	000 (0x00)	single	disabled	Outlet 5	NA	
Outlet 6:	output	001 (0x01)	single	disabled	Outlet 6	NA	
Outlet 7:	output	006 (0x06)	disabled	disabled	Outlet 7	NA	
Outlet 8:	output	007 (0x07)	disabled	disabled	Outlet 8	NA	

Global Settings

ID No: 001
 Trigger universe: Disabled
 DMX details:
 ↳ framerate: 36 Fps
 ↳ break: 92 µS
 ↳ MAB: 20 µS
 ↳ output time: continuously

Network Settings

	Node 1	Node 2
IP:	2.0.0.2	2.0.0.3
Netmask:	255.0.0.0	255.0.0.0
Port:	0x1936	0x1936
Short name:	Node 1	Node 2
Long name:	Node 1	Node 2

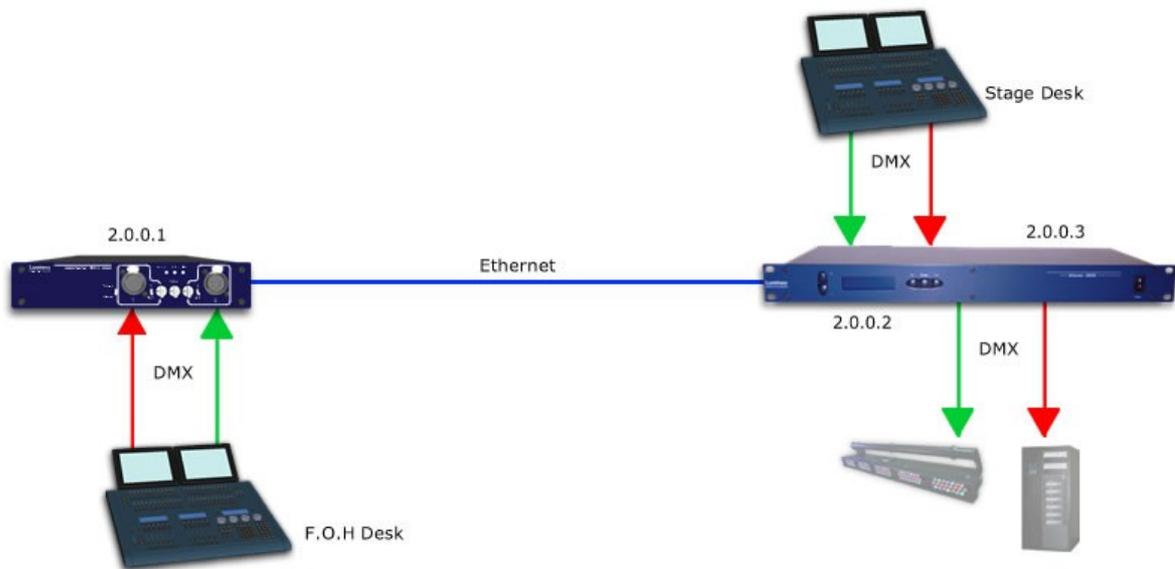
Illustration 19: Example of local backup setting

IP Merging

Related products : Ethernet-DMX (2/B, 2/W, 2/M, 8, 8/W, 8/T)

In this setup, the Luminex device will be used as networked merger. This means you can easily merge 2 DMX streams or ArtNet streams coming from any place of the network. In our example, we merge 2 DMX streams coming from the F.O.H desk and the Stage desk.

Compare to the local merging, the main settings have to be set on the output outlets, and not on the input outlets.



Thanks to the Luminex firmware, you can choose any kind of merging policy for your output outlets; you can even select a dedicated merging policy either for a single channel or for a range of channels.

The following screenshot (Illustration 20) is a good example of how to set your outputs outlets to create an IP merging.

The popup frame (Illustration 21) display the choice you have to select the desired policy for each of the channels. You can also notice the use of the softpatch.

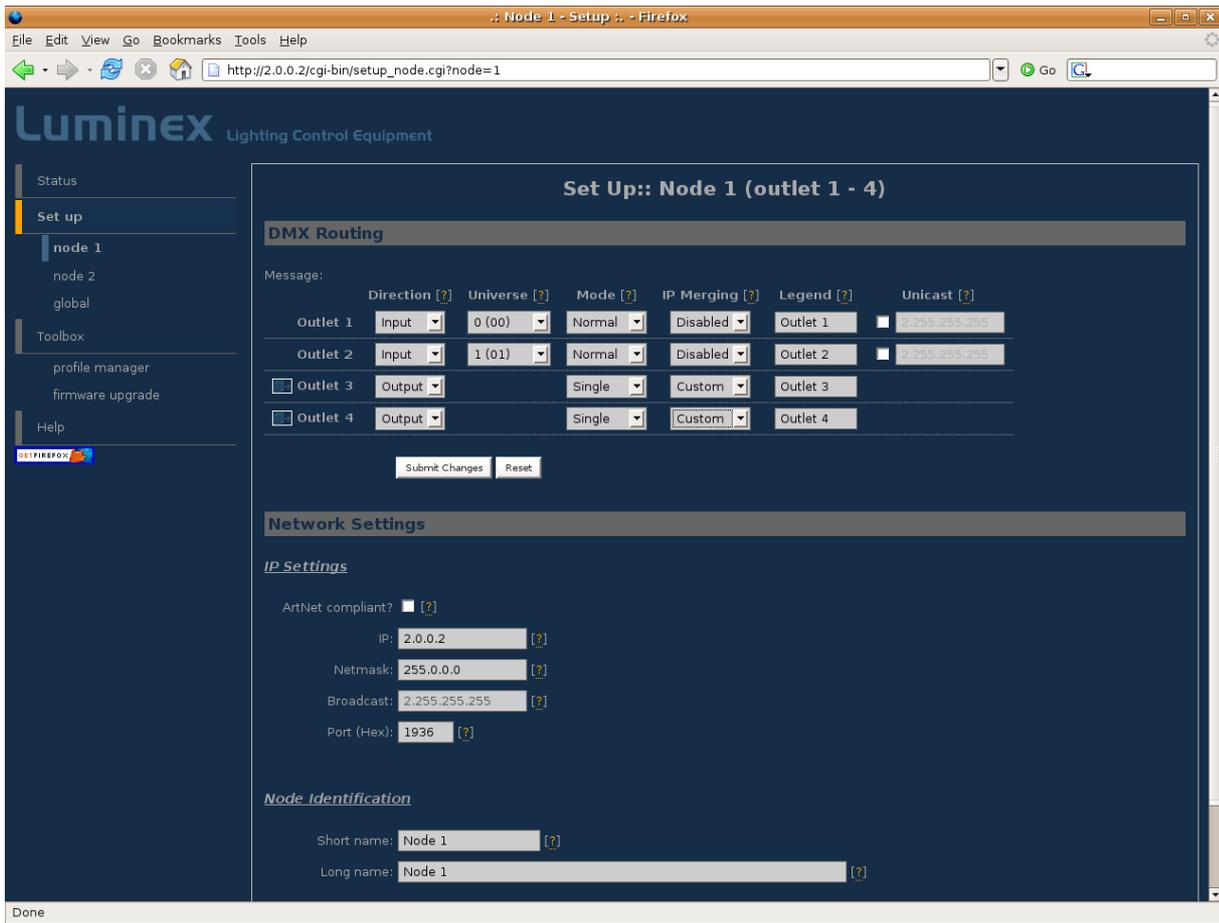


Illustration 20: IP merging enabled on Output outlets

http://2.0.0.2 - Config outlet 3 - Firefox

DMX Output Custom IP Merging

IP/Universe Settings

IP source 1: Universe: [?]

IP source 2: Universe: [?]

Backup time (ms): Auto recover: [?]

Default Settings

Offset S1: [?]

Offset S2: [?]

From: To: [?]

Mode: [?]

Trigger Chn: [?]

Output channel[?]	Source 1 channel[?]	Source 2 channel[?]	Mode[?]	Trigger[?]
1	<input type="text" value="1"/>	<input type="text" value="14"/>	<input type="text" value="HTP"/>	<input type="text" value="-"/>
2	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="S1 Only"/>	<input type="text" value="-"/>
3	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="HTP"/>	<input type="text" value="-"/>
4	<input type="text" value="4"/>	<input type="text" value="16"/>	<input type="text" value="HTP"/>	<input type="text" value="-"/>
5	<input type="text" value="5"/>	<input type="text" value="17"/>	<input type="text" value="HTP"/>	<input type="text" value="-"/>
6	<input type="text" value="6"/>	<input type="text" value="18"/>	<input type="text" value="LTP"/>	<input type="text" value="-"/>
7	<input type="text" value="7"/>	<input type="text" value="19"/>	<input type="text" value="LTP"/>	<input type="text" value="-"/>
8	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="S2 Only"/>	<input type="text" value="-"/>
9	<input type="text" value="9"/>	<input type="text" value="9"/>	<input type="text" value="S1 Backup"/>	<input type="text" value="-"/>
10	<input type="text" value="10"/>	<input type="text" value="10"/>	<input type="text" value="S1 Backup"/>	<input type="text" value="-"/>
11	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="S1 Backup"/>	<input type="text" value="-"/>
12	<input type="text" value="12"/>	<input type="text" value="12"/>	<input type="text" value="S2 Backup"/>	<input type="text" value="-"/>
13	<input type="text" value="13"/>	<input type="text" value="13"/>	<input type="text" value="S2 Backup"/>	<input type="text" value="-"/>

Done

Illustration 21: Custom merging policy + Softpatch

IP Backup

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

This configuration example (Illustration 22) can be realized in different ways. Here we want to establish a backup source to the primary one for the distant site. This backup source can be either a DMX or an ArtNet source. The following drawing shows the second case (artNet source).

The main difference between the two cases will be in the way to set the outlets on the distant site. If you use an Ethernet backup source, you'll have to set the final outlet in a custom mode, with a Backup merging policy on the desired channels.

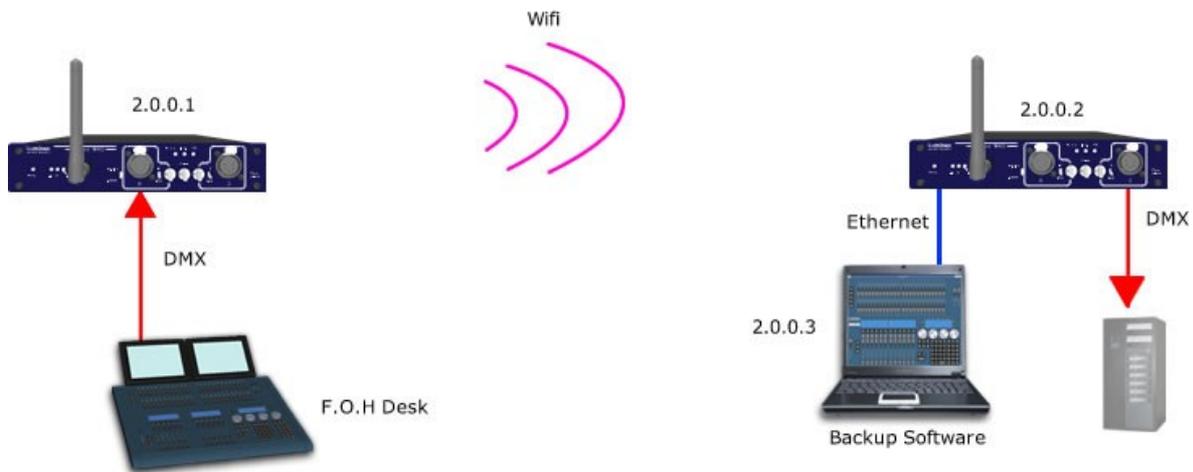


Illustration 22: IP Backup example

On the following screenshot (Illustration 23), you will discover the first way to set up a IP backup setup. The main rule is applied on final outputs (CUSTOM IP Merging). On the second popup frame , you can see the setting for the backup switching time.

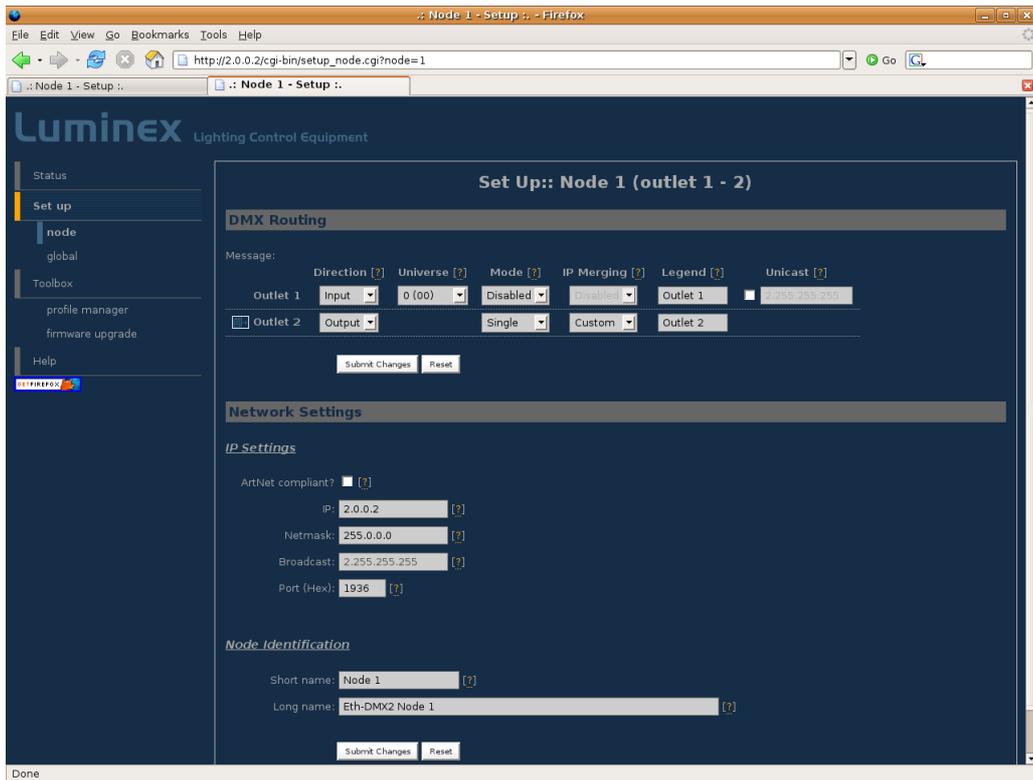


Illustration 23: IP backup setting on final outlet

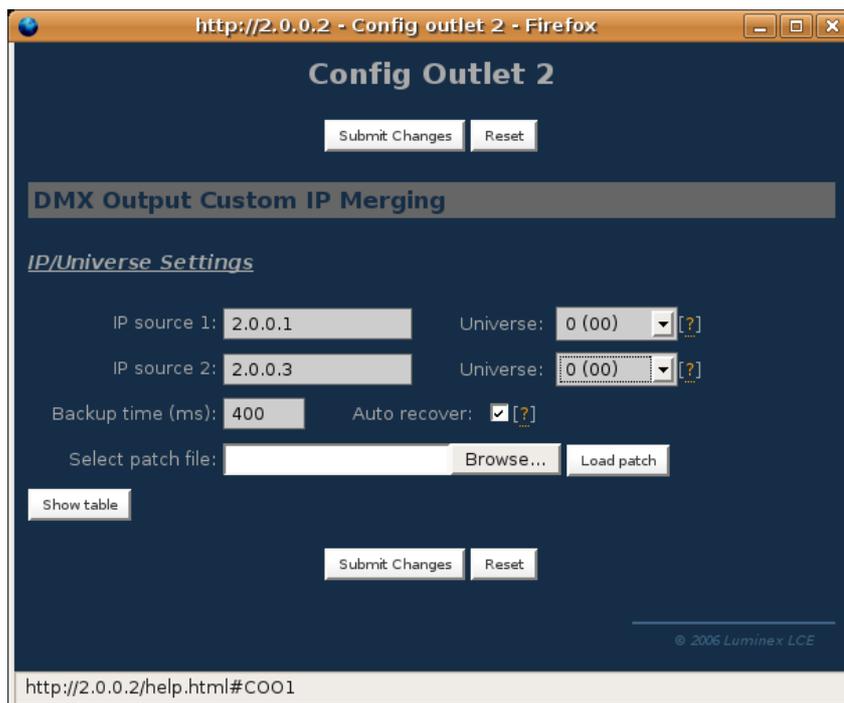


Illustration 24: details of the Backup time and IP sources

On the other hand, if you wish to use a DMX backup source, you'll just have to set one or more outlet as Input, with the IP Merging backup mode enable. Check the following screenshot (Illustration 25) to understand.

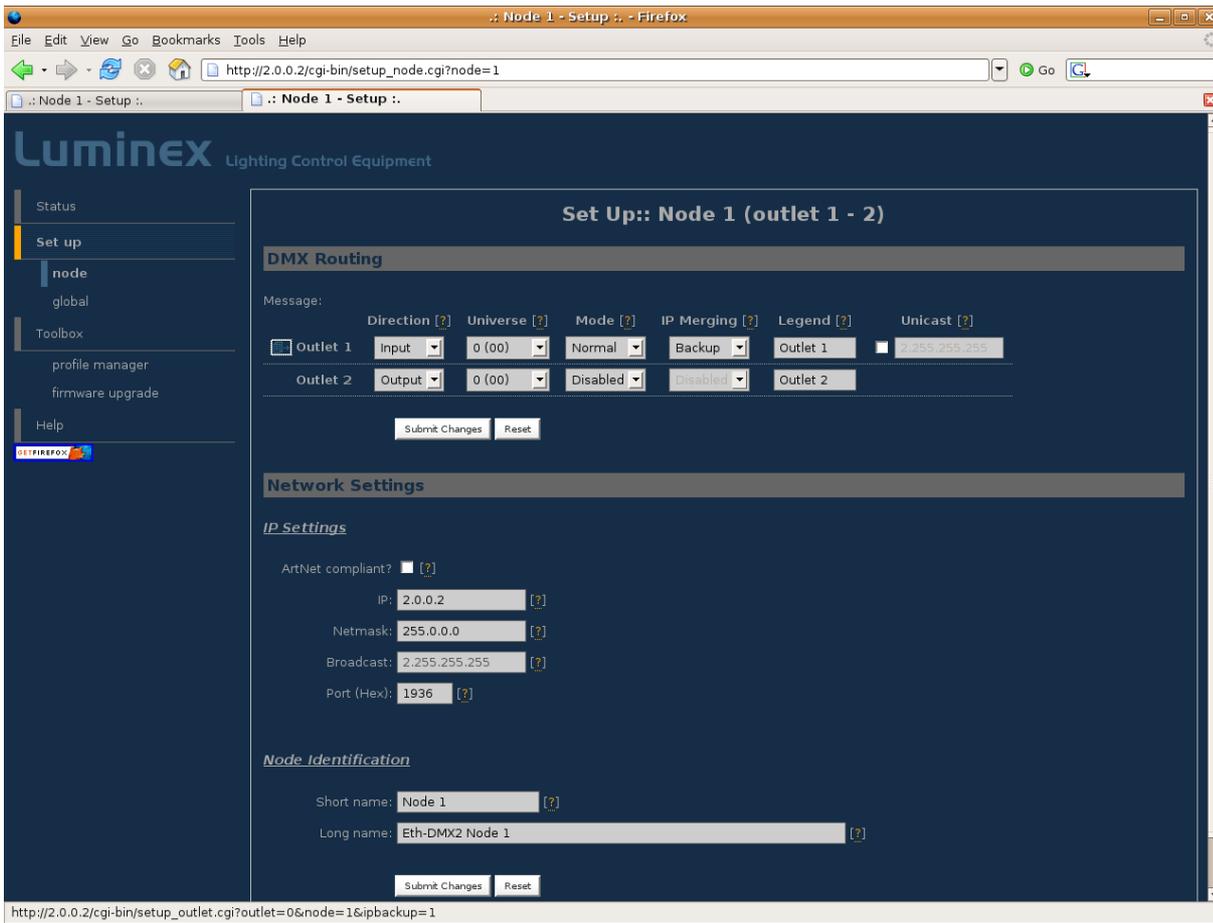


Illustration 25: Input set as IP Backup

IP triggering

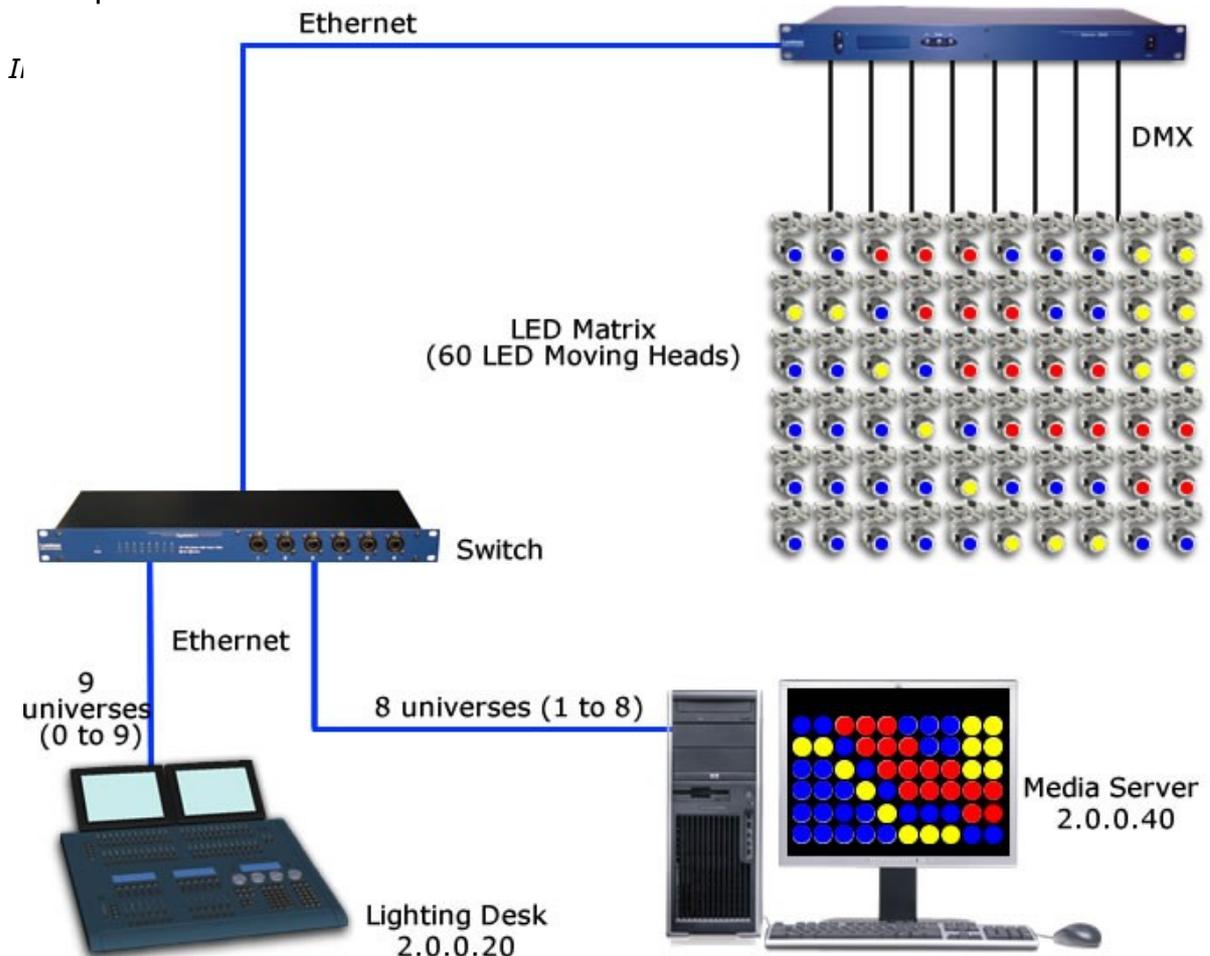
Related products : Ethernet-DMX (2/B, 2/W, 2/M, 8, 8/W, 8/T)

This setup is a very good example of the power of the Luminex devices firmware. In this configuration, a lighting desk is controlling through ArtNet a media server that maps media onto a matrix composed of 60 LED wash moving heads, also patched on the lighting desk. The aim of that setup is to be able to control from both sources the LED matrix.

If we set the LTP merging policy as the default one for the Luminex device (here a Ethernet-DMX 8), we can control PAN&TILT from the lighting desk, and colors from the media server. However, if the Media server is always streaming its values, it will be impossible to control LED wash colors from the lighting desk.

Another good example would be if you would like to use some of the LED wash lights to light a part of the scenery, while the rest of the Matrix continue to display contents of the media server.

To do so, we use the Luminex trigger feature, available in all Ethernet-DMX product.



The first step is to set all outlets of the Luminex device used as output in Custom mode (See below)

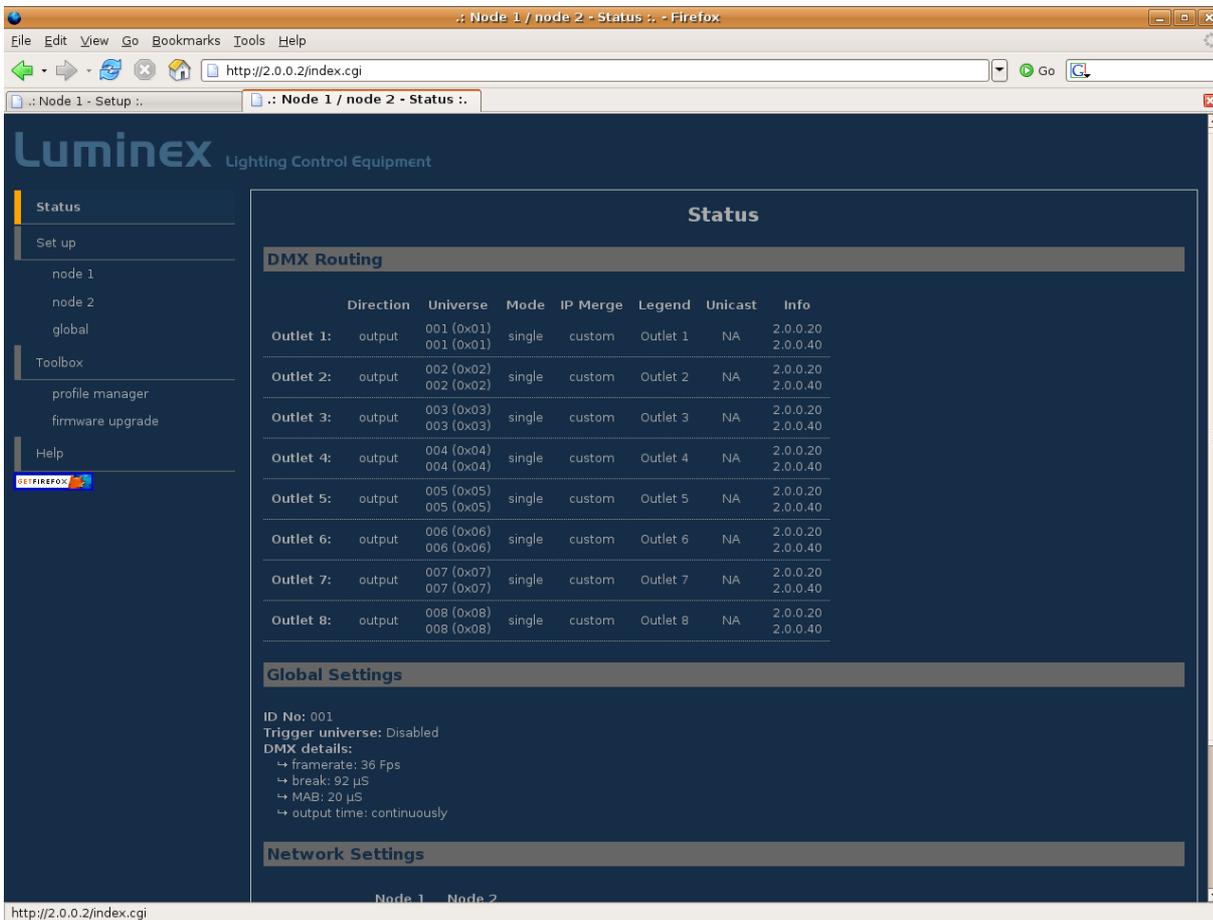


Illustration 27: All outlets set as output in Custom mode

Then, on each outlet, set the IP addresses of your two control sources (here 2.0.0.20 & 2.0.0.40).

Notice on the very right of the pop up frame (Illustration 28), the trigger field. Here you can enter the DMX channel you will use to remotely change the merging policy for all the channels of this outlet.

You will have to patch in your lighting desk or any DMX or Artnet controller the trigger channel (here N°512) in order to be able to change the merging policy of each channel controlled by this trigger channel. By changing the value of this trigger channel, you will affect the merging policy as follow :

- 0 - 7 Do nothing
- 8 - 15 Zero out
- 16 - 23 HTP merge
- 24 - 31 LTP merge
- 32 - 39 Source 1 only
- 40 - 47 Source 2 only
- 48 - 111 Reserved
- 112 - 119 Source 1 as backup
- 120 - 127 Source 2 as backup
- 128 - 255 Do nothing

When using the trigger from multiple sources (different desks), it's recommended to call "Do nothing" after you applied any values to the trigger channels. This will bring the trigger channel back to an idle state for that particular source (desk).

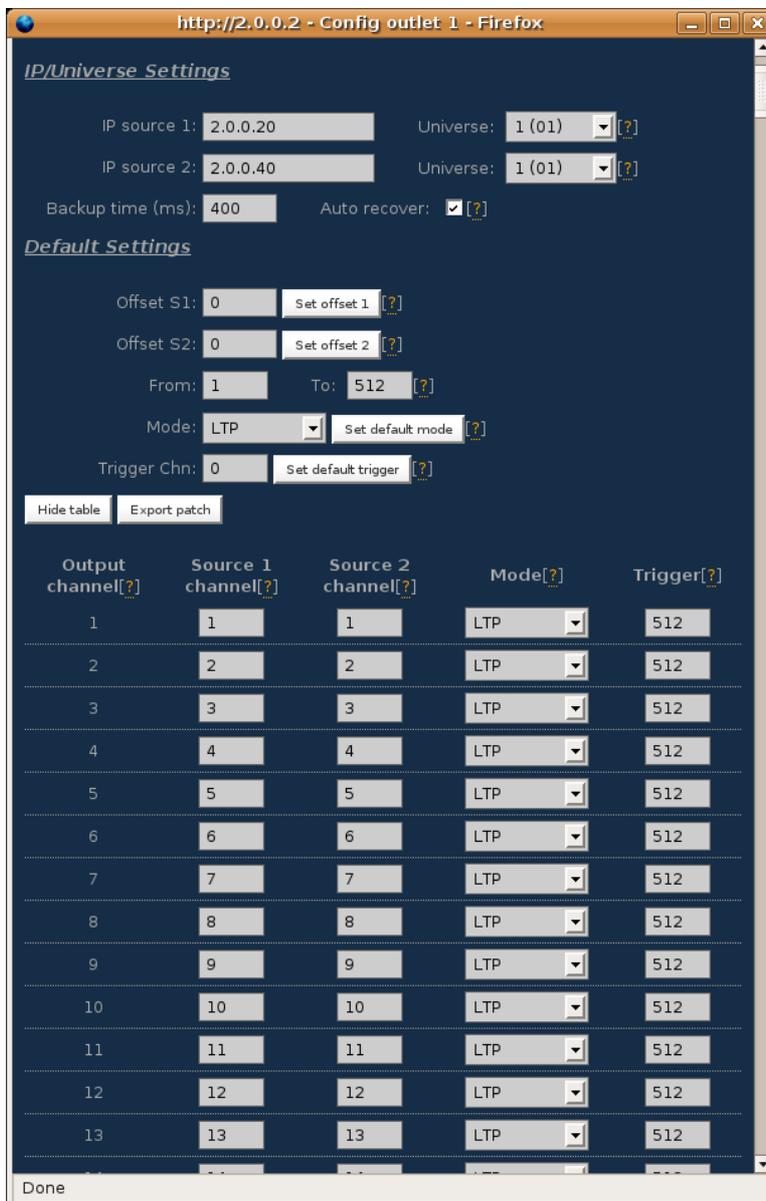


Illustration 28: Trigger channel affected

The last step is to enable the trigger universe on the Luminex device for it to listen to trigger order coming from the DMX or ArtNet source :

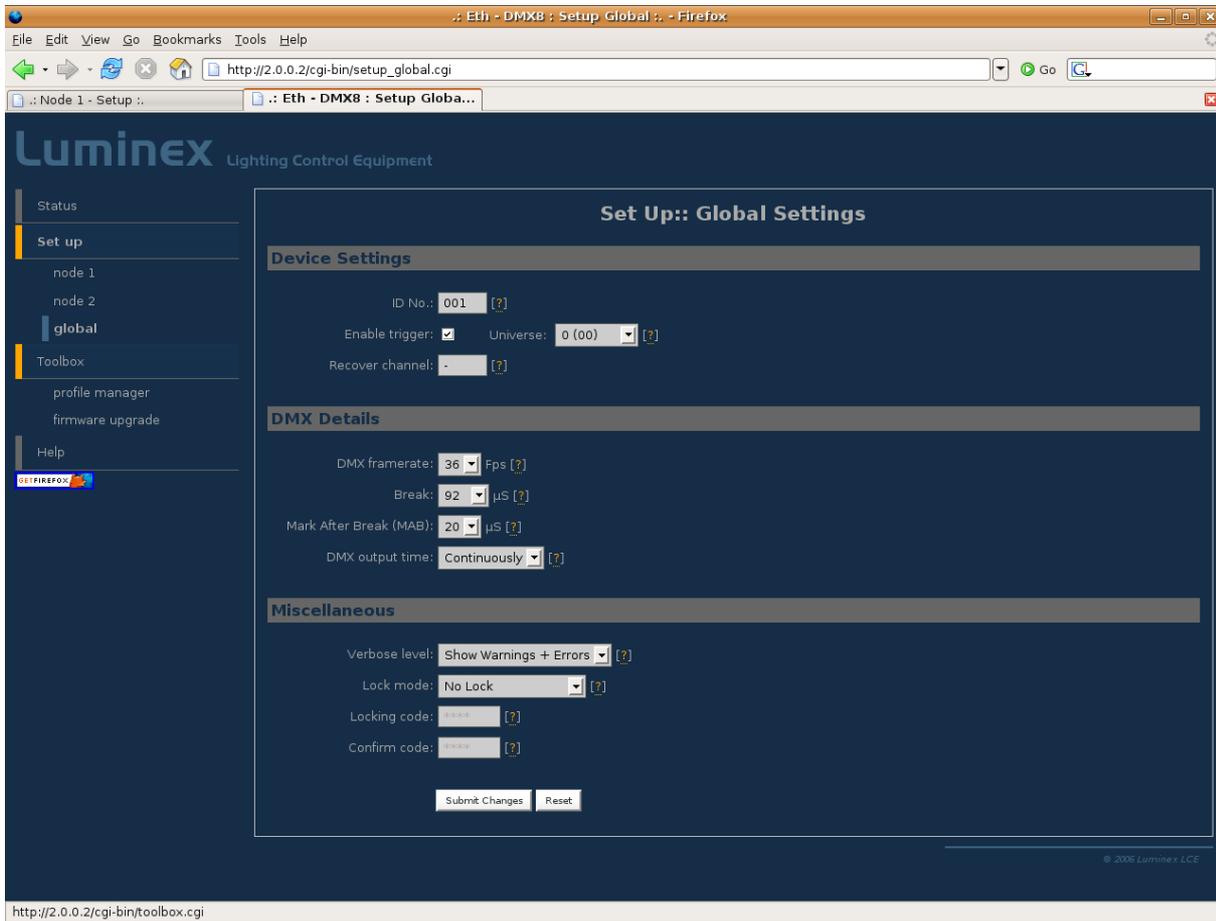


Illustration 29: Enable the trigger universe

In the case you would just like to takeover control on just a part of the LED Wash light Matrix, you just have to set a trigger channel to the channels you want to swap (by example just a part of the kit to light up the scenery).

The following screenshot (Illustration 30) shows how you can affect a trigger channel only on the desired channels.

http://2.0.0.2 - Config outlet 1 - Firefox

IP source 2: 2.0.0.40 Universe: 1 (01) [?]

Backup time (ms): 400 Auto recover: [?]

Default Settings

Offset S1: 0 Set offset 1 [?]

Offset S2: 0 Set offset 2 [?]

From: 8 To: 14 [?]

Mode: S1 Only Set default mode [?]

Trigger Chn: 512 Set default trigger [?]

Hide table Export patch

Output channel[?]	Source 1 channel[?]	Source 2 channel[?]	Mode[?]	Trigger[?]
1	1	1	LTP	-
2	2	2	LTP	-
3	3	3	LTP	-
4	4	4	LTP	-
5	5	5	LTP	-
6	6	6	LTP	-
7	7	7	LTP	-
8	8	8	S1 Only	512
9	9	9	S1 Only	512
10	10	10	S1 Only	512
11	11	11	S1 Only	512
12	12	12	S1 Only	512
13	13	13	S1 Only	512
14	14	14	S1 Only	512
15	15	15	LTP	-
16	16	16	LTP	-

Done

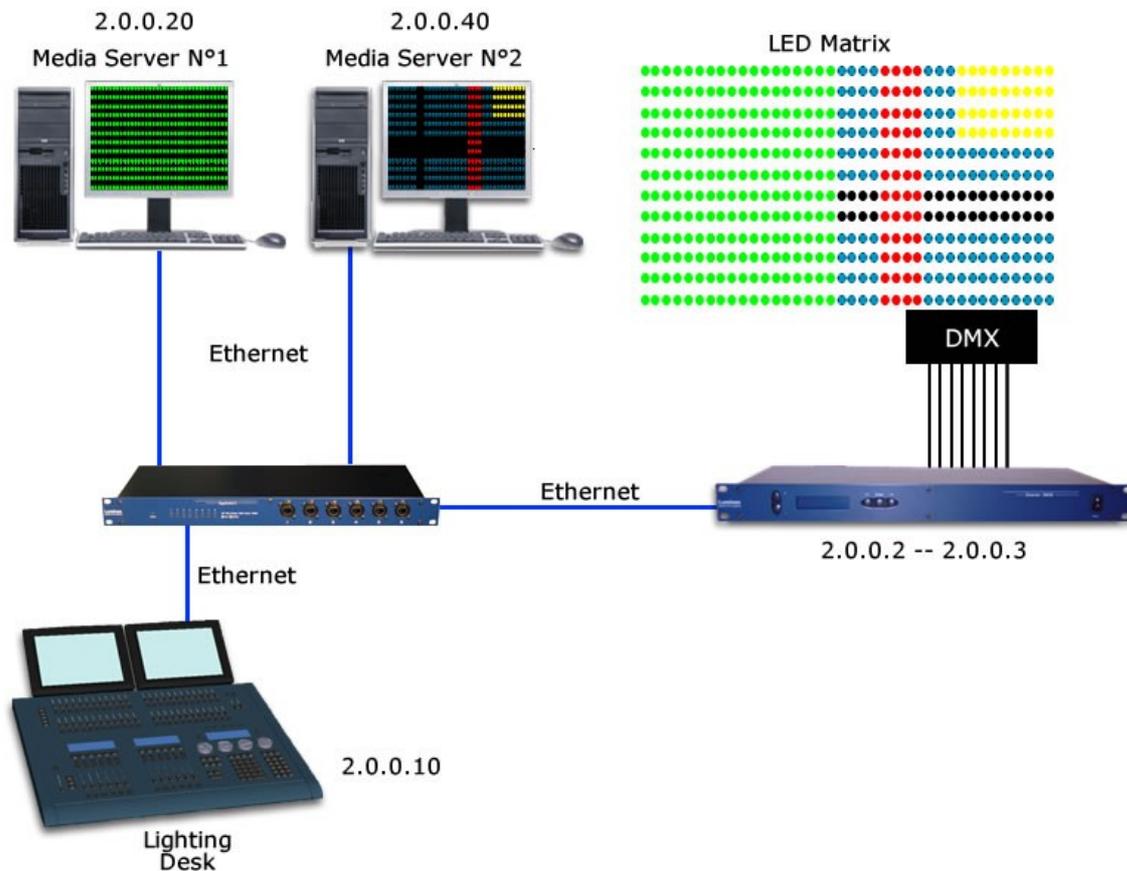
Illustration 30: Trigger channel affected on a part of channels

IP triggering with 2 media servers

Related products : [Ethernet-DMX \(2/B, 2/W, 2/M, 8, 8/W, 8/T\)](#)

The following setup is inspired from the first one, except that here we use two media servers for different reasons: the operator would like to have two different video feeds to play with, the opportunity to mix, merge and split the 2 video signals, and a backup solution for the main media server.

The Luminex device configuration is quite similar to the previous example, all outlets are set as IP merged outlet in Custom mode.



The main difference between the way of using the trigger system; here we're going to use two different trigger channels to have the opportunity to split the LED screen into two. The following screenshots (Illustration 31) illustrates perfectly the above drawing, where the two media server contents are maps on each side of the LED screen, thanks to the trigger system.

By using the different values of these trigger channels, it will thus be possible to change the merging policies and have the second media server as a backup, or merge the 2 contents directly on the wall.

http://2.0.0.2 - Config outlet 1 - Firefox

Default Settings

Offset S1: [?]

Offset S2: [?]

From: To: [?]

Mode: [?]

Trigger Chn: [?]

Output channel[?]	Source 1 channel[?]	Source 2 channel[?]	Mode[?]	Trigger[?]
1	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
2	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
3	<input type="text" value="3"/>	<input type="text" value="3"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
4	<input type="text" value="4"/>	<input type="text" value="4"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
5	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
6	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
7	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
8	<input type="text" value="8"/>	<input type="text" value="8"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
9	<input type="text" value="9"/>	<input type="text" value="9"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
10	<input type="text" value="10"/>	<input type="text" value="10"/>	<input type="text" value="S1 Only"/>	<input type="text" value="511"/>
11	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
12	<input type="text" value="12"/>	<input type="text" value="12"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
13	<input type="text" value="13"/>	<input type="text" value="13"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
14	<input type="text" value="14"/>	<input type="text" value="14"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
15	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
16	<input type="text" value="16"/>	<input type="text" value="16"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
17	<input type="text" value="17"/>	<input type="text" value="17"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>
18	<input type="text" value="18"/>	<input type="text" value="18"/>	<input type="text" value="S2 Only"/>	<input type="text" value="512"/>

Done

Range Extender

Related products : Ethernet-DMX 2/BX, 2/WX – Gigaswitch

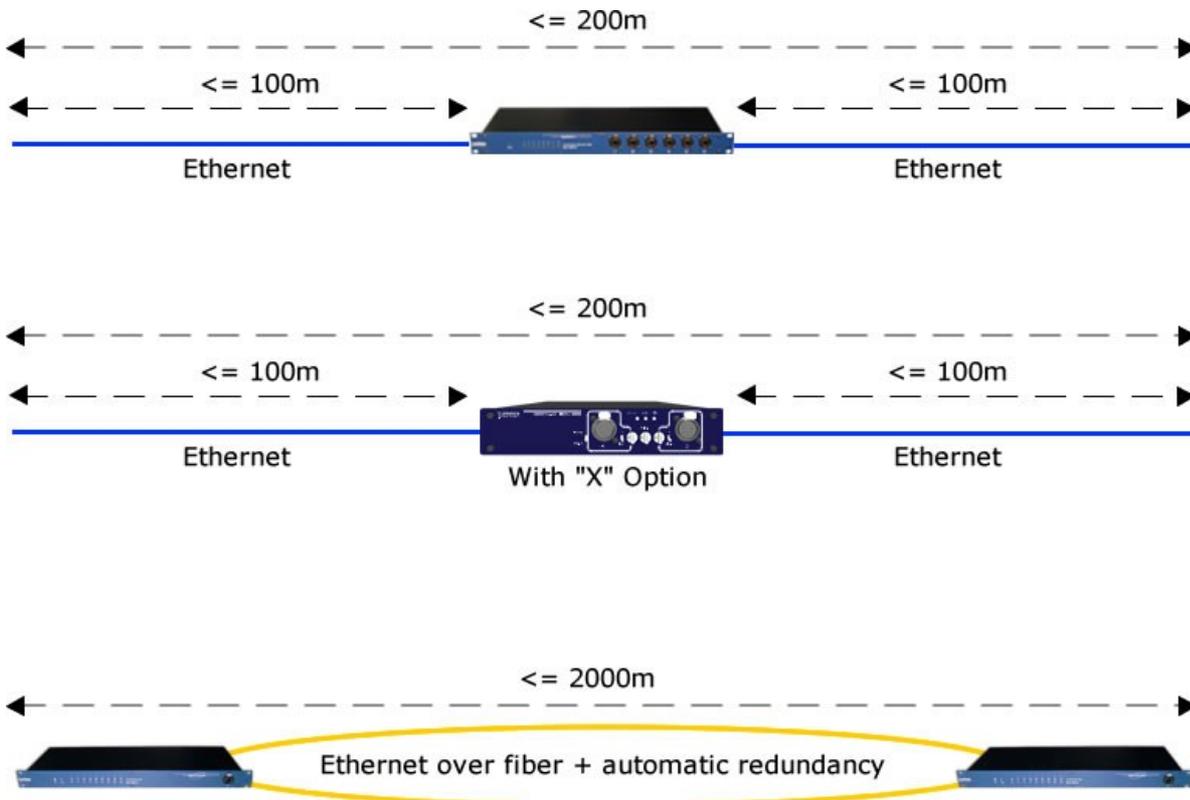
Safety Ring Switch

The Ethernet standard commonly used in the IT world or entertainment world recommend not to use Ethernet cable longer than 100m, due to the Ethernet specification. To reach further distance, several solutions can be used :

repeater : switches or repeaters can be used to extend the range of your Ethernet signal (no more than 100m between two active devices). The Luminex Gigaswitch and Safety Ring switches can be used as repeater.

The Ethernet-DMX 2/BX and Ethernet-DMX2/WX (fitted with a second Ethercon connector) can act also as repeater, and you also to stream DMX in the middle of your link !

Media converter: the media converter usually convert a single copper cable to an optical fiber to run distance bigger than 100m . The Luminex Safety Ring Switch can be use as a media converter. Moreover, this one is equipped with a built in redundancy system that offers you a ultra reliable link for your datas.



Dual Ring

Related products : [Safety Ring Switch](#)

In this example, we point out one of the biggest problem in lighting networks used in Entertainment industry : the redundancy.

The Luminex Safety Ring Switch comes with a built in redundancy system that offers you to run 2 optical fibers or copper cables between your switches to establish a backup link.

The generic setup used in lighting network is composed of two Ethernet switches (one at the F.O.H and one next to the stage).

But it can be useful sometime to have a third switch (see Illustration 32) : on stage left or right in addition to the second one, in a broadcast truck behind the stage, or in a control Room for CAD pre-encoding...

If your primary link between the FOH and stage is composed of an optical fiber, the common way would be to add the third switch into the optical ring.

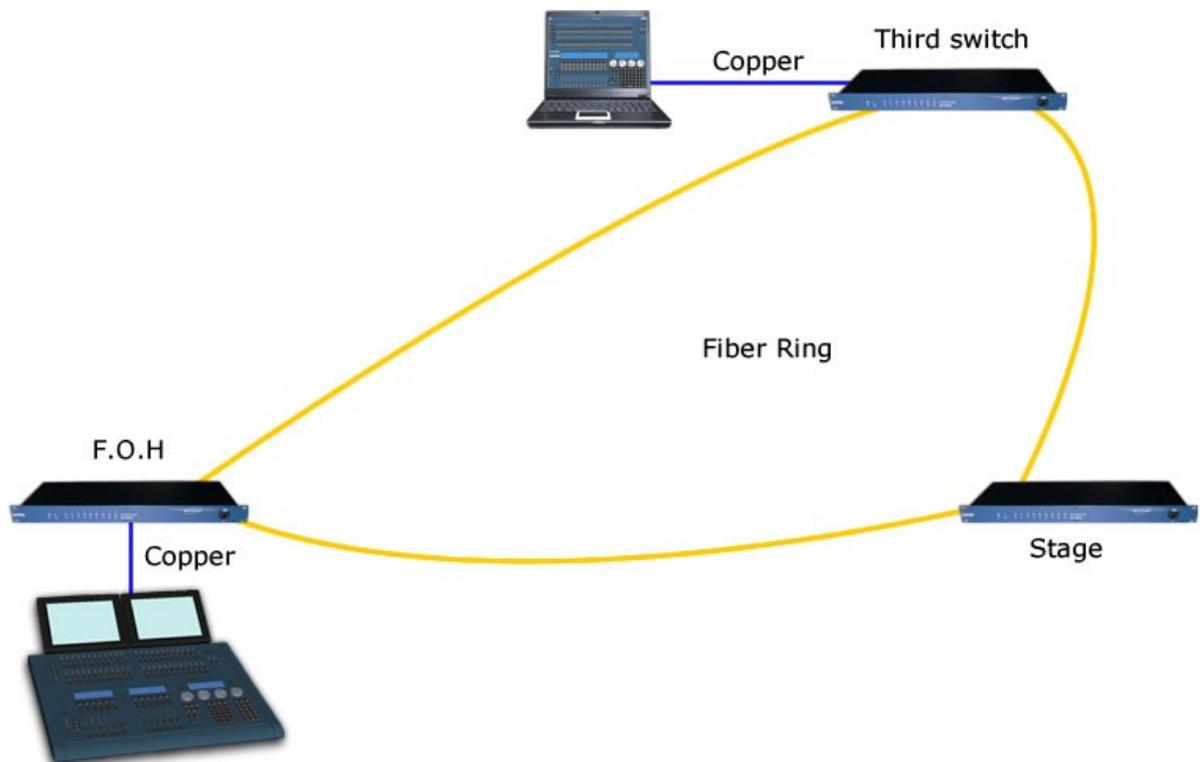


Illustration 32: Usual Ring topology

But sometimes it can be useful to only run 2 copper cables to the third switch instead of optical fiber (availability, cost....).

The Luminex Safety Ring Switch comes with a default ring enabled on ports 8&9 (optical ports) but affords you to run two rings on a single device. So you need to enable the second ring on the stage switch (see Illustration 33):

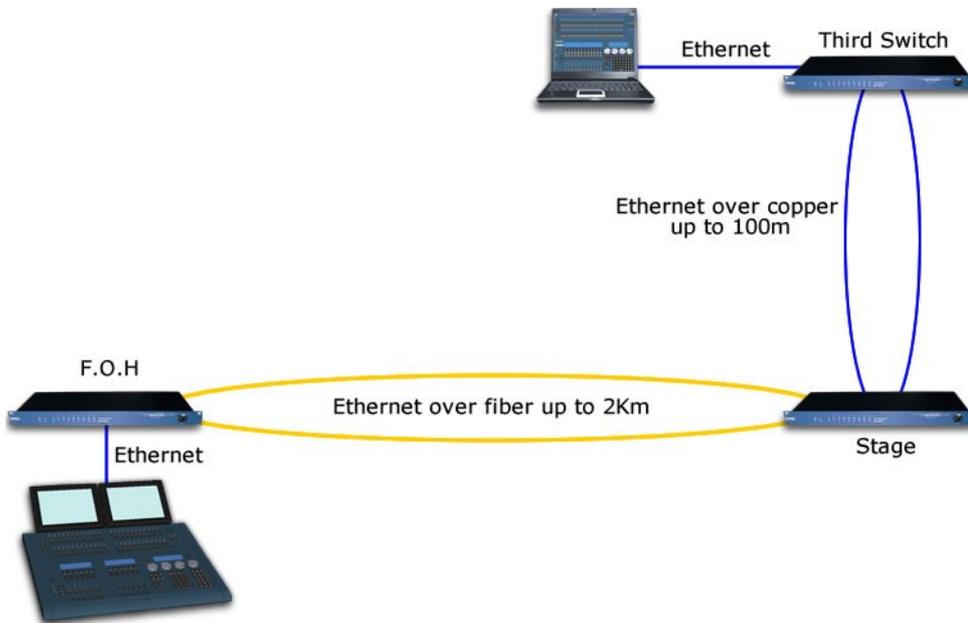


Illustration 33: Dual ring set on the stage switch

Launch the Safety Ring Switch Tool software downloadable on Luminex Website (support section), and create a new base configuration; In the ring setup section, enable the second ring on the ports of your choice (you can't choose the same ports for both rings). A small calculator indicates the maximum recovery time in case of link failure

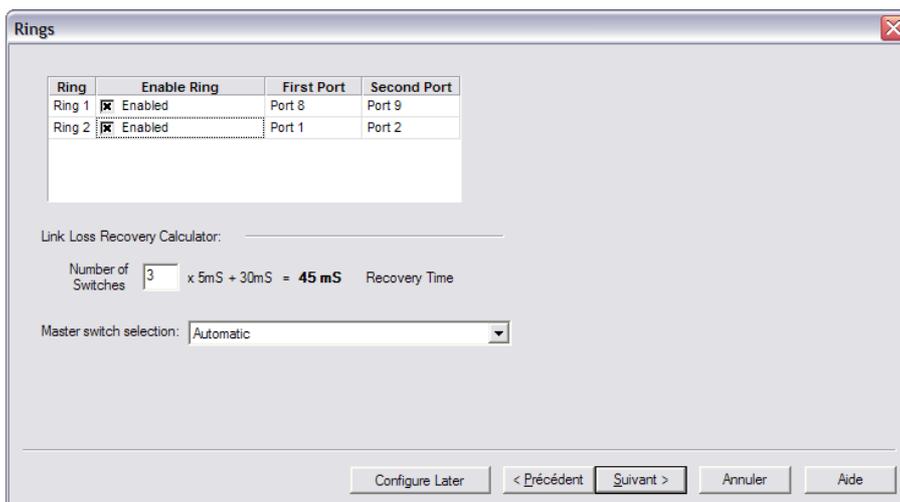


Illustration 34: Second ring enabled on stage switch

Once the base is created, load it into the stage switch. Then load this base file into the third switch to enable the ring over copper.

