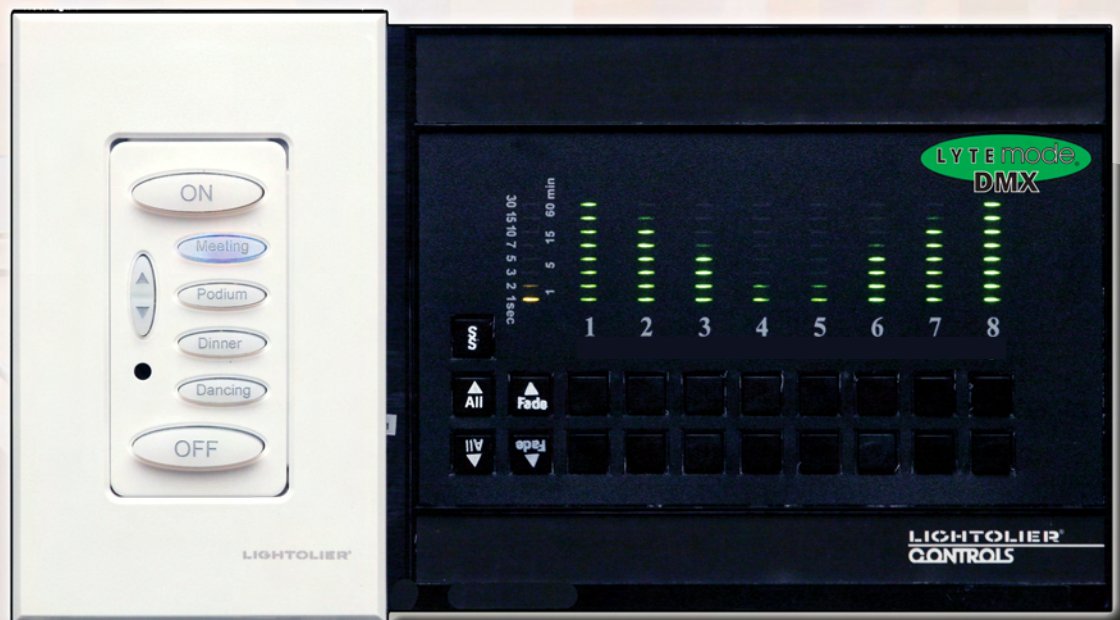


LYTE mode®

ARCHITECTURAL
LIGHTING
CONTROL
SYSTEM

DMX MASTER STATION



INCLUDES THE FOLLOWING MODELS:

ILSDMX45ES, ILSDMX85ES
ILSDMX125ES, ILSDMX165ES

USER'S GUIDE

LIGHTOLIER®
CONTROLS

www.lolcontrols.com

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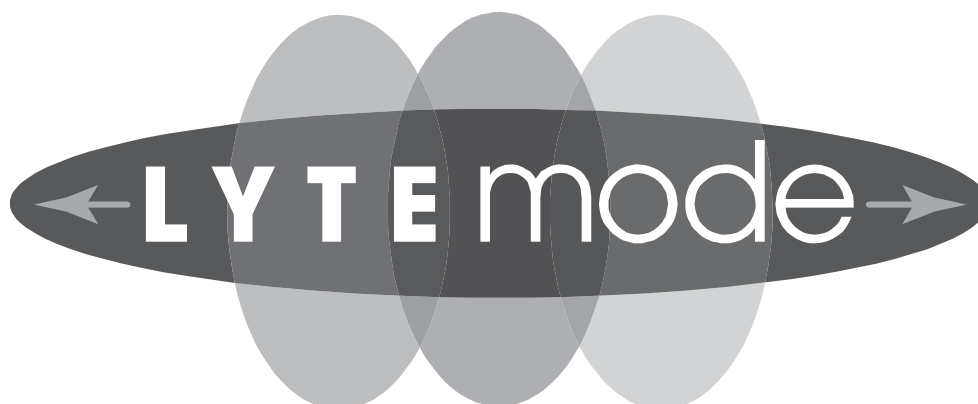
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Customer Service

Technical and Sales assistance for LYTEmode® products are available worldwide.

Phone: +1-800-526-2731 (In the United States and Canada)
 +1-214-647-7880 (Worldwide)



LYTEmode® System Overview

The LYTEmode® System is designed to control architectural lighting by distributing both power and intelligence. The system provides processing power and control at each respective Master or Remote Station, eliminating the need for a central processor. LYTEmode Master Stations provide individual channel control, 13 scenes plus “Off”, adjustable fade times, and a graphic representation of channel intensities. Multiple Master Stations may be linked together for control of up to 128 Channels and 13 preset scenes. By combining LYTEmode Master Stations with LYTEmode Remote Stations, the system provides remote access to scenes, Master Raise/Lower control, Multi-room partition control, or Master Station Lockout. LYTEmode Master Stations are easily programmed using the front panel buttons, without removing the Master Station from the wall, and without the need for a computer. LYTEmode Master Stations are compatible with both Lightolier® Controls Insulated Gate Bipolar Transistor (IGBT) Dimming Cabinets as well as Silicon Controlled Rectifier (SCR) Dimming Panels.

LYTEmode products are controlled by the Intelligent LYTEmode System (ILS) protocol. All LYTEmode control devices must be connected to the ILS system in order to interact properly, where they are distinguished by a unique ID (or address). The ID identifies the device on the network and allows the device to avoid network collisions when transmitting data.

Quick Start

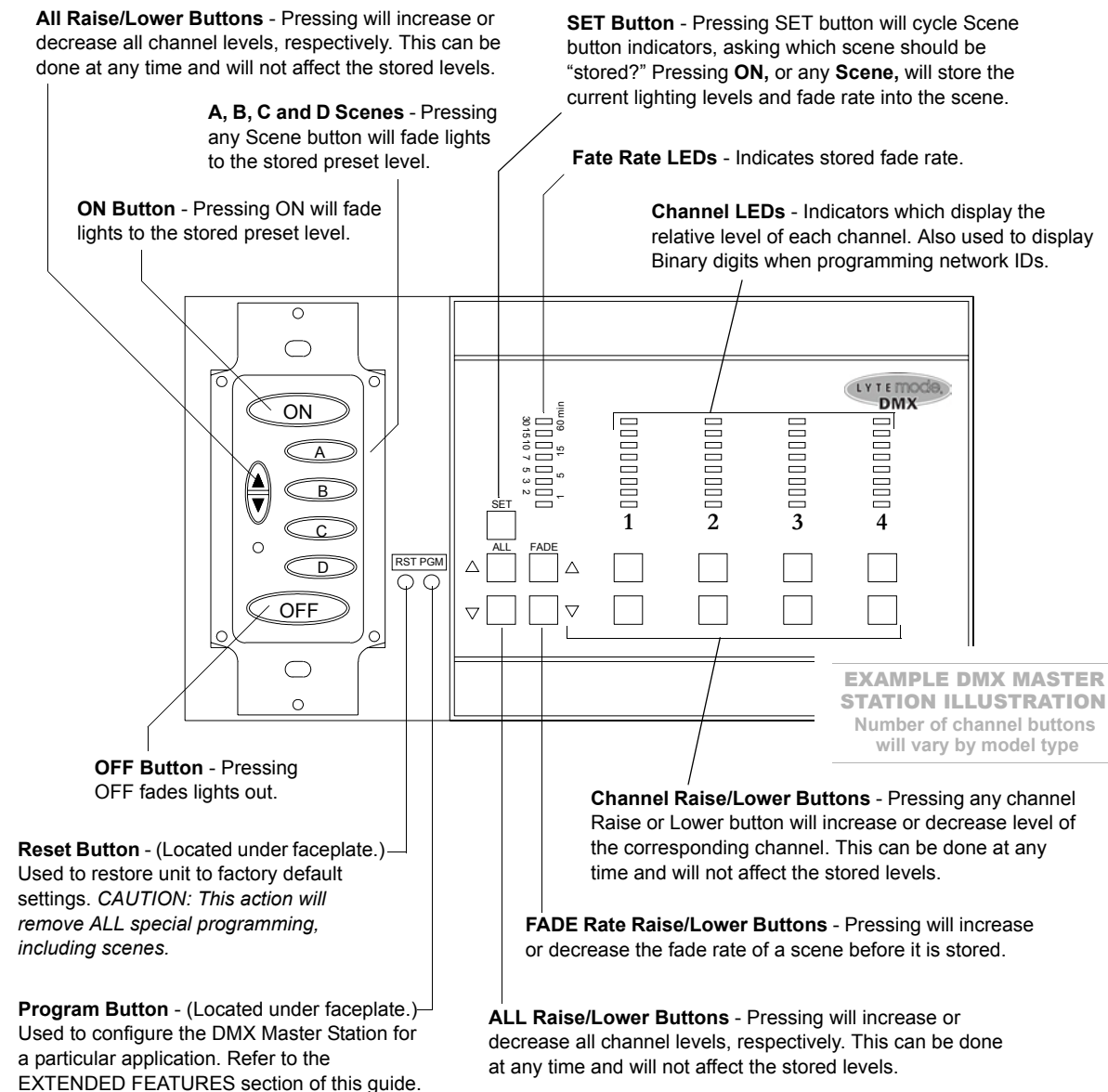
To get the DMX Master Station up and running quickly, use the following checklist:

- Step 1. Install unit (refer to ["Installation" on page 9](#)).
- Step 2. Connect to LYTEmode ILS Network (refer to ["ILS Network ID" on page 12](#)).
- Step 3. Store a scene (refer to ["Storing a Scene" on page 21](#)).

DMX Master Station Overview

The LYTEmode® DMX Master Station functions and communicates just as any standard LYTEmode Master Station, providing individual control for up to 16 channels, along with master raise/lower control for all channels. Up to eight DMX Master Stations may be linked together for control of up to 128 channels. The DMX Master Station can be controlled and configured using the LYTEscene® Touch Screen or any other device. The DMX512 functions are in parallel to the unit's LYTEmode functions, operating in one of four DMX Modes: 1) LYTEmode DMX Mode, 2) Color FX Controller Mode, 3) DMX Scene Capture Mode, and 4) DMX Submaster Capture Mode. In each mode, the unit also has the option of receiving a DMX512 signal and adding it to the transmitted DMX512 signal using Highest Takes Precedence (HTP).

The following diagram provides an overview of the DMX Master Station controls and indicators.



About DMX512

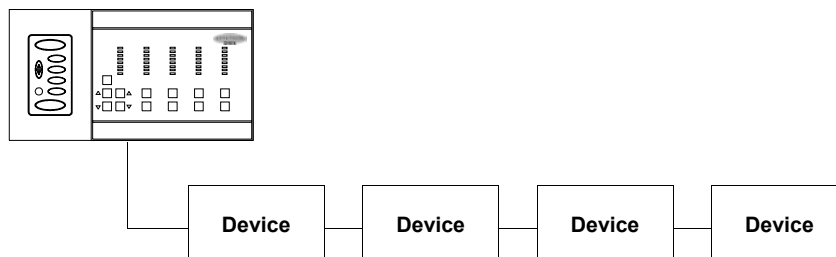
What is DMX512?

DMX512 (often shortened to simply "DMX") is a standardized digital communication signal used to interconnect different kinds of microprocessor-based lighting control equipment. It uses a special data communication cable to transmit information to the various pieces of lighting equipment (Dimmers, Color Changers, Remote Controlled Spotlights, etc.). "DMX" stands for **D**igital **M**ultiple**X**, a technique by which information for many devices may be transmitted digitally over one cable.

The messages transmitted in a DMX512 system tell the lighting equipment what to do. For example, messages might set a lamp dimmer to 80% intensity, tell a color changer to go to a blue color, or direct a moving spotlight to shine on the lead singer in a band. These messages are sent by the lighting controller.

To construct a DMX512 control system, a specialized cable must be run from the lighting controller to every controlled device in the facility. In most cases this cable will connect in a daisy-chain fashion from one device to the next until it reaches the last device in the system. When properly connected, all devices in the facility will instantly respond to commands sent from the lighting controller.

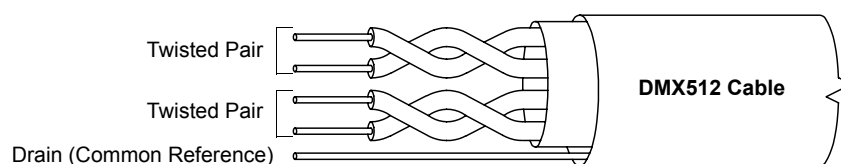
**LYTEmode® DMX
Master Station Controller**



What Electrical Signals are Used with DMX512?

DMX512 is based on an electronic signaling standard called EIA-485. Under this standard, signals are sent down a pair of wires, while an additional single wire provides a common voltage reference for the system. So, in order to create one message channel, you need three wires: the two wires in the twisted pair, and the common reference wire. If a second message channel is required, you only need to add a second twisted pair. The common reference wire can serve both pairs.

DMX512 requires two message channels, so it uses cable which contains two twisted pairs of wire, and one common wire. The common wire also serves as an electrical shield for the cable. So there are a total of five wires in a complete DMX512 cable.



In order to achieve a high degree of reliability, signals in a DMX512 cable are transmitted in a "differential" fashion. This simply means that when a signal is being sent down one wire of the twisted pair, its exact opposite is being sent down the other wire of the pair. So, when one wire of the pair swings up to +5 volts, the other wire swings down to 0 volts. The circuitry which receives DMX512 messages always looks at the difference between the voltages on these two wires, rather than at their actual voltages, and so is far less sensitive to electrical noise which might be picked up from the outside world.

The five signals in a DMX512 system have specific names to help keep them sorted. These names are descriptive of their function in the DMX512 system.

Signal Name	Symbol	Function
Common	COM	The common reference for the DMX512 system. Also the shield for the cable.
DMX512 -	D1 -	The inverted copy of the signal on the first twisted pair.
DMX512 +	D1 +	The non-inverted copy of the signal on the first twisted pair.
TALK -	D2 -	The inverted copy of the signal on the second twisted pair.
TALK +	D2 +	The non-inverted copy of the signal on the second twisted pair.

As you can see, it is very important that all of the signals be correctly hooked up in the DMX512 system. If DMX512 - and DMX512 + get swapped, the DMX512 messages will be transmitted upside down, so to speak, and the receiving equipment will not know what to do with them!

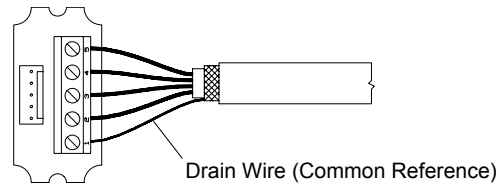
This is a place where a little extra attention during system installation will pay off in a reliable system which works perfectly from the beginning. It can be extremely time consuming to track down one wrong connection after all of your boxes have been closed.

What Kind of Cables are Used in a DMX512 System?

For a variety of reasons, which are too technical to discuss here, DMX512 is very sensitive to the kind of cable which is used. Not all computer cable is the same and using the wrong kind may cause the DMX512 system to be unreliable. The key is to find a cable which is rated by its manufacturer for use in an EIA-485 application. The following table lists some commonly available cables which are suitable for DMX512. You may also find others, but DON'T USE GENERIC SUBSTITUTIONS; they will cause trouble!

Manufacturer	Type
Alpha	3492C
Belden	8132
Belden	9842
Carol/General	C0500
Olflex	2318
TMB	Proplex

Most of these cables have an uninsulated, stranded wire laid in directly underneath the shield. This wire is called the Drain wire and it simplifies connections to the shield. When stripping the jacketing off the cable, the shield can be clipped back as well. The Drain wire is then the same length as the insulated conductors, and can be easily terminated.



Note: Plenum rated wire **MUST** strictly meet the EIA-485 requirements.

There are several wiring color codes in common use. The following table summarizes those which you may find:

DMX512 Signal Name	Symbol	Western Electric Color Code	ICEA Color Code	Belden Standard Color Code
Common	COM	Drain	Drain	Drain
DMX512 -	D1 -	White w/ Blue Stripe	Black	Black
DMX512 +	D1 +	Blue w/ White Stripe	White	Red
TALK -	D2 -	White w/ Orange Stripe	Red	Black
TALK +	D2 +	Orange w/ White Stripe	Green	White

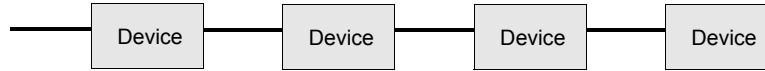
There are a couple of mistakes which are often made in the field when connecting this type of wire. These are as follows:

- Some cables which use the Western Electric color code have stripes which are almost the same width as the base color. If you are using one of these, you may find it difficult to distinguish which color is the stripe. If you can't tell in any other way, look at the actual color values. The base color is usually a little duller than the stripe because it is dyed into the plastic insulation. The stripe is usually shiny and more vivid because it is a paint applied to the finished wire.
- If you are using a cable which has a Black & Red pair and a Black & White pair, you must be extremely careful to distinguish between the two black wires! They **CANNOT** be interchanged!

How are Cable Runs Laid Out?

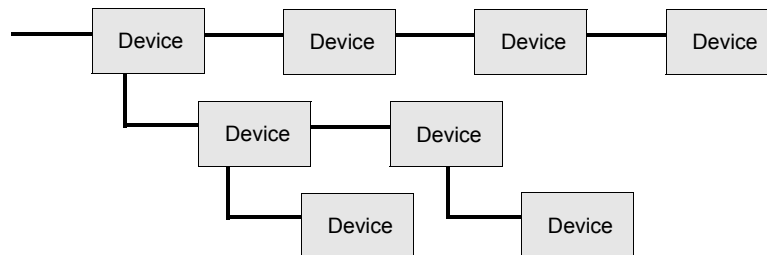
All devices in a DMX512 system must be connected in a daisy chain fashion. This means that one cable runs from the controller to the first device in the system, another cable runs from the first device to the second device, and so on until the last device in the system is reached.

Correct



It is not permissible to have branching runs, stub runs, or "WYE" cable splitters.

Incorrect!



The reasons for this rule are highly technical, but if you ignore it, your system will have mysterious glitches and unreliable operation.

In addition, all DMX512 systems must be terminated at the far end of the cable run. Terminations are simply resistors connected across each wire pair which absorb all the energy in the DMX512 signal and prevent it from reflecting back into the cable. Most products have terminating resistors built in, along with a switch which may be used to connect them when needed (refer to specific product guides to verify whether termination is built-in or must be provided). Occasionally, termination will be permanently installed on a wiring run. This will be discussed a little later.

When a lighting system is completely hooked up with portable cable, the daisy chain configuration is immediately obvious. You can see the first cable run from the controller to the first device, and the second cable run from the first device to the second device, etc. The last device on the cable is the one which terminates the wiring run.

However, when most of the cable is inside conduit, the daisy chain is much harder to see. In this case, short jumper cables run from each DMX512 device (including the controller) to convenient wall plates with DMX512 receptacles. Wire inside the conduit runs from plate to plate making the necessary connections. The end result is that all of the devices are simply connected to the nearest receptacle plate and the actual layout of the cable is invisible.



CAUTION: Do not install DMX512 wiring in the same conduits or boxes as 120 VAC wiring! If boxes must be shared, they must have solid compartment barriers which are approved by the local authority.

Installation

Connections Overview

Power

The DMX Master Station can be powered through the AC IN 3-pin connector that mates to a LYTEmode® CLB8 backbox (ordered separately). When powered through the AC IN connector, the unit can provide enough power output to its ILS Network 9-pin connector (approximately 18 volts) to power up to eight LYTEmode Remote Stations.

The DMX Master Station can also be powered from the ILS Network (24V). It represents the same loading as a standard LYTEmode Master Station.

The DMX Master Station can be connected to both power sources. Because of diode protection, the 24V source will be used to power the unit even if the AC IN source is available.

ILS Network

The LYTEmode ILS Network is connected to the DMX Master Station via the standard ILS 9-pin connector.

DMX IN

DMX512 IN is received through a 5-pin connector (only pins 1, 2 and 3 are active). DMX IN is connected to the DMX Master Station through an electrically isolated receiver. DMX IN is capable of receiving all DMX512 valid timings.

DMX OUT

DMX512 OUT is transmitted through a 5-pin connector (only pins 1, 2 and 3 are active). DMX OUT is connected to the DMX Master Station through an electrically isolated transmitter. DMX OUT will transmit 35 to 38 DMX512 packets per second.

Expansion Port

The Expansion Port is a 16-pin connector used for input of AV devices in order to control the DMX Master Station. Refer to ["Appendix B: Expansion Port Dry Contact Inputs" on page 40](#) for more information.

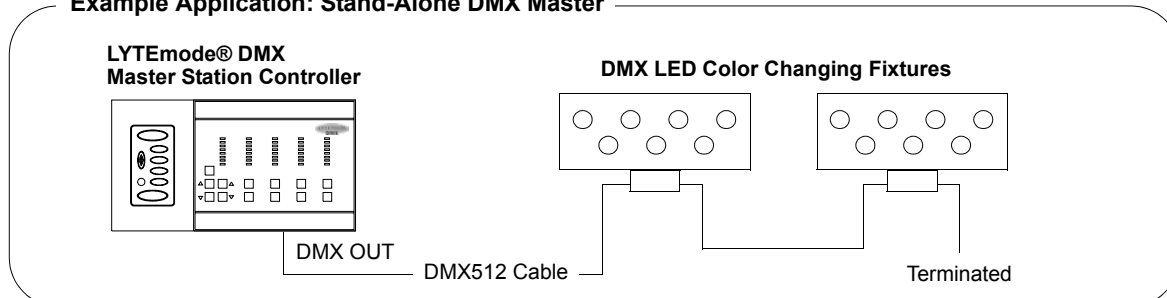
DMX Relays

Relays are used to route and terminate the DMX IN and DMX OUT signals. (When the unit is receiving no power, the relays are off.) The routing is DMX IN to DMX OUT (DMX THRU) with no terminations. Once the unit powers up and the relays are energized, the DMX IN is electrically isolated from the DMX OUT signals. Both are terminated with a 120 ohm resistor. When energized, pin 1 of the DMX OUT connector is disconnected from pin 1 of the DMX IN connector and is connected to the green chassis ground wire. DMX pins 4 and 5 are connected directly to DMX OUT pins 4 and 5 at all times.

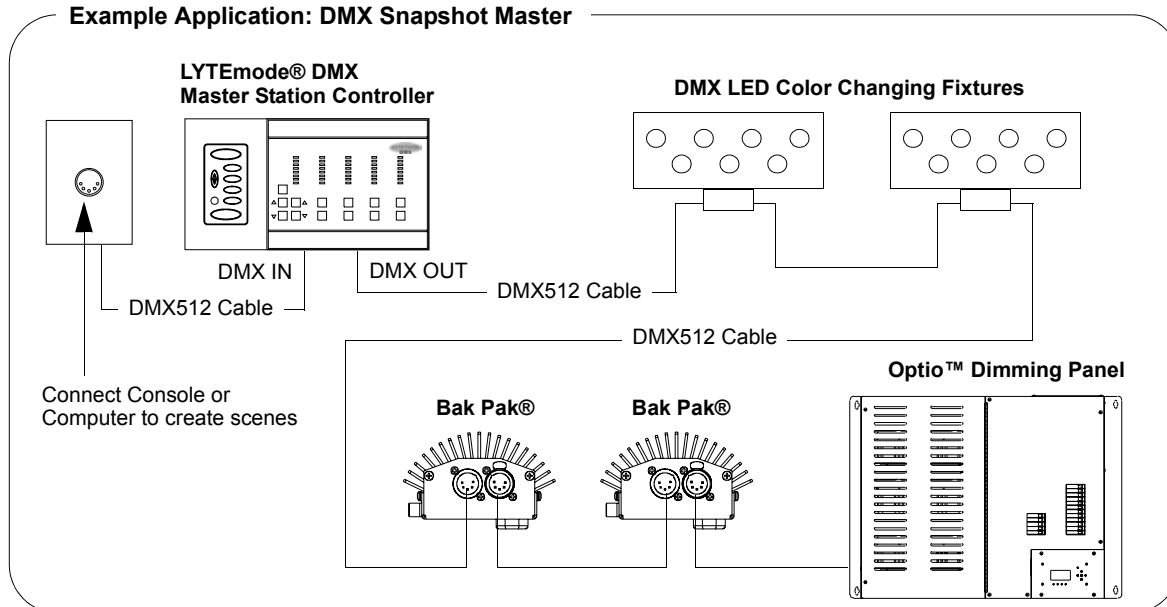
Example Applications

The following diagrams illustrate example applications.

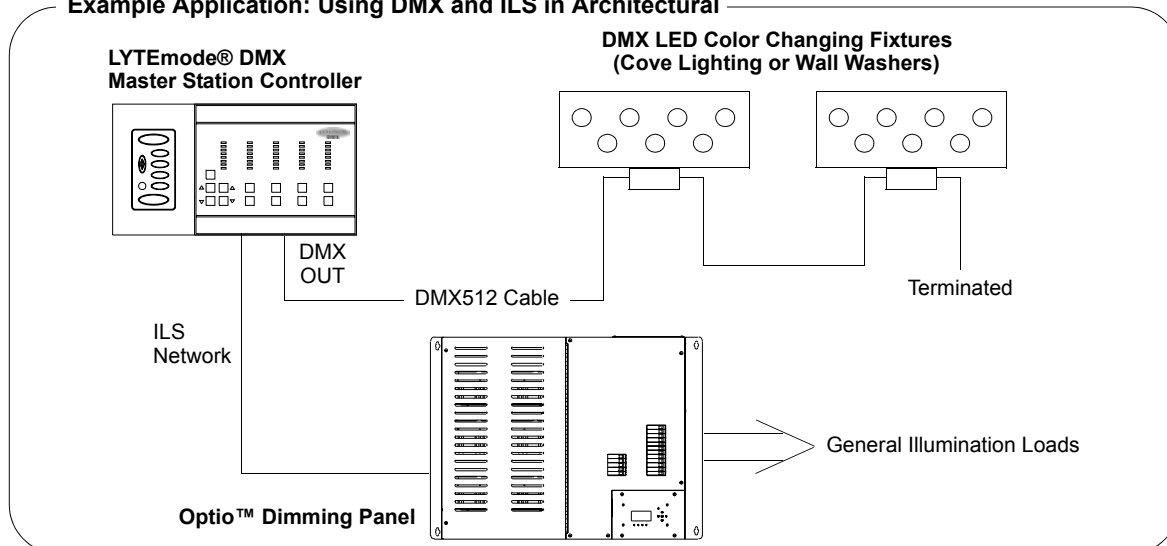
Example Application: Stand-Alone DMX Master



Example Application: DMX Snapshot Master



Example Application: Using DMX and ILS in Architectural

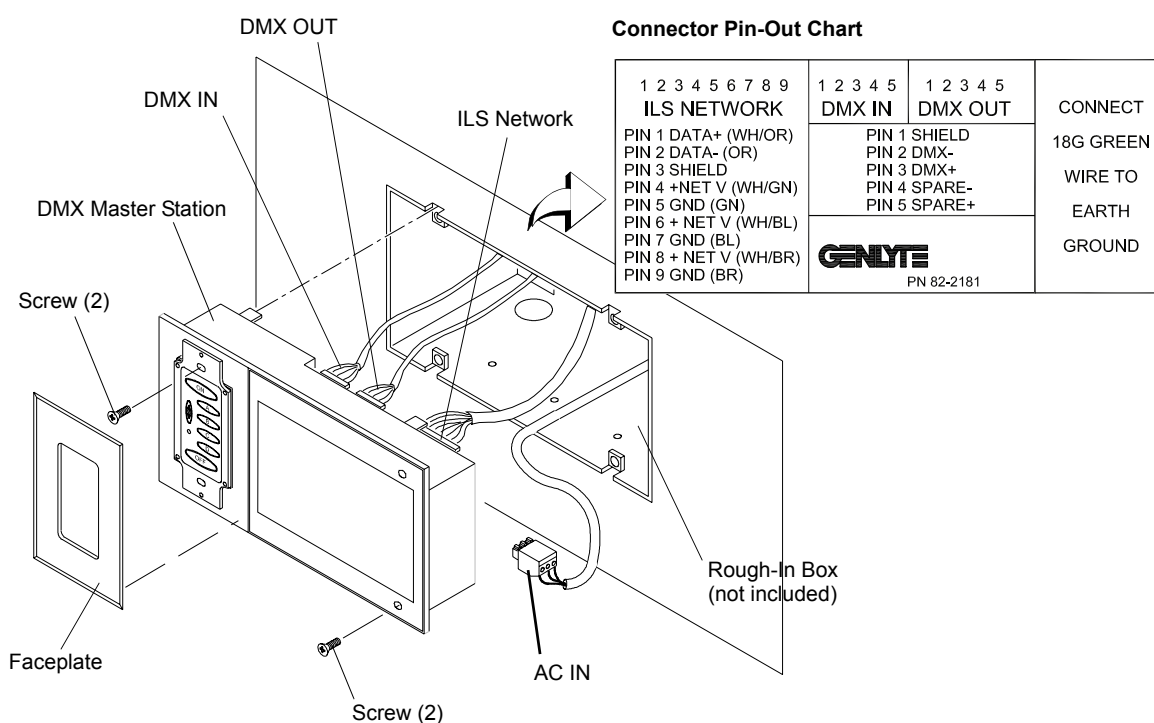


Installation Procedure

The LYTEmode® DMX Master Station shall be installed in the rough-in box (ordered separately). Instructions for installing the rough-in box are included with that component.

To install:

- Step 1. Unpack unit and inspect for any signs of shipping damage.
- Step 2. At back of DMX Master Station, connect connect cables labeled ILS Network (9-pin connector) and DMX IN and OUT (5-pin connectors).
- Step 3. Connect AC IN 3-pin connector (refer to ["Power" on page 9](#)).
- Step 4. Connect Green wire to earth ground.



- Step 5. Carefully insert DMX Master Station into rough-in box (not included). Secure with four supplied mounting screws.
- Step 6. Snap faceplate into place.

Note: If you wish to program any special functions (including Non Dim), refer to ["Extended Features" on page 28](#) before proceeding.

ILS Network ID

The following procedures only need to be performed when connecting the LYTEmode® DMX Master Station to a LYTEmode ILS Network or LYTEmode ILS remotes and accessories.

Guidelines

LYTEmode products are controlled by the Intelligent LYTEmode System (ILS) protocol. All LYTEmode ILS devices must be given an ID (or address), which identifies the device on the network and allows it to avoid network collisions when transmitting data. Standard IDs are in the range of 1 to 255. An ID of 0 will disable the unit and prevent it from transmitting on the network.

IDs are typically unique. For example, an ILS Master will require a unique ID to allow dimmers to track its channel levels. However, ILS Remotes should be given the same ID as the ILS Master it controls. ILS Remotes rely on the fact that they are manually triggered to avoid network collisions with other ILS Remotes having the same ID.

A Sub-ID is required when adding additional devices in order to expand the channel capacity. (Refer to ["Channel Expansion" on page 15.](#))

The following table provides guidelines for addressing:

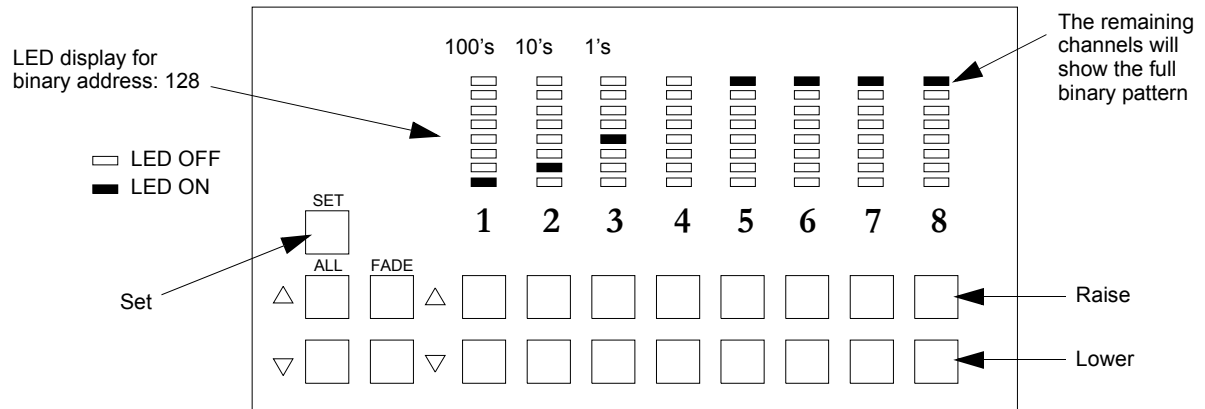
Device	ID	Sub-ID	Devices / ID	Remotely Polled?	Notes *
Remote	1-255	0	Multiple	No	1
Two Button Remote	Auto	0	n/a	No	4
Global Remote	1-255	0	Multiple	No	2
Remote Keypad	1-255	0-7	1	Yes	3
Remote I/O	1-255	0-7	1	Yes	3
Room Combine	1-255	0	1	Yes	3
Mini-Master	1-255	0-7	1	Yes	3
Master	1-255	0-7	1	Yes	3
RS-232 Port	Auto	0	n/a	No	4
Smart Matrix Dimmer Rack	1-255	n/a	1	Yes	3

- * 1 – Matches ILS Master ID.
- 2 – ILS Masters must be programmed to accept.
- 3 – Will respond to Remote Polls, Status Requests and Commands.
- 4 – Unit uses a self generated ID

Note: Refer to the instructions included with your particular dimmer device(s) in order to set corresponding dimmer control IDs.

Binary Numbering

IDs are programmed using the binary (base 2) numbering system. Channels 1-3 LEDs display the binary value in order to set the ID. The LED's represent the 100's, 10's and 1's digits respectively, and are read from bottom to top when facing the unit. For example, an address of 128 would be displayed as follows:



Because the highest possible address is 255, the 100's digit will only display a value of either 1 or 2. The 10's and 1's digits will display a value up to 9, incrementing to the next highest place when 9 is reached. Refer to the follow chart for determining the numerical equivalent of the LED readout:

Binary Representation of Numbers 0-9

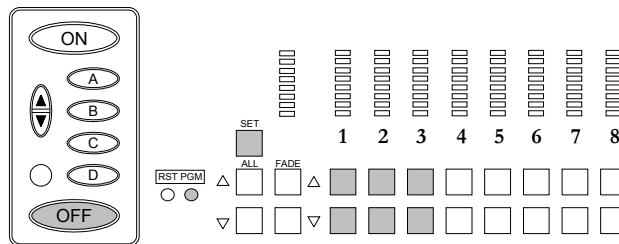
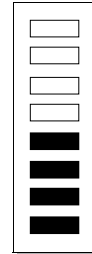
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LED Readout:	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Numerical Equivalent:	0	1	2	3	4	5	6	7	8	9	

Setting ILS Network ID

To Set the ID:

- Step 1. Remove faceplate surrounding scene buttons. The **Program (PGM)** button is located under the faceplate and requires the stylus in order to activate.
- Step 2. Using stylus, press and hold **Program** button while pressing **OFF**. Verify that bottom four lights of Fade Rate Indicator are on (glowing amber).
- Step 3. Use **Raise/Lower** buttons for first three channels (100's, 10's and 1's digits respectively) to set ID. **Raise** button will increment ID value and **Lower** will decrement ID value.
- Step 4. Press **Set** button to store ID into memory and exit.

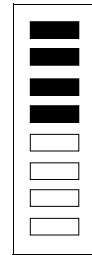
Indication on Fade Rate Display



Setting Sub-ID

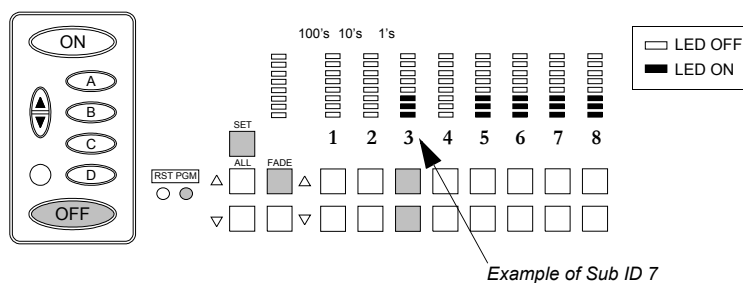
A Sub-ID is required when adding additional devices in order to expand the channel capacity. (Refer to "[Channel Expansion](#)" on page 15.)

Indication on Fade Rate Display



To Set Sub-ID:

- Step 1. Using stylus, press and hold **Program** button while pressing **OFF**.
- Step 2. Press **Fade Rate Up** button.
- Step 3. Use Channel 3 **Raise/Lower** button to set Sub-ID. **Raise** button will increment ID value and **Lower** will decrement ID value. (Sub-ID will range from 0 to 7.)
- Step 4. Press **Set** button to store ID into memory and exit.

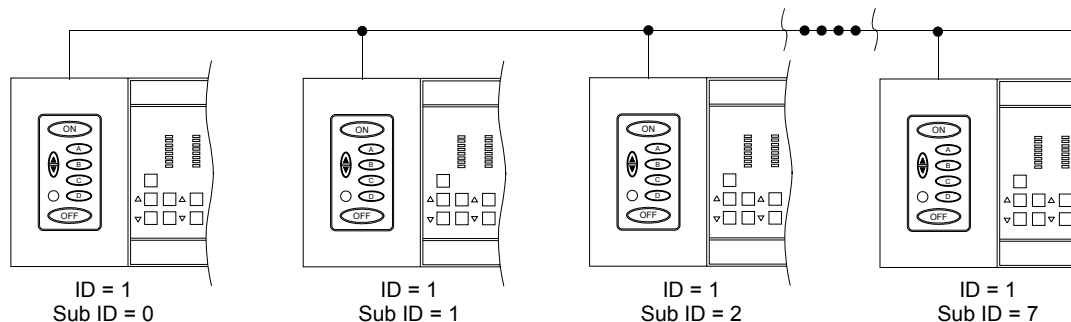


Channel Expansion

Up to eight DMX Master Stations can be linked together to increase the total number of channels. All buttons will mimic on both panels, except Channel Raise and Channel Lower. In order to function, programming must be done at each DMX Master Station. *Note:* This will not work for Remotes that have been locked out. Refer to ["Panel/Remote Lock" on page 30](#).

To add channels:

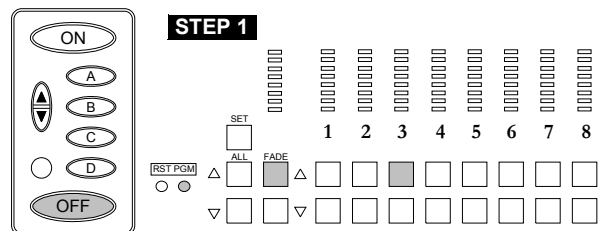
- Step 1. Install all units, connecting each to the LYTEmode® ILS Network. Refer to ["Installation" on page 9](#).
- Step 2. At each Master Station, set Network ID. Refer to ["Setting ILS Network ID" on page 14](#).
- Step 3. At each Master Station, set Sub-ID. Refer to ["Setting Sub-ID" on page 14](#).



Example: Set up two DMX Master Stations for channel expansion.

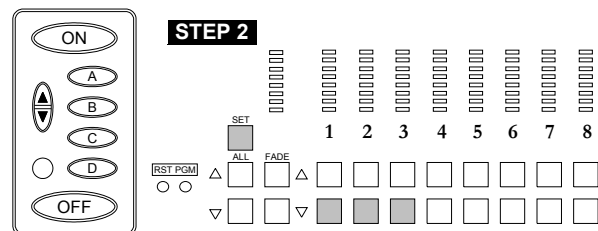
At first DMX Master Station:

- Step 1. Press and hold **Program** while pressing **OFF**.
- Step 2. Press **Channel 3 Raise** one time (ID = 1).
- Step 3. Press **Fade Rate Raise**.
- Step 4. Press **Channels 1, 2 and 3 Lower** until all LEDs are out (Sub ID = 0).
- Step 5. Press **Set** to save and exit.



At second DMX Master Station:

- Step 1. Press and hold **Program** while pressing **OFF**.
- Step 2. Press **Channel 3 Raise** one time (ID = 1).
- Step 3. Press **Fade Rate Raise**.
- Step 4. Press **Channels 1, 2 and 3 Lower** until all LEDs are out (Sub ID = 0).
- Step 5. Press **Channel 3 Raise** one time (Sub ID = 1).
- Step 6. Press **Set** to save and exit.



DMX Modes and Options

The LYTEmode® DMX Master Station is capable of operating in four different modes. In each mode, the unit also has the option of receiving a DMX512 signal and adding it to the transmitted DMX512 signal using Highest Takes Precedence (HTP).

LYTEmode® DMX Mode

This mode is used to map the 4, 8, 12, or 16 LYTEmode channels into the DMX transmitted signal. The Channel to DMX mapping can be anywhere from slot 1 to slot 509/505/501/497 (4/8/12/16 channel). Any slot not linked to an LYTEmode Channel will be set to 0. In this mode, the DMX dimmers will function the same as LYTEmode or Capiio Dimmers.

Color FX™ Controller Mode

This mode is used to map the 4, 8, 12, or 16 LYTEmode channels into the DMX512 transmitted signal in a mapping that is compatible with the Color FX fixtures (available from Entertainment Technology). The Channel to DMX mapping can be anywhere from slot 1 to slot 489/465/441/417 (4/8/12/16 channel). Any slot not linked to Color FX will be set to 0. In this mode, the channels are used to set the color and intensity of the lamp.

DMX Scene Capture Mode

This mode is used to capture a DMX signal (all 512 levels) and assign it to one of the 13 scenes (ON, A-L). OFF will always set the DMX transmitted signal to 0. The LYTEmode Channel Levels and Fade Rates are also recorded when any scene is learned. If no DMX IN signal is present or the unit is not set to DMX THRU when a Set button is pressed, only the LYTEmode Channel Levels and Fade Rate will be updated (the last DMX captured scene will not be affected). The Master channel levels (LED bars) have no relationship to a DMX captured scene. While DMX captured scenes can fade from one scene to another there is no provision for Master Raise or Lower functions.

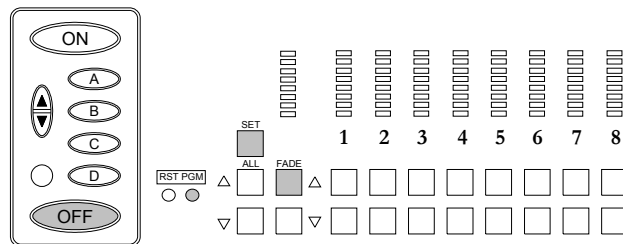
DMX Submaster Capture Mode

This mode is used to capture a DMX512 signal (all 512 levels) and assign it to one of the channels (1-16). The channel level can then be used to layer in its captured look with all other channels to create the final transmitted DMX512 signal. The OFF scene will always set the DMX Output Buffer to 0's. The LYTEmode Channel levels (Submaster levels) and Fade Rates are recorded for each scene as a normal LYTEmode Master.

DMX Modes and Options Setup

The DMX Modes and Options can be accessed as follows:

- Step 1. Press and hold **Program** and tap **OFF** (ILS Address Mode). The bottom four Fade Rate LEDs will turn On.
- Step 2. Press **Fade Rate Raise** (ILS Sub ID Mode). Top four Fade Rate LEDs will turn On.
- Step 3. Press **Fade Rate Raise** a second time (DMX Mode and Options). Top three and bottom three Fade Rate LEDs will turn On.
- Step 4. Set DMX Modes, Options, and Channel to DMX Mapping. (Refer to following sections.)
- Step 5. To Exit and Save the Modes and Options, press **Set** button.



Once in step 4, the DMX parameters can be set as follows:

Note: Button On indicates button LED is on solid (not blinking).

DMX Modes

Press **ON** and **A** buttons to select the following DMX Modes:

- **LYTEmode® DMX Mode** - ON button On, A button On.
The Channel to DMX Mapping is set using Channels 1-3 Raise/Lower buttons.
- **Color FX™ Mode** - ON button On, A button Blinking.
The Channel to DMX Mapping is set using Channels 1-3 Raise/Lower buttons.
This is a fixed mode and cannot be changed or set.
- **DMX Scene Capture Mode** - ON button Blinking, A button On.
The unit must be in the DMX THRU Mode to capture a DMX Scene.
- **DMX Submaster Capture Mode** - ON button Blinking, A button Blinking.
The unit must be in the DMX THRU Mode to capture a DMX Scene to a Submaster.

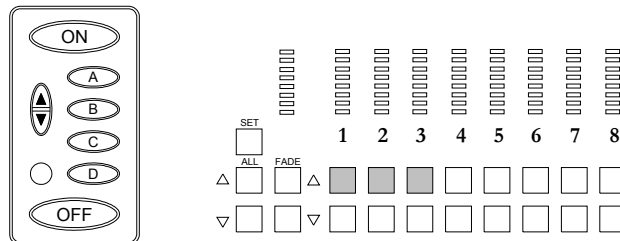
Channel to DMX Mapping

The Channel to DMX Mapping is used to set the slot where the Channel data starts to map into the DMX512 transmitted signal. To set the DMX Slot Address, do the following:

- Step 1. Press **Lower** buttons on Channels 1, 2, and 3 to turn off all channel LEDs (may require multiple taps).
- Step 2. Press **Channel 1 Raise** to set the 100's address.
- Step 3. Press **Channel 2 Raise** to set the 10's address.
- Step 4. Press **Channel 3 Raise** to set the 1's address.

Example: Enter address 128.

- Step 1. Press **Channel 1 Raise** one time.
- Step 2. Press **Channel 2 Raise** two times.
- Step 3. Press **Channel 3 Raise** eight times.

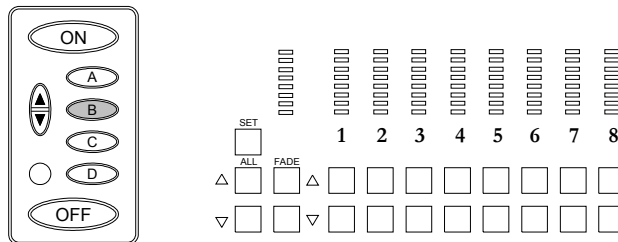


If the Channel to DMX Mapping is set to "0", the unit will transmit only 0's on DMX OUT (DMX IN HTP is still available).

Note: This offset is not used (or displayed) in either DMX Scene Capture or DMX Submaster Capture Modes.

HTP - Highest Takes Precedence Mode

Press **B** to toggle the HTP Option between Disabled (B LED On) and Enabled (B LED blinking).



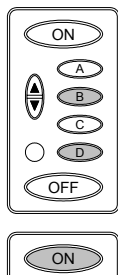
Basic Setup

This section describes how to configure basic settings for the DMX Master Station.

LED Intensity

LED intensity (brightness) can be set for the pushbuttons.

To set LED intensity:

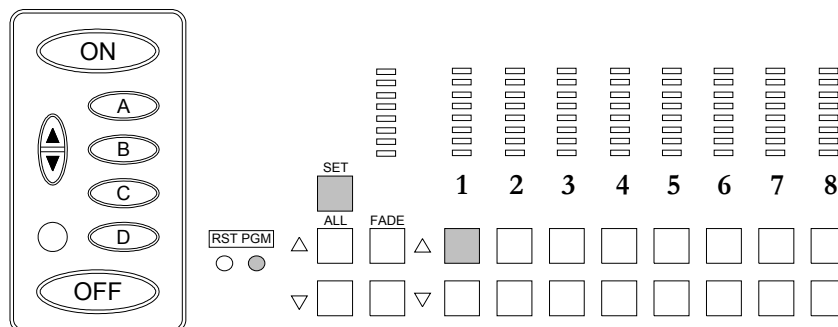


- Step 1. Press and hold **B** and **D** for 3 or more seconds. **A-B-C-D** LEDs display four levels of intensity. Currently selected intensity will blink.
- Step 2. Press button for desired intensity.
- Step 3. Press **ON** to save and exit.

Display Version

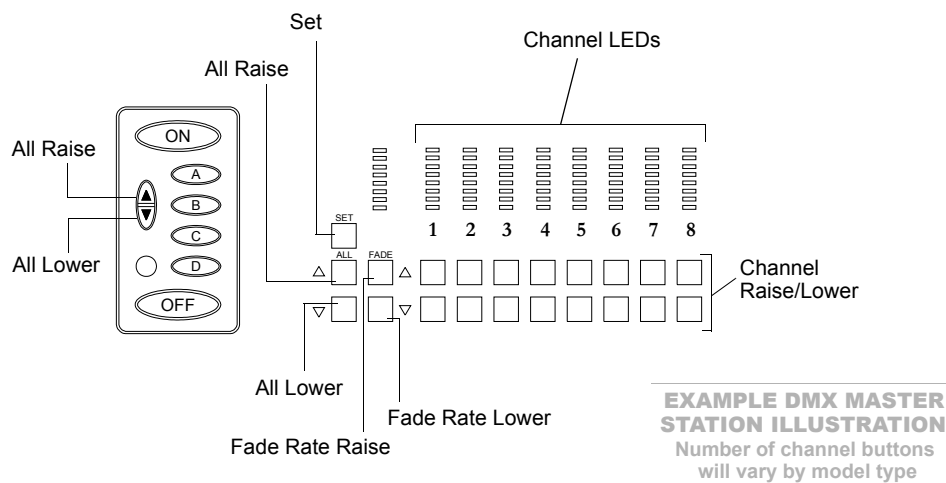
The software version can be displayed as follows:

- Step 1. Press and hold **Program** while pressing **Set**. (Designer Scene Mode.)
- Step 2. Press any **Channel Raise**.
- Step 3. Channels 1, 2, and 3 will display binary equivalent of version. (Refer to ["Binary Numbering" on page 13.](#))
 Channel 1 displays X . - -
 Channel 2 displays - .X -
 Channel 3 displays -.- X
- Step 4. Press **Set** to exit.



Basic Operations

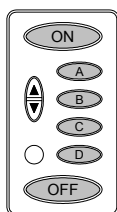
The following section provides operating instructions for basic DMX Master Station functions. Refer to the following illustration for button names and locations used throughout the instructions.



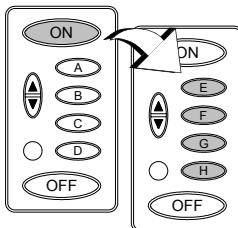
Selecting a Scene

A 6-button keypad can select all 14 Scenes (**OFF**, **ON**, **A-L**) by pressing a single button or a button combination as follows:

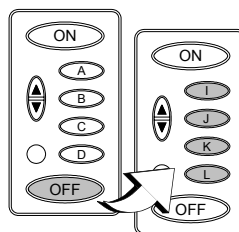
OFF, ON, A-D Scenes:
press desired button.



E-F-G-H Scenes: press
ON, plus desired button.



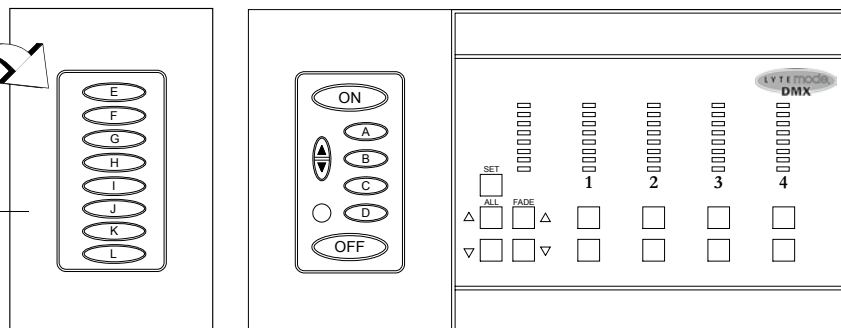
I-J-K-L Scenes: press
OFF, plus desired button.



When combined with an 8-button keypad*, Scenes **E-L** can be selected directly at that unit.

Scenes E-L: desired button.

* ILSCL8RES
8-Button Scene Extender
(sold separately)

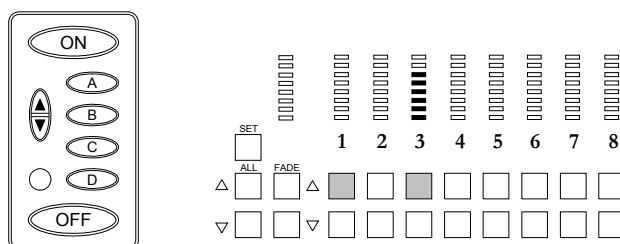


Changing Lighting Levels

The current lighting level can be changed at any time using the **Raise** or **Lower** buttons associated with each channel. **All Raise** and **All Lower** will increase or decrease ALL channels, respectively.

Example: Raise Channel 1 to 50% and Channel 3 to 75%

- Step 1. Press and hold **Channel 1 Raise**. (Notice that the lights connected to Channel 1 and the Channel 1 bar graph increase.)
- Step 2. Release button when four marks illuminate on bar graph.
- Step 3. Press and hold **Channel 3 Raise**.
- Step 4. Release button when six marks illuminate on bar graph.



Storing a Scene

Up to 13 Scenes can be “stored” (set in memory) using the **ON** and **A-L** buttons. After a Scene has been stored, it can be recalled by pressing the corresponding **Scene** button.

Before a Scene is stored, the length of the fade must be set (fade rate). The **Fade Rate Raise** and **Fade Rate Lower** buttons are used to set the length of the fade. After the desired fade rate has been reached, press the **Set** button. This action will cycle the **Scene** button LEDs, asking where the scene should “stored.” Pressing a **Scene** button will store the current levels and fade rate into that Scene. The cycling will then stop and the stored **Scene** button will illuminate.

Fade Rates are marked next to the Fade Rate bar graph. The following fade rates are available:

- Instant, 1s, 2s, 3s, 5s, 7s, 10s, 15s, 30s, 1m, 5m, 15m, 60m

Note: In order to store Scenes E-L, ON or OFF must also be pressed. Refer to ["Selecting a Scene" on page 20](#) for button combinations.

Example: Store current levels to the ON scene with a 3 second fade rate.

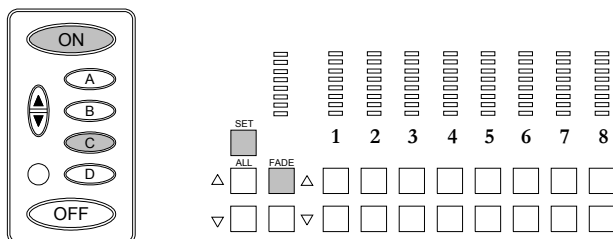
- Step 1. Press **Fade Rate Raise** three times to set fade rate to 3 seconds.
- Step 2. Press **Set**. (Scene indicators will cycle.)
- Step 3. Press **ON** to store current level into ON scene.

Example: Store current levels to the D scene with a 4 second fade rate.

- Step 1. Press **Fade Rate Raise** four times to set fade rate to 4 seconds.
- Step 2. Press **Set**. (Scene indicators will cycle.)
- Step 3. Press **D** to store current level into D scene.

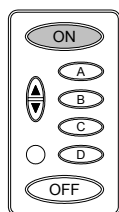
Example: Store current levels to the G scene with a 3 second fade rate.

- Step 1. Press **Fade Rate Raise** three times to set fade rate to 3 seconds.
- Step 2. Press **Set**. (Scene indicators will cycle.)
- Step 3. Press **ON** plus **C** (or **G** on an 8-button keypad) to store current level into G scene.

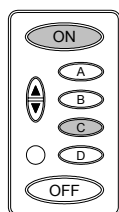
**Recalling a Scene**

Pressing any of the **Scene** buttons (including **ON**) will cause the lights to fade to the stored levels. The Scene button will blink during the fade rate. Once the fade is complete, the button will remain lit to indicate the currently selected scene.

Note: In order to recall Scenes E-L, ON or OFF must also be pressed. Refer to ["Selecting a Scene" on page 20](#) for button combinations.

Example: Recall the ON scene.

Press **ON**. (Bar graph levels change and the button blinks during the fade. Once the fade is complete, the button will remain lit to indicate the currently selected scene.)

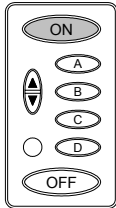
Example: Recall the G scene.

Press **ON** plus **C** (or **G** on an 8-button keypad). (Bar graph levels change and the button blinks during the fade. Once the fade is complete, the button will remain lit to indicate the currently selected scene.)

Skipping the Fade Rate

The fade rate for any scene, including **ON** and **OFF**, can be skipped at any time by pressing the **Scene** button twice. The lighting scene change will occur instantly.

Example: Turn lights on instantly.



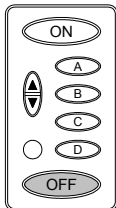
Press **ON** button twice.

Turning Lights Off

Pressing the **OFF** button will cause the lights to fade out. The **OFF** button will blink until the fade is complete. Pressing the **OFF** button again will cause the lights to go out instantly.

Note: The OFF button cannot store levels, but can store a fade rate.

Example: Turn lights off in the stored fade rate.



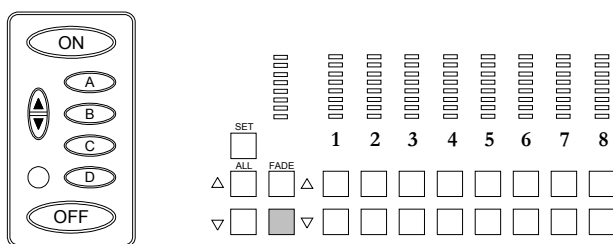
Press **OFF**.

Locking/Unlocking the Front Panel

If the Enable Panel Lock function is turned on (refer to ["Panel/Remote Lock" on page 30](#)), all buttons on the front panel may be locked to avoid tampering. To lock the front panel, press and hold the **Fade Rate Lower** button for at least ten seconds. A double bar will appear across all channel bar graphs to indicate that the panel is locked. After the panel is locked, the buttons will have no control effect until the password code is entered and the unit is unlocked.

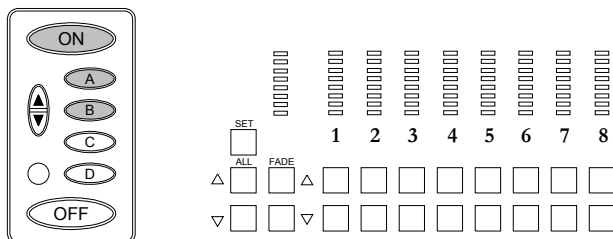
Example: Lock front panel.

- Step 1. Ensure Panel Lock has been enabled. (Refer to ["Panel/Remote Lock" on page 30](#).)
- Step 2. Press and hold **Fade Rate Down** button for at least ten seconds.



Example: Unlock front panel by entering password code.

- Step 1. Press **Scene A**.
- Step 2. Press **ON**.
- Step 3. Press **Scene B**. (The panel is now unlocked.)

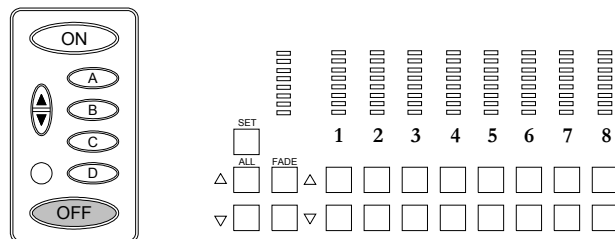


Setting DMX THRU Mode

The DMX Master Station will always transmit a DMX OUT signal unless it is in the DMX THRU Mode. It will ONLY send a start code of "0." If the HTP Option has been Enabled (refer to "[HTP - Highest Takes Precedence Mode](#)" on page 18), the unit will include the DMX IN signal (start codes of "0" only) if available. The only time the unit will not transmit a DMX OUT signal is when it is in DMX THRU Mode. This mode can be used to remove the unit from the DMX path for testing or when sending special DMX512 commands (non "0" start codes). The unit MUST also be in DMX THRU Mode when capturing DMX scenes in DMX Scene Capture and DMX Submaster Capture Modes.

To set DMX THRU Mode:

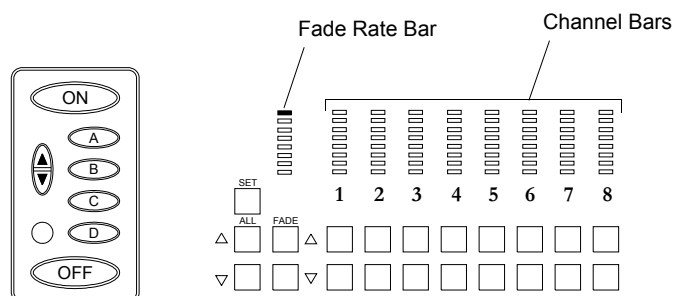
- Step 1. When operating normally, press **OFF** (press again to bypass the fade rate delay).
- Step 2. When **OFF** button has stopped blinking (fading), press and hold **OFF** again for 3 seconds (**OFF** button will start to quick blink). The DMX Relays will be turned off and the DMX IN pins 1-5 will be connected to the DMX OUT pins 1-5.



Note: Whenever a non-OFF scene is selected or any of its channels are set to a non-zero level, the unit will exit the DMX THRU Mode.

DMX IN Status

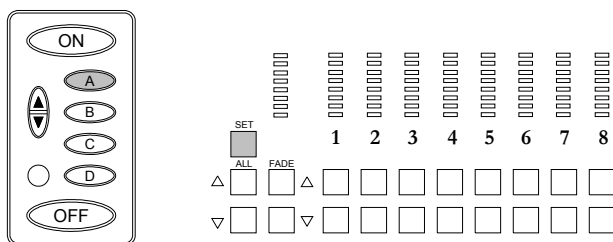
When a DMX512 signal is present on the DMX IN connector, the unit will blink the top LED in the Fade Rate bar. If the LYTEmode® DMX Mode is selected, the Channel bars will display the LYTEmode Channel levels (bar) and a single LED will turn on to display any DMX IN level greater than the Channel level.



Capturing a DMX Scene in DMX Scene Capture Mode

To capture a DMX Scene when the unit is set as DMX Scene Capture Mode:

- Step 1. Set to DMX THRU Mode. (Refer to ["Setting DMX THRU Mode" on page 25.](#))
- Step 2. Using a DMX512 console or other DMX512 transmitting device, set up the DMX Scene.
- Step 3. Press **Set**. Scene ON, A, B, C, and D buttons will cycle. If a valid DMX512 signal is detected on the DMX IN connector, the Channel LEDs will also blink on and off.
- Step 4. Press desired Scene to be learned (or send it from a Remote Station). If a valid DMX512 signal is detected, the DMX512 signal will be captured and saved to the Scene being learned. The Channel levels and Fade Rate will NOT be saved (they will only be saved when the unit is not in DMX THRU Mode).

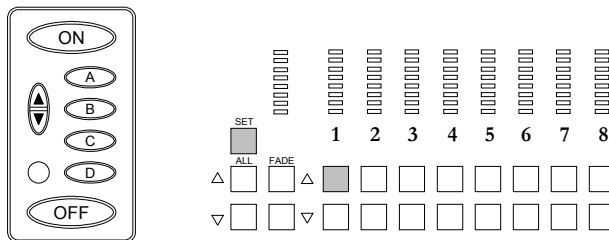


Capturing a DMX Scene in DMX Submaster Capture Mode

To capture a DMX Scene to a Channel (Submaster) when the unit is set in DMX Submaster Capture Mode:

- Step 1. Set to DMX THRU Mode. (Refer to ["Setting DMX THRU Mode" on page 25.](#))
- Step 2. Using a DMX512 console or other DMX512 transmitting device, set up the DMX Submaster Scene.
- Step 3. Press **Set**. Scene ON, A, B, C, and D buttons will cycle. If a valid DMX512 signal is detected on the DMX IN connector, the Channel LEDs will also cycle (scan left to right).
- Step 4. Pressing a Scene button will abort the capture process. Channel levels and Fade Rate will NOT be saved (they will only be saved when the unit is not in DMX THRU Mode).

- Step 5. **Channel (Submaster) Raise** button to be learned. If a valid DMX512 signal is detected, the DMX512 signal will be captured and saved to the Channel (Submaster) being learned. The Channel (Submaster)



levels and Fade Rate will NOT be saved (they will only be saved when the unit is not in DMX THRU Mode).

Creating a Scene in Color FX™ Mode

To set a Scene (Intensity and Color) when the unit is set in Color FX Mode:

- Step 1. Press **All Raise** (the ▲ button located under the Set button) to display channel intensities. Use **Channel Raise/Lower** buttons to set desired intensity of each channel.
- Step 2. Press **All Lower** (the ▼ button located under the Set button) to display channel colors. Use **Channel Raise/Lower** buttons to select desired color of each channel (32 possible -- refer to Table below).
- Step 3. Press **Fade Rate Raise/Lower** buttons to select the desired Fade Rate.
- Step 4. Press **Set**. Scene ON, A, B, C, and D buttons will cycle.
- Step 5. Press desired Scene to be learned (or send it from a Remote Station).
- Step 6. Tapping either the ▲ or ▼ button will display the intensity or selected color of each Channel.

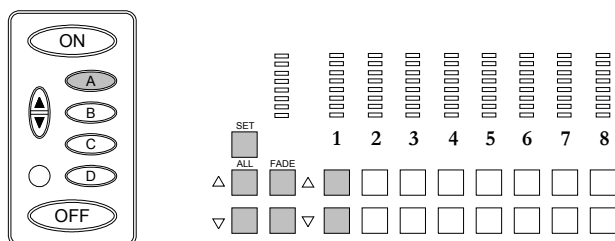
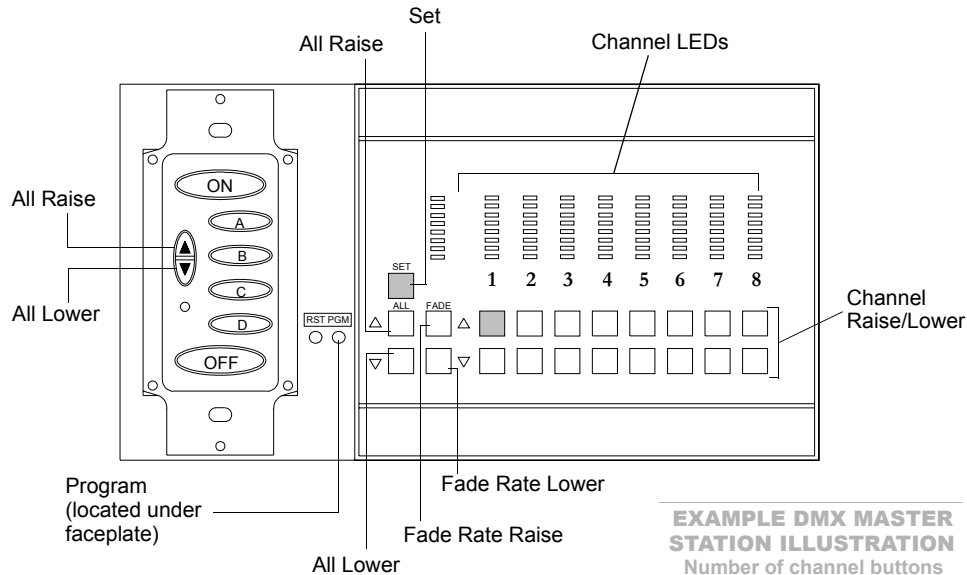


Table 1: Color FX™ Color Chart
(Color Select / DMX levels to each color)

Sel / Color	Cyan	Yellow	Magenta	Sel / Color	Cyan	Yellow	Magenta
0 – White	0	0	0	16 – Pale-Orange	0	203	123
1 – UV Blue	255	0	255	17 – Pink-Orange	0	219	181
2 – MoonBlue	220	0	220	18 – Apricot	0	203	152
3 – Cyan	255	0	0	19 – Pink	0	177	210
4 – Light Cyan	216	0	0	20 – Magenta	0	0	255
5 – Blue-Green	255	165	0	21 – Red	0	255	255
6 – Green-Blue	255	192	0	22 – Light Magenta	0	0	191
7 – Green	255	255	0	23 – UV Magenta	167	0	255
8 – Light Green	208	208	0	24 – Dark-Magenta	152	0	255
9 – Green-Yellow	194	234	0	25 – Pale Blue	114	0	0
10 – Yellow-Green	171	234	0	26 – Amber	0	76	102
11 – Yellow	0	255	0	27 – Pale Pink	0	0	89
12 – Light Yellow	0	192	0	28 – Pale Yellow	0	50	0
13 – Yellow-Orange	0	241	88	29 – Soft Green	76	50	0
14 – Orange-Yellow	0	255	127	30 – Soft Lavender	76	0	50
15 – Orange	0	223	141	31 – Soft Blue	50	0	0

Extended Features

The LYTEmode® DMX Master Station has the ability to program a variety of special functions, which allow the unit to perform operations normally reserved for larger, central computer systems. All programming modes are accessed by holding down the **Program (PGM)** button while pressing one additional button, depending on the desired function. The **Program** button is located under the faceplate and requires the stylus in order to activate. Refer to the following illustration for button names and locations used throughout the step instructions.



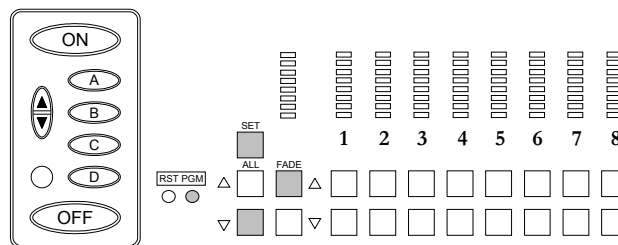
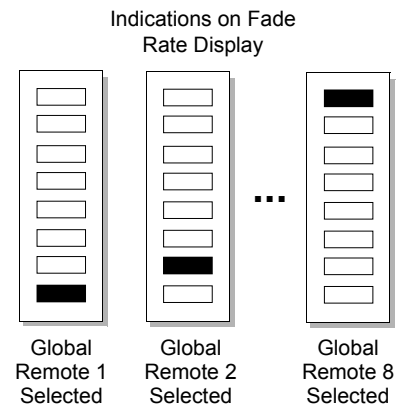
EXAMPLE DMX MASTER STATION ILLUSTRATION
Number of channel buttons will vary by model type

Global Remotes

The DMX Master Station will respond to up to 8 Global Remote Stations by programming their IDs. A Global Remote Station has the ability to communicate with multiple masters.

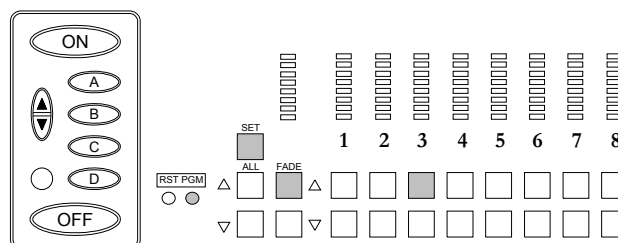
To program:

- Step 1. Press and hold **Program** while pressing **Fade Rate Raise**.
- Step 2. Press **Channel Lower** on all channels until all LEDs are off.
- Step 3. Press Channel 1 Raise for 100's.
- Step 4. Press Channel 2 Raise for 10's.
- Step 5. Press Channel 3 Raise for 1's.
- Step 6. Press **Fade Rate Raise** to select next Global Remote. Indication on Fade Rate Display will increment by one.
- Step 7. Repeat Steps 3-6 for subsequent Remotes.
- Step 8. Press **Set** to save and exit.



Example: Set DMX Master Station to respond to Global Remotes with IDs 4 and 7.

- Step 1. Press and hold **Program** while pressing **Fade Rate Raise**.
- Step 2. Press **Channel 3 Raise** four times.
- Step 3. Press **Fade Rate Raise**.
- Step 4. Press **Channel 3 Raise** seven times.
- Step 5. Press **Set** to save and exit.



Expansion Port Mode

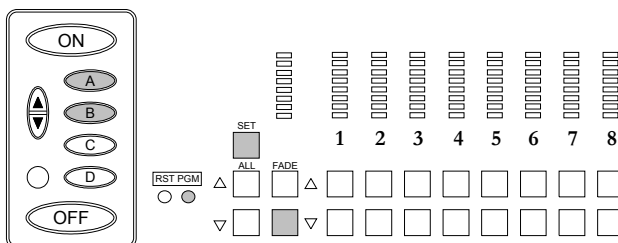
The 16-position terminal strip can be set to one of four modes as follows (refer to ["Appendix B: Expansion Port Dry Contact Inputs"](#) on page 40).

To Program:

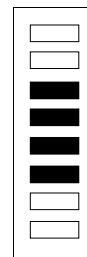
- Step 1. Press and hold **Program** while pressing **Fade Rate Down**.
- Step 2. Press Scenes A and B to set Expansion Port Mode:

A	B	Mode
On	On	0
On	Blink	1
Blink	On	2
Blink	Blink	3

- Step 3. Press **Set** to save and exit.



Indication on Fade Rate Display

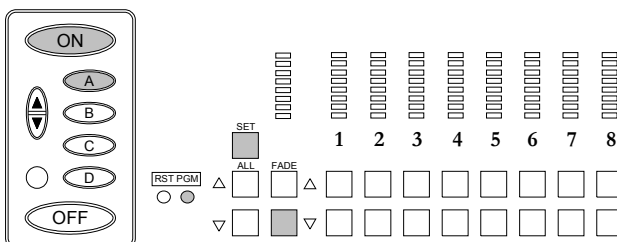


Panel/Remote Lock

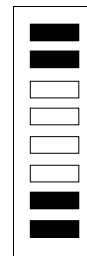
To prevent unwanted tampering, it is possible to lock the entire control panel and/or remote stations, including the Scene buttons. If this function is enabled, the panel may then be locked by holding the **Fade Rate Lower** button for at least ten seconds during normal operation. If a button is pushed while the panel is locked, a special warning display will appear on the bar graphs. To unlock, enter the password code: **Scene A, ON, Scene B**

To enable/disable panel/remote lock:

- Step 1. Press and hold **Program** while pressing **Fade Rate Lower**.
- Step 2. Press **ON** to enable/disable panel lock. ON will blink if enabled.
- Step 3. Press **Scene A** to enable/disable remote lock. Scene A will blink if enabled.
- Step 4. Press **Set** to save and exit.



Indication on Fade Rate Display

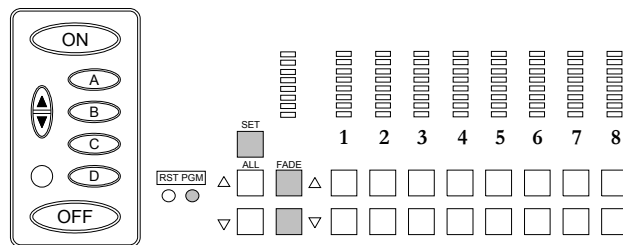


DMX THRU Remote Lock

DMX THRU Mode can be set by using an external switch connected to the 16-pin Expansion Connector on the LYTEmode® DMX Master Station (shorting pins 13 and 8). Whenever the switch is closed, the unit will force the relays into DMX THRU mode.

Enable this feature as follows:

- Step 1. Press and hold **Program** while pressing **Fade Rate Down**.
- Step 2. Press **Fade Rate Raise**.
- Step 3. Tap Scenes **A** and **B** to set Expansion Port Mode (3). Both A and B LEDs will blink.
- Step 4. Press **Set** to Save and exit.
- Step 5. Connect external switch to pins 8 and 13 of the Expansion Port.
- Step 6. Turn switch On to force DMX THRU Mode. While in the DMX THRU Mode, the OFF button will blink rapidly even if a non-OFF scene is selected.
- Step 7. Turn switch Off to release DMX THRU Mode. The next non-OFF scene button pressed will set relays to exit the DMX THRU Mode.



Note: By wiring pins 13 (DMX THRU LOCK), 12 (Remote Lock), and 11 (Panel Lock) the unit can be placed in DMX THRU Mode and Locked so scene changes cannot be made either at the panel or remotely.

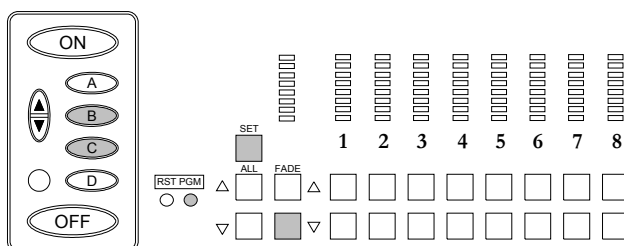
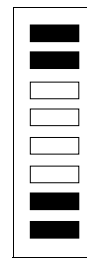
Automatic Cycle Mode

This feature allows the DMX Master Station to automatically sequence from Scene to Scene. When Scene A is finished, Scene B will start and so on, fading at the specified rate for each Scene. When the preset fade is complete, the unit will remain at that Scene for the time set by the Off fade rate. The unit will then move to the next Scene at the Scene's fade rate. Automatic cycling can be set for Scenes ON, A-D and/or E-L.

To Program:

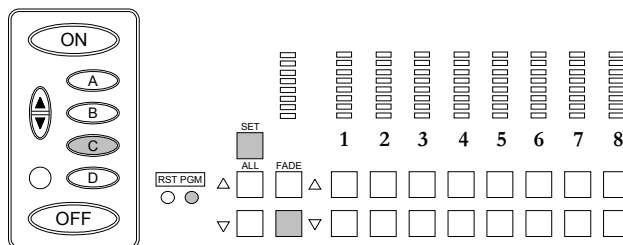
- Step 1. Press and hold **Program** while pressing **Fade Rate Lower**.
- Step 2. Press **Scene B** to enable/disable ON, A-D cycling. (Scene B will blink if enabled.)
- Step 3. Press **Scene C** to enable/disable E-L cycling. (Scene C will blink if enabled.)
- Step 4. Press **Set** to save and exit.

Indication on Fade Rate Display



Example: Enable automatic cycling for Scenes E-L.

- Step 1. Press and hold **Program** while pressing **Fade Rate Lower**.
- Step 2. Press **Scene C**.
- Step 3. Press **Set** to save and exit.



Note: Any Scene that has its fade rate set to “instant” will be skipped when cycling. For units with version 1.08 or higher, double-tapping any Scene button will cancel cycling and go to selected Scene.

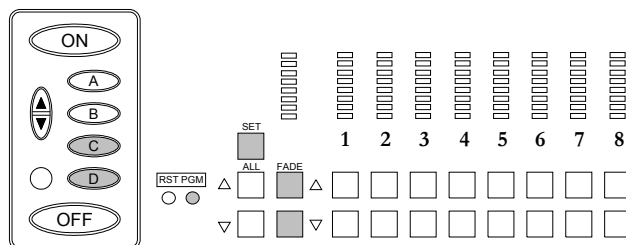
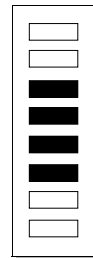
Alarm Flash/Full

A DMX Master Station can be put into an Alarm Mode by setting the Expansion Port to Mode 3 and shorting Pin 9 to Pin 8 on the 16-position terminal strip. Once in Alarm Mode, the channels will either go to full On or flash between Off and full On. Upon exiting the Alarm Mode, the Master can either stay at full On or return to its last Scene. A Master that is in Alarm Mode will also send out a Global command that will control other Masters to act in the same manner. All Masters that have the same ID in Global Remote 8 will be linked.

To program:

- Step 1. Set Expansion Port Mode to Mode 3 (refer to "[Expansion Port Mode](#)" on page 30).
- Step 2. Set Global Remote 8 ID (refer to "[Global Remotes](#)" on page 29).
- Step 3. Press and hold **Program** while pressing **Fade Rate Raise**.
- Step 4. Press **Fade Rate Lower**.
- Step 5. Press **Scene C** to set Alarm to "Flash" or to go "Full On" (blinking).
- Step 6. Press **Scene D** to set Return After Alarm to "Last Scene" or "Remain Full On" (blinking).
- Step 7. Press **Set** to save and exit.

Indication on Fade Rate Display



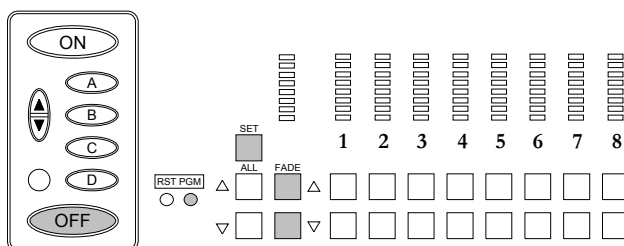
Master Mimic

When two or more DMX Master Stations are required to Mimic each other, one needs to be set as a “real Master” and the others set to “Mimic Mode.” A DMX Master Station that is set to Mimic will not directly control any dimmers. It will send all button presses (Scenes, Raise, Lower, Fade and Set) to the real Master. The real Master will provide all scene, fade and channel level data.

To program:

- Step 1. Press and hold **Program** while pressing **Fade Rate Lower**.
- Step 2. Press **Fade Rate Raise**.
- Step 3. Press **OFF** (blinks to indicate Mimic Mode). Press again to cancel.
- Step 4. Press **Set** to save and exit.

Indication on Fade
Rate Display



Non-Dim Channels

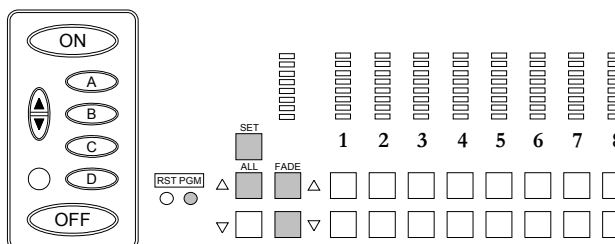
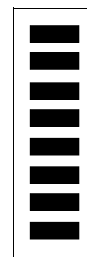
Any channel can be configured as “Non-Dim.” Channels set as Non-Dim do not fade, but go directly from Off to Full. This function is useful for inductive loads and conventional fluorescent ballasts.

Note: To indicate when a channel is set to Non-Dim, all LEDs will be on.

To program:

- Step 1. Press and hold **Program** while pressing **All Raise**.
- Step 2. Press **Channel Raise** to set a channel as Non-Dim.
Press **Channel Lower** to set a channel as Dimmable.
- Step 3. Press **Set** to save and exit.

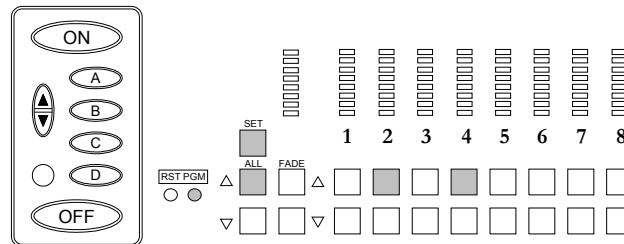
Indication on Fade
Rate Display



Note: ILS Smart Matrix and Capio ILS dimming racks must also configure dimmers as non-dim.

Example: Set channels 2 and 4 to be non-dims.

- Step 1. Press and hold **Program** while pressing **All Raise**.
 Step 2. Press **Channel 2 Raise**.
 Step 3. Press **Channel 4 Raise**.
 Step 4. Press **Set** to save and exit.

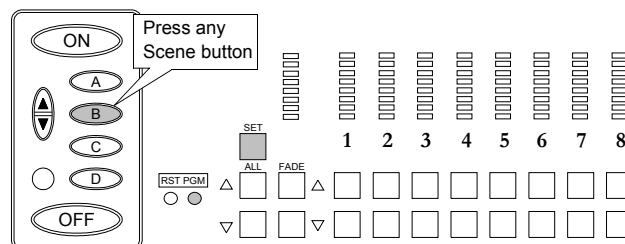
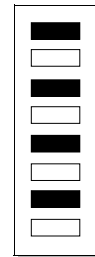
**Designer Scenes**

Any scene can be configured as a "Designer Scene." A Designer Scene will not allow any Channel Levels or Fade Rates to be changed.

To Program:

- Step 1. Press and hold **Program** while pressing **Set**.
 Step 2. Press any **Scene** button to lock that Scene. (Locked Scenes will blink.) Press **Scene** again to cancel.
 Step 3. Press **Set** to save and exit.

Indication on Fade Rate Display

**Example: Lock Scenes B and C.**

- Step 1. Press and hold **Program** while pressing **Set**.
 Step 2. Press **Scene B**.
 Step 3. Press **Scene C**.
 Step 4. Press **Set** to save and exit.

Note: When the OFF button single blinks, Designer Scenes ON, A, B, C and D can be set. By pressing the OFF button again (double blinks), the A, B, C and D buttons show the status of Scenes E, F, G and H. By pressing the OFF button again (triple blinks), the A, B, C and D buttons show the status of Scenes I, J, K and L.

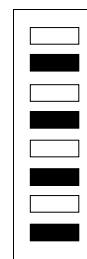
Excluding Channels From a Scene

Any channel can be excluded from any Scene. If a channel is excluded from a Scene, its level will not change when that Scene is pressed. This will allow a single unit to control two rooms with some Scenes in one room, some in the other, and some in both.

To Program:

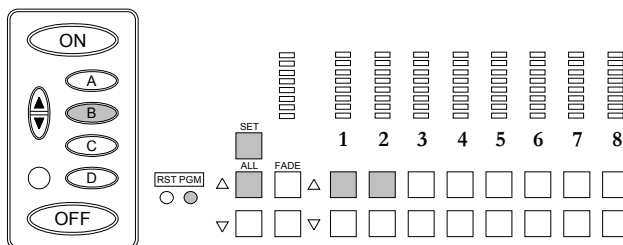
- Step 1. Press and hold **Program** while pressing **ON**.
- Step 2. Press desired Scene (button will blink).
- Step 3. Press **Channel Raise** to *exclude* a channel.
Press **Channel Lower** to *include* a channel.
(Excluded channels will have all their LEDs turned on.)
- Step 4. Press **Set** to save and exit.

Indication on Fade
Rate Display



Example: Exclude Channels 1 and 2 from Scene B.

- Step 1. Press and hold **Program** while pressing **Scene B**.
- Step 2. Press **Scene B** again.
- Step 3. Press **Channel 1 Raise**.
- Step 4. Press **Channel 2 Raise**.
- Step 5. Press **Set** to save and exit.

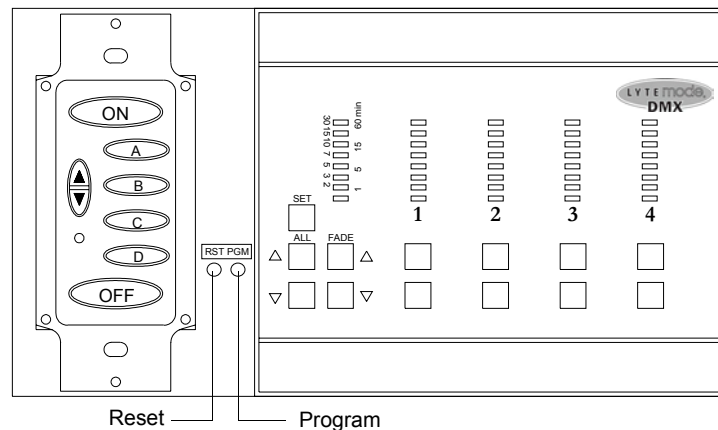


Note: When the OFF button single blinks, Channel Exclusion for Scenes ON, A, B, C and D can be set. By pressing the OFF button again (double blinks), the A, B, C and D buttons show the status of Scenes E, F, G and H. By pressing the OFF button again (triple blinks), the A, B, C and D buttons show the status of Scenes I, J, K and L.

Factory Defaults and Troubleshooting

Resetting Factory Defaults

To return the unit to the factory default settings, the **Reset (RST)** and **Program (PRG)** buttons must be pressed. The buttons are located under the faceplate and require the stylus in order to activate.



To restore factory defaults:

- Step 1. Remove faceplate surrounding scene buttons.
- Step 2. Using a stylus, press and hold **Program** button.
- Step 3. Using a second stylus, press and release **Reset** button (**ON** and **OFF** buttons will blink).
- Step 4. Press **Set** button (**ON**, **A**, **B**, **C** and **D** will cycle).
- Step 5. Press **Set** button again. Unit is now set to Factory Defaults.

Factory Defaults are as follows:

- Unit Mode = 0 (Remote)
- Unit ID = 0 (Disabled)
- LED intensity = 75%
- IR = Disabled
- ON Scene channel levels = 100%
- A Scene channel levels = 75%
- B Scene channel levels = 50%
- C Scene channel levels = 25%
- D Scene channel levels = 1%
- E Scene channel levels = 100%
- F Scene channel levels = 87%
- G Scene channel levels = 75%
- H Scene channel levels = 62%

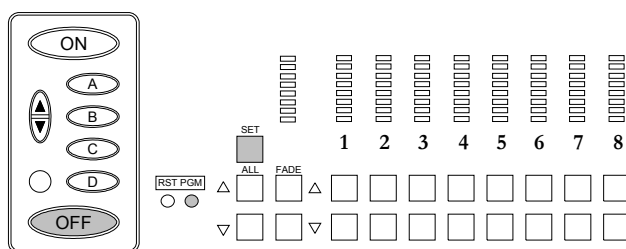
- I Scene channel levels = 50%
- J Scene channel levels = 37%
- K Scene channel levels = 25%
- L Scene channel levels = 1%
- OFF Scene channel levels = 0% (cannot change)
- All Fade rates = 3 sec
- All Channels = Dim (not Non-Dim)
- Designer Scenes = Disabled
- Panel Lock = Disabled
- Remote Lock = Disabled
- Auto Cycle (ON-A-D) = Disabled
- Auto Cycle (E-L) = Disabled
- I/O Mode = 0
- Alarm Output = Flash (not 100%)
- Return from Alarm = Scene (not 100%)
- Mimic = Off
- Channel Exclusions = Disabled
- All Global IDs = 0 (disabled)

Troubleshooting

In order to determine if all LYTEmode® ILS Network devices are communicating, a network test signal can be sent from any Master Station to all devices on the network.

To send network test signal:

- Step 1. Using stylus, press and hold **Program** button while pressing **OFF**.
Network will send out a test signal every two seconds which will cause all devices to blink. Each device on the network will blink one of its LEDs if it receives the signal and all of its LEDs if the ID of the transmitting unit matches its own. This verifies that the devices are online and working.
- Step 2. Press **Set** to return to normal operation.

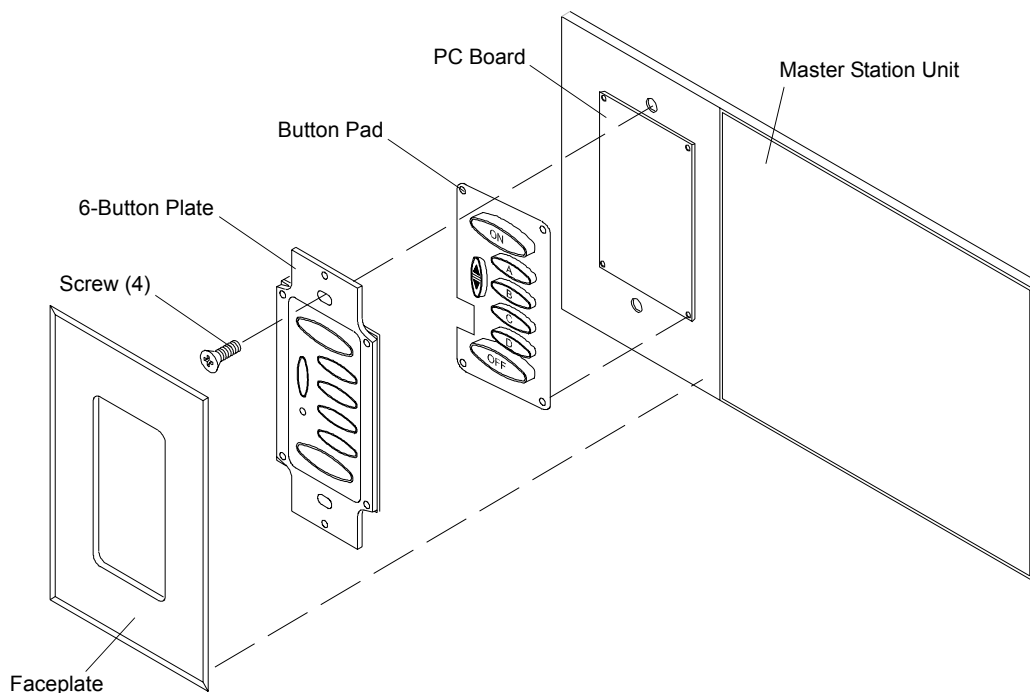


Appendix A: Installing Custom Buttons

Custom engraved buttons* are available for LYTEmode® products. If you received custom buttons with your unit or obtain them in the future, use the following procedure for installation.

To install custom buttons:

- Step 1. At 6-button unit, remove faceplate.
- Step 2. Remove 6-button plate by removing four screws.
- Step 3. Remove existing button pad.
- Step 4. Insert custom button pad and re-assemble components.



* Custom engraved buttons are available from Lightolier Controls: www.lolcontrols.com

Appendix B: Expansion Port Dry Contact Inputs

A 16-position terminal strip located on the back of the DMX Master Station unit is used to hardwire alarms and other remote lock devices into the system. This strip is divided into eight inputs with common and six LED outputs with drive. The function of these inputs and outputs can be changed by setting its mode options. Functions include:

- **Cinema Cycle** - A remote closure causes the unit to cycle through Scenes A, B, C and D. This closure comes from a projector and can automatically control the lights in a movie theater. The ON Scene is reserved for 'clean up/emergency.'
- **Alarm** - A remote closure comes from the alarm system and causes all the channels to either go to Full On or cycle between Full Off and Off. Refer to ["Alarm Flash/Full" on page 33](#).

Once the terminal strip is wired according to the desired network configuration, the Terminal Strip Mode must be set for proper operation. This section provides instructions for wiring the various components and setting the proper mode.

Terminal Strip Modes

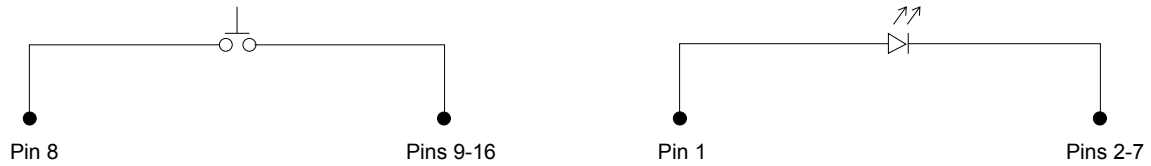
Depending on the mode, the terminal strip will read inputs and write outputs differently. To set the mode, refer to ["Expansion Port Mode" on page 30](#).

Table 2: Terminal Strip Signals by Mode

Pin	Mode 0	Mode 1	Mode 2	Mode 3
1	LED Common	LED Common	<i>Not Used</i>	<i>Not Used</i>
2	OFF LED	OFF LED		
3	D LED	I LED		
4	C LED	H LED		
5	B LED	G LED		
6	A LED	F LED		
7	ON LED	E LED		
8	Button Common	Button Common		Button Common
9	Lower (1)	Lower (1)		Alarm
10	Raise (1)	Raise (1)		Cycle
11	OFF Button	OFF Button		Panel Lock
12	D Button	I Button		Remote Lock
13	C Button	H Button		n/a
14	B Button	G Button		n/a
15	A Button	F Button		n/a
16	On Button	E Button		n/a

Typical Connections

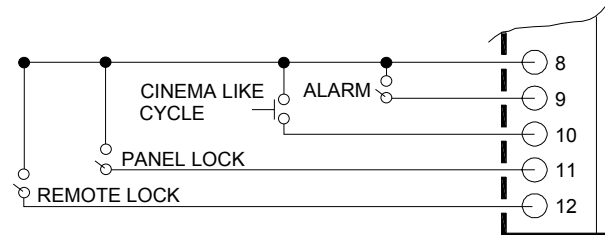
The following diagrams represent the typical configuration for most applications:



Other Connections

Master Station with Remote (ILS-CL-2RES) and Alarm Input

Master Station Pin	Mode Signal
8	Button Common
9	Alarm
10	Cycle
11	Panel Lock
12	Remote Lock



Specifications

Electrical:

- Input Power: +18-26 VDC (powered from LYTEmode ILS network)
- Current
 - ILSDMX45ES: 59mA
 - ILSDMX85ES: 72mA
 - ILSDMX125ES: 103mA
 - ILSDMX165ES: 116mA
- Temperature
 - Storage: -25° to 85° C
 - Operating: 0° to 40° C
 - Relative Humidity: 30-90% (non-condensing)
- EMC: Electromagnetic compatibility specifications are met when properly grounded
- ESD: 17 kV per IEC Publication 801-2 (1984)
- EMI/RFI: FCC, Class A

Accessories

ILSCL8RES	8-Button Scene Extender
CLB8	Rough-In Box for 4 & 8 Channel Master Stations
CLB16	Rough-In Box for 12 & 16 Channel Master Stations
ILSCKSM__*	Color Kit for 4 & 8 Channel Master Stations
ILSCKLM__*	Color Kit for 12 & 16 Channel Master Stations
ILSCKSMSD	Smoke Tinted Door for 4 & 8 Channel Master Stations
ILSCKLMSD	Smoke Tinted Door for 12 & 16 Channel Master Stations
LB-SM	4 & 8 Channel Master Station Locking Security Cover
LB-LG	12 & 16 Channel Master Station Locking Security Cover
CE6BES***	Custom Engraved 6-Button Keypad Membrane
COMFP1__**	Compli Screwless Faceplate, 1-Gang

* Color Kits available in: AL=Almond, LA=Light Almond, I=Ivory, BR=Brown, GR=Gray, and BL=Black

** Faceplates available in: W=White, AL=Almond, LA=Light Almond, I=Ivory, BR=Brown, GR=Gray, and BL=Black

*** To order custom engraved keypads and faceplates, please visit our website at: www.lolcontrols.com

Notes

Notes

3 YEAR LIMITED WARRANTY

Lightolier® Controls warrants that this product will be free from defects in workmanship or materials. This warranty is void on any electronic controls which have been overloaded, abused, improperly installed or altered in any manner.

Lightolier Controls' sole obligation will be at its option to repair or replace any electronic controls product proven defective if it is returned, postage prepaid, to Lightolier Controls, 10911 Petal Street Dallas, Texas 75238. Lightolier Controls will not pay for any charge-back or charge for labor or material that does not have its prior written approval.

This warranty shall be in lieu of any other warranty, express or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. Some states do not allow limitations on how long an implied warranty lasts and do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

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We reserve the right to change details of design, materials and finish in any way that will not alter the installed appearance or reduce function performance. Specifications are subject to change without notice.



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