

PROKONTROL™



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1. GETTING STARTED

What's In The Box?

- 1x PROKONTROL™ MH DMX Controller
- 1x 9 VDC, 800ma AC/DC Adaptor
- A Warranty Card & Warranty Info
- This Lovely User Manual

1.2 Getting It Out Of The Box

We could tell just by lookin' atcha. You're a bit of a control freak, aren't ya? Just kidding! CONGRATULATIONS! You've purchased a GREAT little DMX controller! Bravo! Now that you've got your PROKONTROL™ MH, you should carefully unpack the box and check the contents to ensure that all parts are present and in good condition. If anything looks as if it has been damaged in transit, notify the shipper immediately and keep the packing material for inspection. Again, please save the carton and all packing materials. If a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

1.3 Powering Up!

All fixtures must be powered directly off a switched circuit and **cannot be run off a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0% to 100% switch.**

AC Voltage Switch - Not all fixtures have a voltage select switch, so please verify that the fixture you receive is suitable for your local power supply. See the label on the fixture or refer to the fixture's specifications chart for more information. A fixture's listed current rating is its average current draw under normal conditions. Check the fixture or device carefully to make sure that if a voltage selection switch exists that it is set to the correct line voltage you will use.

Warning! Verify that the voltage select switch on your unit matches the line voltage applied. Damage to your fixture may result if the line voltage applied does not match the voltage indicated on the voltage selector switch. All fixtures must be connected to circuits with a suitable Ground (Earthing).

1.4 Getting A Hold Of Us

If something is wrong, just give us a call or send an email. We'll be happy to help, honest.

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Author:	Date:	Last Edited:	Date:
J. Thomas	8/5/2013	J. Thomas	8/7/2013

IMPORTANT SAFETY INSTRUCTIONS



Please read these instructions carefully. They include important information about the installation, usage and maintenance of this product.

- Please keep this User Guide for future use. If you sell the unit to someone else, be sure that they also receive this User Guide.
- ALWAYS make sure that you are connecting to the proper voltage, and that the line voltage you are connecting to is not higher than that stated on the decal or rear panel of the fixture.
- This product is intended for indoor use only.
- To prevent risk of fire or shock, do not expose fixture to rain or moisture.
- Make sure there are no flammable materials close to the unit while operating.
- ALWAYS disconnect from the power source before servicing or replacing fuse and be sure to replace with same fuse size and type.
- DO NOT operate at ambient temperatures higher than 104°F (40°C).
- In the event of a serious operating problem, stop using the unit immediately. NEVER try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center. Always use the same type spare parts.
- Make sure the power cord is never crimped or damaged.
- Never disconnect the power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to the light source while it is on.

Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact Blizzard Lighting at support@blizzardlighting.com.

1.5 Instructions on Our Instructions

We try to make these manuals easy to read and as fun as reading an instruction manual can be. Because there are buttons, switches, sliders and knobs galore on most of our products, it makes sense to refer to things in a consistent fashion. So, when you see text formatted in certain ways, it should say to you "Hey! Look at me! I MEAN something, dammit!"

Special Text	What It Means
<code>LCD</code>	Text displayed on the fixture's LCD control panel
<code><MENU></code>	Button <X> to be pressed

2. INTRODUCTION

2.1 Features

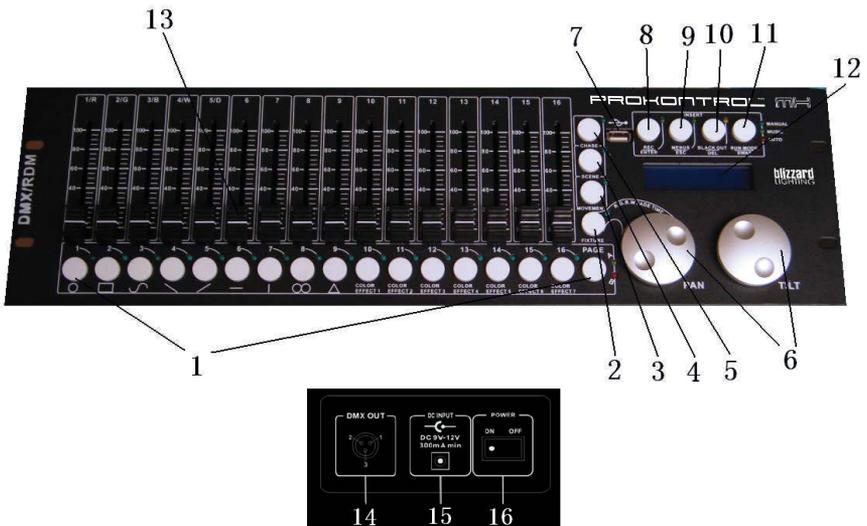
- DMX512 standard with RDM protocol compatibility.
- 512 DMX channels
- Controls up to 32 fixtures, each with up to of 18 DMX channels
- Fixture starting addresses and channels can be soft patched
- 32 chases, able to run 5 chases simultaneously
- 32 scenes, all scenes are able to be operated simultaneously
- 9 built-in effect buttons for moving head fixtures, plus 7 built-in color effect buttons
- USB port for firmware updates and data backup
- Sound control via built-in microphone

2.2 General Overview

The ProKontrol™ MH is a universal intelligent lighting controller with RDM protocol compatibility. Once properly patched it's the perfect controller for any moving head fixture, allowing ease of use with its dedicated PAN and TILT wheels. It allows the control of 32 fixtures composed of 18 channels each. Programs can be triggered by music, midi, automatically or manually. You can run up to 5 chases, and all scenes can be executed at the same time.

On the surface you will also find a variety of programming tools such as 16 universal c-channel sliders, quick access "Movement" and built-in "Color Effect" buttons, plus an LCD display indicator for easy navigation of all controls and menu functions.

2.3 The ProKontrol™ Pin-up Pictures



2.4 Button and Fader Functions

Number	Button/Fader/Connection	Does...
1	NUMBER Buttons	Functions differently in different modes.
2	FIXTURE Button	When activated, the 16 number buttons fixture selection.
3	MOVEMENT Button	When activated, the 16 number buttons built-in movements/macros.
4	SCENE Button	When activated, the 16 number buttons scene playback
5	CHASE Button	When activated, the 16 number buttons are for chase playback.
6	PAN/TILT Wheels	Functions differently in different modes.
7	USB Port	Used for firmware updates and data backup. FAT32 and FAT16 supported.
8	REC/ENTER Button	REC/ENTER
9	MENUS/ESC Button	MENUS/ESC
10	BLACKOUT/DEL Button	BLACKOUT/DELETE
11	RUN MODE/SWAP Button	RUN MODE/SWAP
12	LCD Screen	LCD Screen
13	Faders	Adjusts the DMX output value
14	DMX Out	DMX Out (3-pin)
15	DC Input	DC Input
16	Power On/Off	Power On/Off

Number Buttons

- In CHASE mode, press a number button, the chase will be activated or deactivated.
- In SCENE mode, press a number button, the scene will be activated or deactivated.
- In MOVEMENT mode, press a number button, the movement will be activated or deactivated.
- In FIXTURE mode, press a number button, a fixture will be selected or deselected.

Faders

- In FIXTURE mode, move a fader to adjust the DMX output value.

Pan/Tilt Wheels

- In CHASE mode, PAN/TILT wheels are to adjust the chase speed and time respectively.
- In SCENE mode, nothing defined in PAN/TILT wheels.
- In MOVEMENT mode, PAN/TILT wheels are to adjust the MOVEMENT parameters.
- In FIXTURE mode, PAN/TILT wheels are to adjust the output values of PAN/TILT.

2.5 Common Terms

The following are common terms used in intelligent light programming, so pay attention! We'll be using many of them throughout the manual.

- **Blackout** is a state by where all lighting fixtures light output are set to 0 or off, usually on a temporary basis.
- **DMX-512** stands for **D**igital **M**ultiple**X** is an industry standard digital communication protocol used in entertainment lighting equipment. For more information read the **DMX Primer** and **DMX Control Mode** Sections later in the manual.
- **Fixture** refers to your lighting instrument or other device such as a fogger or dimmer of which you can control.
- **Programs** are a bunch of scenes stacked one after another. It can be programmed as either a single scene or multiple scenes in sequence.
- **Scenes** are static lighting states.
- **Sliders** are a delicious small burger or sandwich, but here they are used in the same context as faders.
- **Chases** can also be called programs. A chase consists of a number of scenes stacked one after another.
- **Scanner** refers to a lighting instrument with a pan and tilt mirror; however, in the ProKontrol™ MH controller it can be used to control any DMX-512 compatible device as a generic fixture.
- **MIDI** stands for **M**usical **I**nstrument **D**igital **I**nterface, and is a standard for representing musical information in a digital format. A MIDI input would provide external triggering of scenes using midi device such as a midi keyboard.
- **Stand Alone** refers to a fixture's ability to function independently of an external controller and usually in sync to music, due to a built in microphone.
- **Fade Slider** is used to adjust the time between scenes within a chase.
- **Speed Slider** affects the amount of time a scene will hold its state. It is also considered a wait time.
- **Shutter** is a mechanical device in the lighting fixture that allows you to block the lights path. It is often used to lessen the intensity of the light output and to strobe.
- **Patching** refers to the process of assigning fixtures a DMX channel.
- **Playbacks** can be either scenes or chases that are directly called to execution by the user. A playback can also be considered program memory that can be recalled during a show.

3. OPERATING INSTRUCTIONS

3.1 Setup

3.1.1 Setting Up The System

Plug the AC to DC power supply to the system back panel and to the mains outlet.

Plug in your DMX cable(s) to your intelligent lighting as described in the fixtures respective manual. For a quick lesson on DMX see the **DMX Primer** section in the Appendix of this manual.

3.2 LCD Menu Navigation

Press and hold the <MENUS> button for 2 seconds to enter/exit Menu Mode. The menu options are as follows:

01. **Patch Fixture** - To patch fixtures starting addresses and the channel position, etc.
02. **Reset Factory** - To restore the factory settings.
03. **Delete All Fixture Patch** - To delete all patch settings.
04. **Fade Mode** - To set fade time mode.
05. **RDM DMX Address Setup** - To implement RDM functions.
06. **Data Back Up** - To back up data to a USB memory stick.
07. **Data Load** - To load data from a USB memory stick.
08. **Send Fixture Update File** - To send the fixture update code.

The PAN wheel is used to browse between the menu options.



3.3 Fixture Addressing / Patching Fixtures and Faders

This controller is programmed to control 18 channels of DMX per fixture on its 16 faders plus the PAN and TILT encoder wheels.

To take full advantage of your ProKontrol™ MH, you'll need to patch in the DMX address codes of the fixtures and faders. The address of the fixtures and faders can be changed as needed, but first let's just look at the **default values**.

The default Fixture Patch Settings are:

Page	Fixture	DMX Start Address	Page	Fixture	DMX Start Address
A	1	001	B	17	289
	2	019		18	307
	3	037		19	325
	4	055		20	343
	5	073		21	361
	6	091		22	379
	7	109		23	397
	8	127		24	415
	9	145		25	433
	10	163		26	451
	11	181		27	469
	12	199		28	487
	13	217		29	505
	14	235		30	(Blank)
	15	253		31	(Blank)
	16	271		32	(Blank)

And the default Fader Patch Setting are:

Fader	DMX Ch.	Fader	DMX Ch.	Fader	DMX Ch.
1/R (Red)	1	7	7	13	13
2/G (Green)	2	8	8	14	14
3/B (Blue)	3	9	9	15	15
4/W (White)	4	10	10	16	16
5/D (Dimmer)	5	11	11	PAN	17
6	6	12	12	TILT	18

In the above table, R=RED, G=GREEN, B=BLUE, W=WHITE, D=DIMMER

DMX START ADDRESS + FADER CHANNEL, - 1 = FADER DMX ADDRESS

For example: With these default fixture patch settings, the FIXTURE 1 PAN DMX address is 17, so fixture 2 PAN DMX address would be 35.

Before controlling a fixture without RDM function, you need to patch the fixture's DMX starting address. For example, if you are patching a moving head, you must patch the pan/tilt channels of the moving head to PAN/TILT wheels on the ProKontrol MH. If you are patching an LED fixture, then, you must patch the Red, Green, Blue, White and Dimmer channels to the corresponding faders respectively. The ProKontrol MH will then be able to correctly run all of its built-in movements and fade in/out effects with the patch setting.

3.4. Fixture Patching Instructions (Step by step)

Follow these steps to begin patching your fixtures:

1. Press and hold **<MENUS>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate: *01. PATCH FIXTURE.*
3. Press **<ENTER>** to confirm.
4. Select a fixture (only one fixture can be selected).
5. Press **<SWAP>** to switch between the four settings: *DMX START ADDRESS, FADER CHANL, FADER REVERSE* and *COLOR FADE.*
6. In *DMX START ADDRESS*, rotate the PAN wheel to adjust the DMX start address; press **<ENTER>** to save, or press **** to delete the existing DMX start address.
7. In *FADER CHANL*, rotate the PAN wheel to select a fader name within "1/R" to "TILT". Rotate the TILT wheel to adjust the address of the corresponding DMX channel within 1-40. Press **<ENTER>** to save the patching or press **** to delete the existing patching.
8. In *FADER REVERSE*, rotate the PAN wheel to select a fader name within "1/R" to "TILT". Rotate the TILT wheel to select YES or NO; YES means to set the corresponding channel reverse; NO means inverse. Press **<ENTER>** to save the setting.
9. In *COLOR FADE*, you can enable or disable the fade in/out time of the fixture's color channels. Rotate the PAN wheel, select YES or NO; YES means to enable; NO means to disable. Press **<ENTER>** to save the settings.
10. To copy a patched fixture to a new fixture, **press and hold** the number button of the patched fixture, then press the number button of a new fixture.
11. Press **<ESC>** to exit patch setting.

***DMX START ADDRESS + FADER CHANNEL, - 1 = FADER DMX ADDRESS**

Example: If FIXTURE 1 is set to 11 as its DMX starting address, and its 1/R fader channel is set to 1, when you move the 1st fader the output of the 11th DMX channel will be changed.

But, if FIXTURE 1 is set to 11 as its DMX starting address, and its 1/R fader channel is set to 10, and you move the 1st fader, the output of the 20th DMX channel will be changed.

When patching, a "!" mark will be shown in the LCD display when there is an overlap in the patching of DMX channels. This will need to be corrected, otherwise the DMX output may run in error.

3.5 System Functions

3.5.1 Resetting The System

WARNING: This will reset the controller to its factory defaults. ALL PROGRAMS AND SETTINGS WILL BE ERASED!

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "02. Reset factory".
3. Press **<ENTER>** to confirm.
4. Rotate the PAN wheel to select YES or NO.
5. Press **<ENTER>** to confirm or **<ESC>** to return to the main menu.

3.5.2 Delete All Fixture Patches

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "03. delete all Fixture patch".
3. Press **<ENTER>** to confirm.
4. Rotate the PAN wheel to select YES or NO.
5. Press **<ENTER>** to confirm or **<ESC>** to return to the main menu.

3.5.3 Data Back-Up to USB Memory Stick

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "06. Data back up".
3. Press **<ENTER>** to confirm.
4. Insert a USB memory stick to the USB port.
5. Rotate the PAN wheel to select YES or NO; press **<ENTER>** to confirm.
6. Press a number button to store the back-up file. Up to 16 files can be backed up, respectively stored in number 1-16 buttons. If the LED indicator of a number button is on, it means there is back-up file in this position.
7. Press the **<ESC>** button to return to the main menu.

3.5.4 Load Data From USB Memory Stick

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "07. data load."
3. Press **<ENTER>** to confirm.
4. Make sure your USB memory stick is in the USB port.
5. Rotate the PAN wheel to select YES or NO; press **<ENTER>** to confirm.
6. Press a number button to load the back-up file. Up to 16 files can be backed up, respectively stored in number 1-16 buttons. If the LED indicator of a number button is on, it means there is back-up file in this position.
7. Press the **<ESC>** button to return to the main menu.

3.5.5 Send Fixture Update File (RDM Fixtures Only)

Through the DMX cable, send fixture firmware code.

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Insert a USB memory stick to the USB port.
3. Rotate the PAN wheel to locate "08. Send fixture Update file".
4. Press **<ENTER>** to confirm.
5. Rotate the PAN wheel to locate the file to send.
6. Press **<ENTER>** to start sending.
7. Repeat Step 4 and 5 to send another file.
8. Press the **<ESC>** button to exit.

3.5.6 RDM DMX Address Setup

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "05. RDM DMX Address setup".
3. Press **<ENTER>** to confirm.
4. Rotate the PAN wheel to select YES or NO; If YES and you press **<ENTER>** you will enter RDM operation.
5. The ProKontrol™ MH will search and show the number of RDM devices.
6. Rotate the PAN wheel to select an RDM device; rotate the TILT wheel to adjust the DMX address of the RDM device. Press **<ENTER>** to confirm.
7. Press **<SWAP>** to switch the information of the selected device, Press **** to verify the selected device.
8. Press **<ESC>** to return to the main men

3.6 Manual Fixture Control

1. Press the **<FIXTURE>** button to activate FIXTURE mode.
2. Select the desired fixtures with the number buttons (1-16) and the PAGE button (PAGE A: 1-16, PAGE B: 17-32).
3. Move the faders and/or wheels to adjust the DMX output values. In Step 2, fixtures can be selected one by one; Alternatively, you can select more fixtures in a single operation. For example, to select Fixture 1-8, you can press and hold the number button 1 and then press the number button 8, Fixture 1-8 will all be selected. The same can be applied to deselect fixtures.

3.7 Fade Mode

1. Press and hold **<MENU>** for 2 seconds to enter Menu Mode.
2. Rotate the PAN wheel to locate "04. Fade mode".
3. Press **<ENTER>** to confirm.
4. Rotate the PAN wheel to select ALL CHANNEL or ONLY PAN/TILT.
5. Press **<ENTER>** to confirm or **<ESC>** to return to the main menu.

3.8 Built-In Movement and Color Effects

There are 9 built-in "movements" in the ProKontrol™ MH, and 7 built-in color macros for LED fixtures. Before running a movement, all fixtures must be patched correctly.

1. Press the **<FIXTURE>** button to enter FIXTURE mode (indicator on).
2. Select the desired fixtures with the number buttons (1-16) and the PAGE button (PAGE A: 1-16, PAGE B: 17-32).
3. Press the **<MOVEMENT>** button to activate the MOVEMENT mode.
4. Select a desired MOVEMENT/MACRO with the number buttons (1-16).
5. Movement 1-9 is for the pan/tilt movement of moving heads. By using the **<SWAP>** button, toggle through the options.

Movement Range

Pan: 0-100% TL: 0-100%

Adjusts the movement size.

Movement Offset

Pan: 0-255 TL: 0-255

Adjusts the movement center point.

Movement Speed

0.00-30.00s

Adjusts the time needed to complete one step.

Delay Level

Level: 00-25

Steps to offset each fixture.

6. Press **<SWAP>** to switch between the adjustable parameters.

3.9 Scenes and Chases

3.9.1 Scene Editing

Channels and movements can be edited in a static scene.

1. Press and hold the **<REC>** button for 2 seconds to enter Editing Mode.
2. Press the **<FIXTURE>** button (indicator on).
3. Select the desired fixture(s) with the number buttons (1-16) and the PAGE button (PAGE A: 1-16, PAGE B: 17-32).
4. Move the faders and/or wheels to adjust the DMX output values. Movements can also be included.
5. Press the **<REC>** button to get ready to save.
6. Press the **<SCENE>** button and then press a number button to save the scene. There are two pages (Page A and B) to save the scenes. Once a scene is saved successfully, all the LED indicators will blink 3 times.
7. Repeat Step 3-6 to edit another scene.
8. Press and hold the **<REC>** button for 2 seconds to exit Editing Mode.

3.9.2 Chase Editing

Channels, scenes and movements can be edited in a chase.

1. Press and hold the **<REC>** button for 2 seconds to enter Editing Mode.
2. Press the **<CHASE>** button (indicator on).
3. Select a number button for the chase.

4. Press the **<FIXTURE>** button (indicator on).
5. Select the desired fixture(s) with the number buttons (1-16) and the PAGE button (PAGE A: 1-16, PAGE B: 17-32).
6. Move the faders and/or wheels to adjust the DMX output values. Scenes and/or movements can also be included.
7. Press the **<REC>** button to save the current step.
8. Repeat Step 4-5 to edit a new step while in **<CHASE>** mode, you can rotate the PAN wheel to browse all the steps. You can also press the **<INSERT>** button to insert a step. Repeat Step 3-6 to edit another scene.
9. When all the steps are edited, press the **<CHASE>** button then press the number button to save (the same button as step 3).
10. Press and hold the **<REC>** button for 2 seconds to exit Editing Mode.

3.9.3 Run Scenes

1. Press the **<SCENE>** button (indicator on).
2. Press the number button(s) to activate the scene(s).
3. Note: Scenes may be stacked. The last scene takes precedence.

3.9.4 Run Chases

1. Press the **<CHASE>** button (indicator on).
2. Press the number button(s) to activate the chase(s). Maximum 5 chases can be output simultaneously.
3. Press **<RUN MODE>** to select a run mode:
 - AUTO: Chases run in the sequences of the numbers.
 - MANUAL: Rotate the PAN wheel to run step by step, forward or backward.

MUSIC: The chases will be activated by sound. To adjust the sensitivity of sound activation in MUSIC mode, press and hold and then rotate the TILT wheel. When two or more chases are running simultaneously, the chase that is adjustable shows a blinking LED indicator. To adjust another chases, press the corresponding number button for 2 seconds until its LED indicator blinks, then it is ready for adjustment. The last activated chase will always be the one that is adjustable.

Use the PAN wheel to adjust the wait time, 0.10-10m00s, and use the TILT wheel to adjust the fade time, 0.05-30.0s.

3.9.5 Fade In/Out Time of the Color Channels

1. Press the **<FIXTURE>** button (indicator on)
2. Press and hold the **<FIXTURE>** button, then rotate the PAN wheel to adjust the fade in/out time of the color channels. Each fixture can be set with individually fade in/out settings. Fade in/out time can also be set to enabled/disabled.

3.9.6 Firmware Updates

If firmware updates become available anytime in the future, they will be available at our website at: www.blizzardlighting.com.

1. Create a folder named "PROKONTROL MH" in the root directory of your USB memory stick.
2. Download and copy the update file to the folder.
3. Insert the USB memory stick to the USB port.
4. Power off the controller.
5. Press and hold REC + BLACK OUT + RUN MODE.
6. Power on, and wait for about 3 seconds till the LCD display shows "PRESS ANY BUTTON TO UPDATE"
7. Release REC + BLACK OUT + RUN MODE.
8. Press any button, then, it will start updating.
9. Once the update is completed, power off the controller, then power on again. The updated firmware is now in service.

4. APPENDIX

4.1 A Quick Lesson On DMX

DMX (aka DMX-512) was created in 1986 by the United States Institute for Theatre Technology (USITT) as a standardized method for connecting lighting consoles to lighting dimmer modules. It was revised in 1990 and again in 2000 to allow more flexibility. The Entertainment Services and Technology Association (ESTA) has since assumed control over the DMX512 standard. It has also been approved and recognized for ANSI standard classification.

DMX provides up to 512 control "channels" per data link. Each of these channels was originally intended to control lamp dimmer levels. You can think of it as 512 faders on a lighting console, connected to 512 light bulbs. Each slider's position is sent over the data link as an 8-bit number having a value between 0 and 255. The value 0 corresponds to the light bulb being completely off while 255 corresponds to the light bulb being fully on.

DMX data is transmitted at 250,000 bits per second using the RS-485 transmission standard over two wires. As with microphone cables, a grounded cable shield is used to prevent interference with other signals.

There are five pins on a DMX connector: a wire for ground (cable shield), two wires for "Primary" communication which goes from a DMX source to a DMX receiver, and two wires for a "Secondary" communication which goes from a DMX receiver back to a DMX source. Generally, the "Secondary" channel is not used so data flows only from sources to receivers. Hence, most of us are most familiar with DMX-512 as being employer over typical 3-pin "mic cables," although this does not conform to the defined standard.

DMX is connected using a daisy-chain configuration where the source connects to the input of the first device, the output of the first device connects to the input of the next device, and so on. The standard allows for up to 32 devices on a single DMX link.

Each receiving device typically has a means for setting the "starting channel number" that it will respond to. For example, if two 6-channel fixtures are used, the first fixture might be set to start at channel 1 so it would respond to DMX channels 1 through 6, and the next fixture would be set to start at channel 7 so it would respond to channels 7 through 12.

DMX has become the standard for lighting control. It is flexible, robust, and scalable, and its ability to control everything from dimmer packs to moving lights to foggers to lasers makes it an indispensable tool for any lighting designer or lighting performer.

4.2 Keeping Your ProKontrol™ MH As Good As New

The ProKontrol™ MH you've received is a rugged, tough piece of pro lighting equipment, and as long as you take care of it, it will take care of you. That said, like anything, you'll need to take care of it if you want it to operate as designed. You should absolutely keep the fixture clean, especially if you are using it in an environment with a lot of dust, fog, haze, wild animals, wild teenagers or spilled drinks.

Cleaning the surface routinely with a suitable cleaner is useful for keeping the faders clean and in good operating condition.

Common sense and taking care of your controller will be the single biggest thing you can do to keep it running at peak performance and let you worry about designing a great light show, putting on a great concert, or maximizing your client's satisfaction and "wow factor." That's what it's all about, after all!

4.3 Returns (Gasp!)

We've taken a lot of precautions to make sure you never even have to worry about sending a defective unit back, or sending a unit in for service. But, like any complex piece of equipment designed and built by humans, once in a while, something doesn't go as planned. If you find yourself with a unit that isn't behaving like a good little fixture should, you'll need to obtain a Return Authorization (RA).

Don't worry, this is easy. Just send an email to support@blizzardlighting.com, and we'll issue you an RA. Then, you'll need to send the unit to us using a trackable, pre-paid freight method. We suggest using USPS Priority or UPS. Make sure you carefully pack the fixture for transit, and whenever possible, use the original box & packing for shipping.

When returning your fixture for service, be sure to include the following:

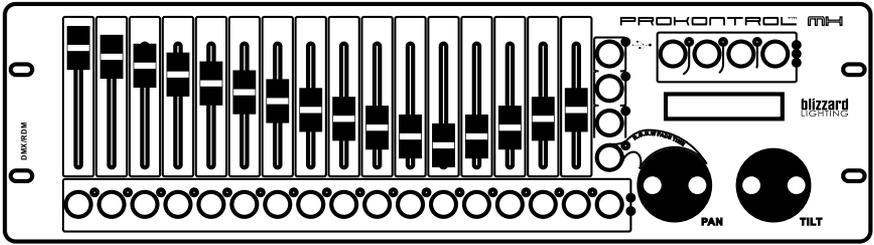
- 1.) Your contact information (Name, Address, Phone Number, Email address).
- 2.) The RA# issued to you
- 3.) A brief description of the problem/symptoms.

We will, at our discretion, repair or replace the fixture. Please remember that any shipping damage which occurs in transit to us is the customer's responsibility, so pack it well!

4.4 Shipping Issues

Damage incurred in shipping is the responsibility of the shipper, and must be reported to the carrier immediately upon receipt of the items. Claims must be made within seven (7) days of receipt.

4.5 TECH SPECS!



Weight & Dimensions	
Length	19 inches (48.26 cm)
Width	5.1 inches (13 cm)
Height	3.1 inches (7.9 cm)
Weight	1.4 lbs (3 kg)
Power	
Operating Voltage	DC9V, 800mA max (From included power supply)
Thermal	
Max. Operating Temp.	104 degrees F (40 degrees C) ambient
Control	
Protocol	USITT DMX-512
DMX Channels	512
Output	3-pin XLR Female
Remote Control	
Telekinesis (Supernatural Skills Required)	
Warranty	2-year limited warranty.

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Enjoy your product!
Our sincerest thanks for your purchase!
--The team @ Blizzard Lighting