

ProPlex[®]

DATA DISTRIBUTION



MasterFade U1-V1

USER MANUAL

TABLE OF CONTENTS

1. INTRODUCTION	3
PRODUCT OVERVIEW.....	3
UNPACKING INSTRUCTIONS.....	3
POWER REQUIREMENTS	3
SAFETY INSTRUCTIONS.....	4
FUSE REPLACEMENT	4
DEVICE LINKING	5
HTP CONTROL RULES.....	6
PREPARE SD CARD FOR MASTERFADE	8
TRANSFER MASTERFADE FILES TO A PC	9
2. OPERATION.....	10
MAIN MENU.....	10
RELEASE	11
WRITE PROTECTION.....	12
FADER MENU	13
RECORD A MEMORY UNDER FADER MENU	13
EDIT A STATIC MEMORY UNDER SCENE/RELAY OR FADER MENU	14
SCENE/RELAY STATIC MEMORY EDITING.....	15
FADER PAGE STATIC MEMORY EDITING.....	15
MENU UNDER EDIT WINDOW.....	16
RECORDING A SCENE/RELAY	17
ERASE A SCENE/RELAY RECORDING.....	18
ACCESS FADER RECORD MENUS	19
ERASE A FADER PAGE MEMORY	20
COPY AND PASTE STATIC PAGE RECORDS	21
RDM	22
FIXTURE DMX LINKING.....	26
DMX DATA CABLE	26
DMX CONNECTOR CONFIGURATION.....	26
3-PIN TO 5-PIN CONVERSION CHART.....	27
3. APPENDIX	27
BASICS OF DMX CONTROL	27
GENERAL MAINTENANCE	27
LIMITED WARRANTY	28
RETURN PROCEDURE	28
MASTERFADE SPECIFICATIONS	29

1. Introduction

PRODUCT OVERVIEW

MasterFade is a unique lighting capture and playback console with full RDM management capability.

- Patch channels, or record scenes to the faders.
- Capture static or dynamic scenes from an external console.
- Setup and monitor RDM-capable devices.

The unit operates within one (1) DMX universe (512 channels). The six (6) versatile faders can have individual channels patched to them, store static scenes, or store dynamic scenes. Multiple pages of faders can be accessed via user-friendly the touchscreen.

A 10-hour dynamic recording time is available for all memories (actual recording length depends on the DMX input rate).

MasterFade merges incoming DMX signals and its own recorded and playback signal by the following rule: HTP (Highest Takes Precedence). The final output level will be the highest value coming from the same DMX channel from both playback and DMX input.

MasterFade supports the RDM protocol and allows changes to a fixture's DMX address, DMX mode, lamp settings, and displays a fixture's sensor statuses. Furthermore, the device can be located and reset via RDM protocol options.

UNPACKING INSTRUCTIONS

Upon receipt of the fixture, carefully unpack the carton and check the contents to ensure that all parts are present and in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear to be damaged from shipping or if the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.

POWER REQUIREMENTS

Before powering the unit, make sure the line voltage is within the range of accepted voltages. This fixture accommodates 100-240VAC, 50/60Hz. All fixtures must be powered directly from a switched circuit and cannot be operated with a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0-100% switch.

When powered up, MasterFade performs a preprogrammed internal test. On initial power-up the factory default DMX address appears on the display screen and MasterFade is ready for operation. After initial power-up, the last-saved DMX address will appear.

SAFETY INSTRUCTIONS



Please read these instructions carefully. This user guide contains important information about the installation, usage and maintenance of this product.

- Please keep this User Guide for future reference. If unit is sold to another user, make sure they also receive this instruction booklet.
- Ensure fixture is connected to proper voltage, and that line voltage is not higher than that stated on the fixture.
- Make sure there are no flammable materials close to the unit while operating.
- Always disconnect from the power source before servicing or fuse replacement. Always use the fuse specified in this manual..
- Always use a safety cable when hanging fixture overhead.
- Maximum ambient temperature (Ta) is 40°C (104°F). Do not operate fixture at temperatures above this rating.
- In the event of a serious operating problem, stop using the unit immediately. Repairs must be carried out by trained, authorized personnel. Contact the nearest authorized technical assistance center. Only OEM spare parts should be used.
- Do not connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.
- Avoid direct eye exposure to the light source during operation.

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 your distributor.



Disconnect the power cord before replacing a fuse and always replace with the appropriate fuse.



FUSE REPLACEMENT

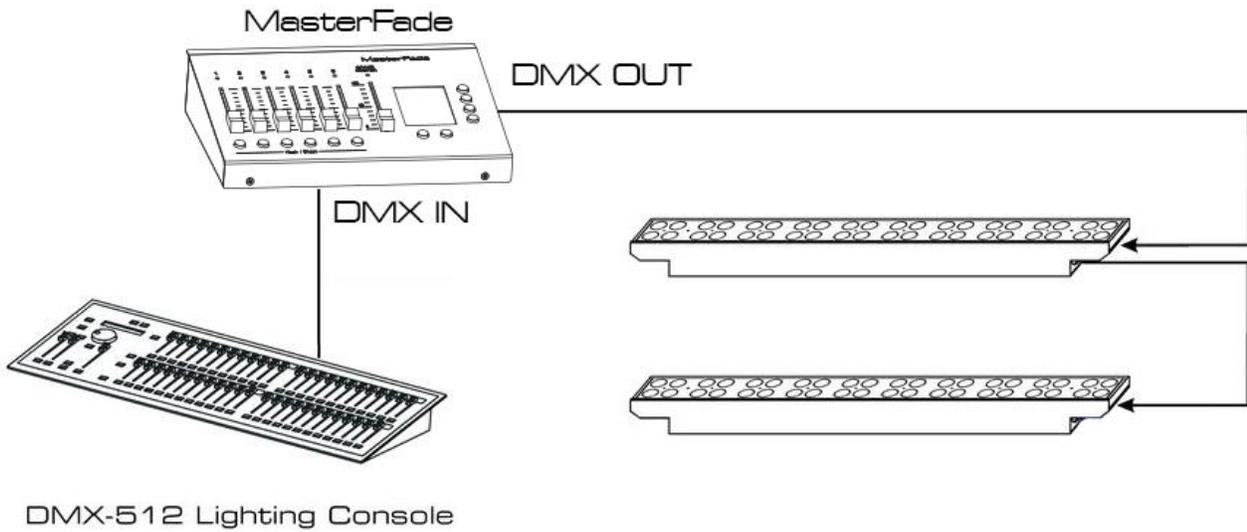
The MasterFade uses a 1A, 250V, 5x20mm (0.2x0.8 in.) fuse.

To replace fuse:

1. With a screwdriver turn the fuse cap counter-clockwise to remove fuse cap with fuse.
2. Replace fuse attached to fuse cap.
3. Reinsert fuse cap with new fuse and tighten clockwise.

DEVICE LINKING

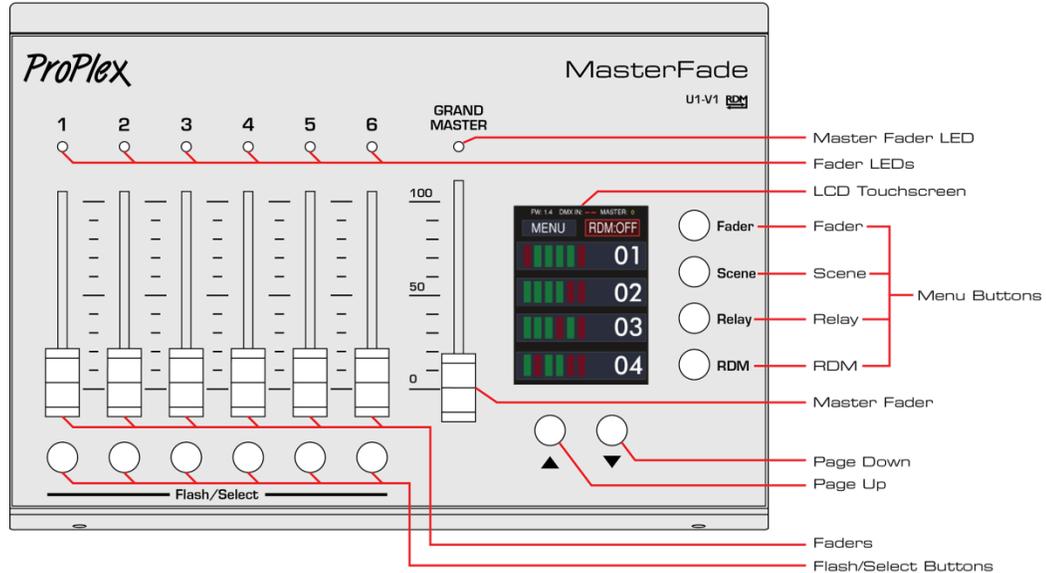
MasterFade was created for use as a stand-alone or backup system to record static or dynamic DMX signals originating from a DMX512 lighting console. In the DMX data chain, the MasterFade goes between the primary lighting console and lighting fixtures.



HTP CONTROL RULES

MasterFade uses Highest Takes Precedence (HTP) protocol. The fader with highest output level will supersede the others.

OVERVIEW



Fader LEDs and Master Faders LED: LEDs show **status** of faders. If the fader is set to 0 value, LEDs will not illuminate. Brightness of the LEDs correspond to the value of the fader. The brighter the fader LED is, the greater the value given to fader.

LCD touchscreen: Touchscreen is the main input device for MasterFade.

Menu buttons: Navigate through **Fader**, **Scene**, **Relay** or **RDM** menus. RDM menu button is also used as **refresh** button for RDM devices list.

Master fader: Set the intensity of DMX output.

Page Up/ Down: Navigate through menu sections.

Faders: Faders are used to set playback output of each recording (0-100%) and for setting the DMX address values when editing static records.

POWER ON

Simply attach the power cord to PowerCon socket.

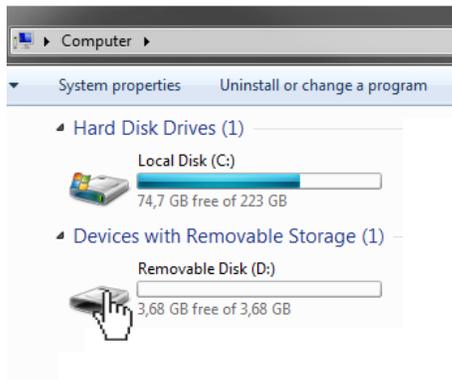
UPDATE FIRMWARE

To update firmware to newer version, follow these steps: Download newest firmware version at ftp.tmb.com,
User name: proproduct.
Password: support

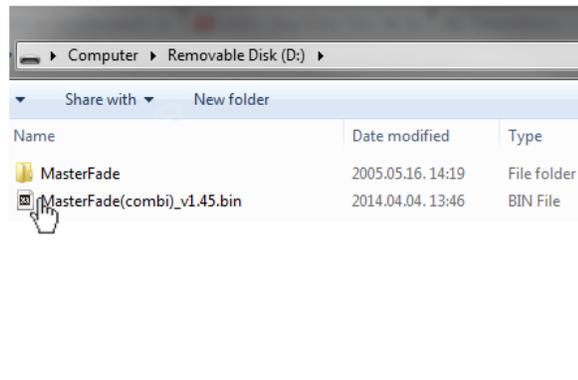
COMPUTER (Windows 7 example)

1. Insert **SD card** into reading device which is connected to your PC.
2. Open **My computer**
3. Open MasterFade's memory card folder.
4. Delete the old firmware "**MasterFade(combi)_v**.**.bin**"
5. Place the new firmware into memory cards folder (same location as the old file)..
6. **Eject** memory card from computer.

Step 1

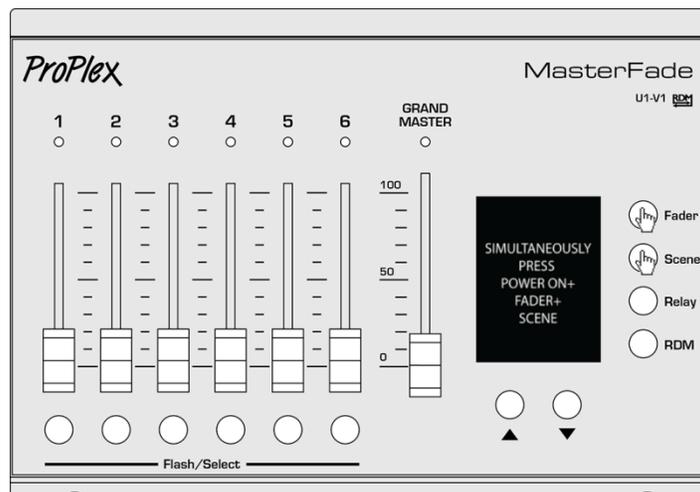


Step 2



MASTERFADE

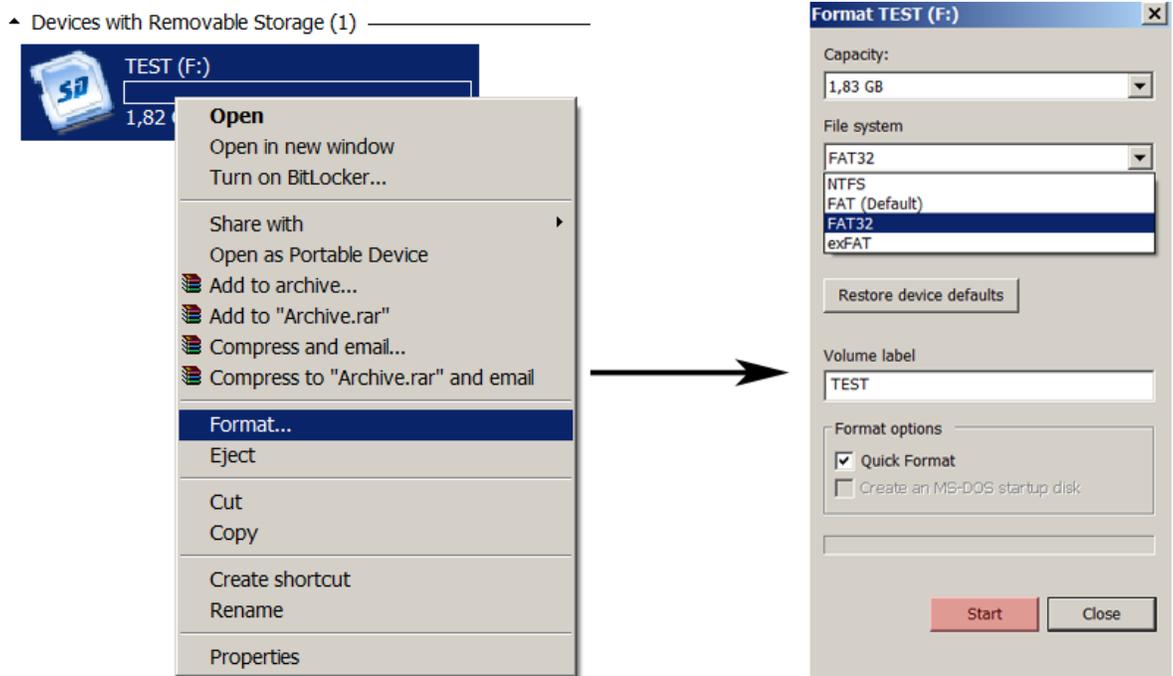
1. Insert memory card into MasterFade.
2. While powering the unit, simultaneously press buttons marked "**Fader**" and "**Scene**". Firmware upgrading screen will appear. It will show "**Slave upgrade**" + loading bar and "**Master update**" + loading bar. When loading bars are full, firmware is updated and device is ready to run.



PREPARE SD CARD FOR MASTERFADE

FAT32 memory card file system is used. SD cards are often formatted in FAT32 directly from the manufacturer. If not, the SD card in FAT32 file system must be self-formatted. An **SD card reader** is needed to copy files to the computer or to format the SD card. Most laptops have a built-in SD card reader.

How to format a memory card on **Microsoft Windows7**.



Formatting an SD Card will erase any information stored on the card. Be sure to remove any important files from the card before formatting.



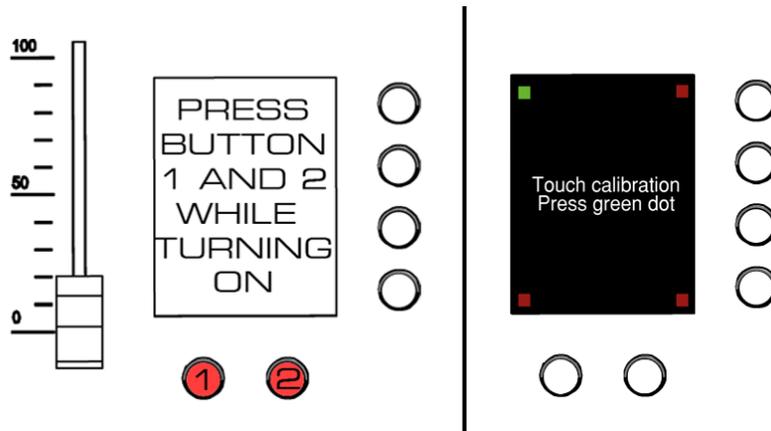
1. Insert **SD card** into reading device which is connected to the PC.
2. Open **My Computer**
3. The memory card will appear as new removable storage device. Right-click on memory card folder (icon) and click **Format** as shown in picture.
4. Formatting window will pop-up. Choose **FAT32** file system, insert any volume label information and click on **Start**.
5. Card should be successfully formatted and ready to use with MasterFade.

MEMORY CARD TYPE

Recommended SD card: **SanDisk** high speed SD memory cards.

CALIBRATE TOUCHSCREEN

While powering the device, simultaneously press **page up** and **page down** buttons located under the LCD touchscreen. On the touchscreen calibration menu press four touchscreen calibration points, one by one, as accurately as possible to ensure correct touchscreen calibration.



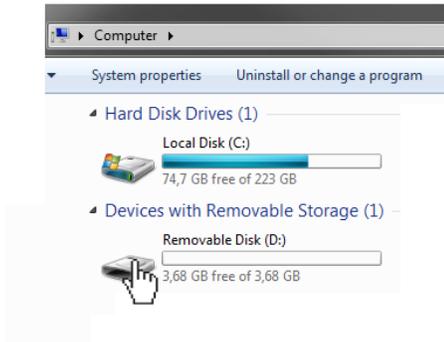
TRANSFER (BACKUP) MASTERFADE FILES TO A PC

Similar to "How to prepare SD card for MasterFade" do the following:

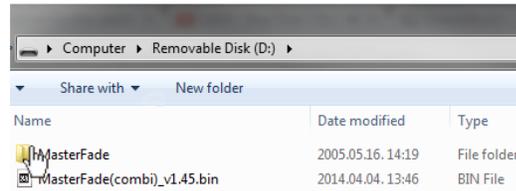
Insert **SD card** into reading device connected to the PC.

1. Open **My computer**
2. Inside the list "Devices with Removable Storage," find the memory card.
3. Copy folder "**MasterFade**" to a safe location for storage.

Step 2



Step 3



2. Operation

MAIN MENU

To get in the main menu, press the "MENU" button located at right upper corner.



The following options appear:

ERASE

RELEASE

WR PROT. (write protection on/off)

EXIT

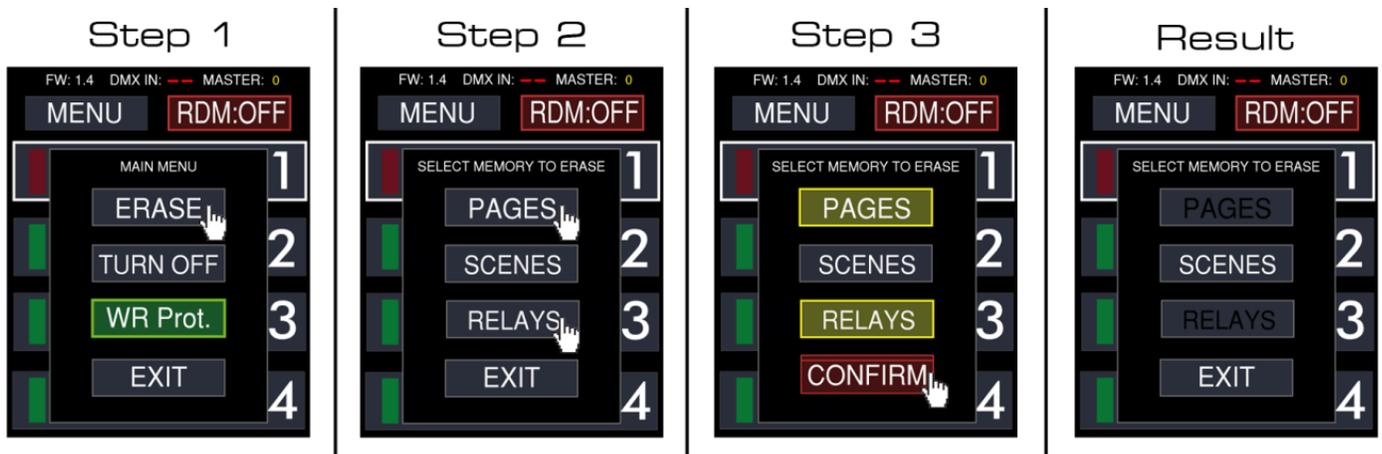
In the "ERASE" menu, there are options to delete pages, scenes, and relays separately or all together. To delete pages, scenes or relays, you must follow these steps:

Step 1: In main menu press button "ERASE". This accesses the erasing menu.

Step 2: Select memories to erase. For example, in the example below, pages and relays are selected. Yellow highlight indicates the selection.

Step 3: Press and hold "CONFIRM" button. This erases the selected memories (yellow in color).

RESULT: Deleted memory titles will turn black, indicating they are empty.



RELEASE

In the "RELEASE" menu, there are options to cancel (release, disable, turn off) activated faders, cancel activated scenes, or cancel activated relays. This is useful when multiple activated memories need to be deactivated quickly.

To release activated memories, follow these steps:

Step 1: Press "RELEASE" button in **main menu**.

Step 2: Select memories to be released. For example, below three memories are released. The confirmation button will appear after selecting at least one.

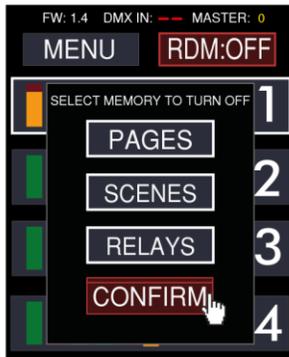
Step 3: Press and hold "CONFIRM" button to disable current fader positions, activated scenes, or relays.

Result: Scene and relay recordings will deactivate.

Step 2



Step 3



SCENE

Before



After



Before

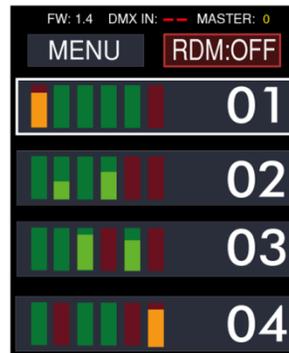


After

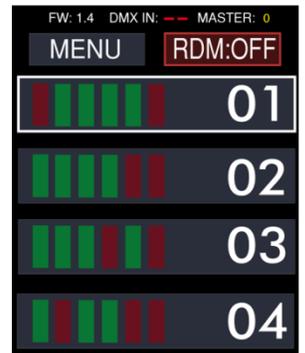


FADER

Before



After



WRITE PROTECTION (ON/OFF)

When device is powered on, write protection is automatically enabled to avoid accidental file modifications or loss

To disable write protection:

Step1: Press "MENU" button located in upper left corner. Main menu will open.

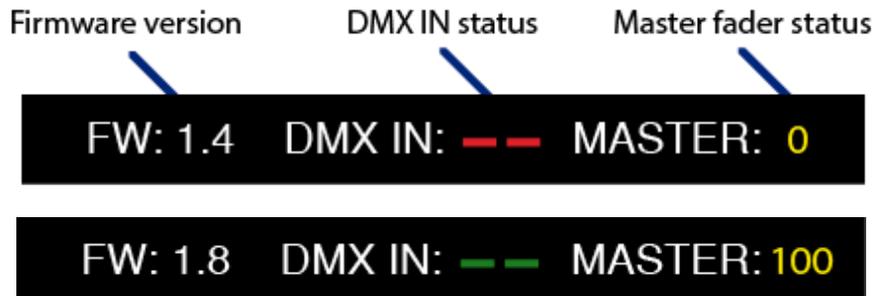
Step2: Press "Wr. Prot." button. SD card write protection menu will pop up.

Step3: Press and hold "ENABLED" button. Write protection will turn off.

Step4: Press "EXIT" to exit SD cards write protection menu.



Upper status bar information:



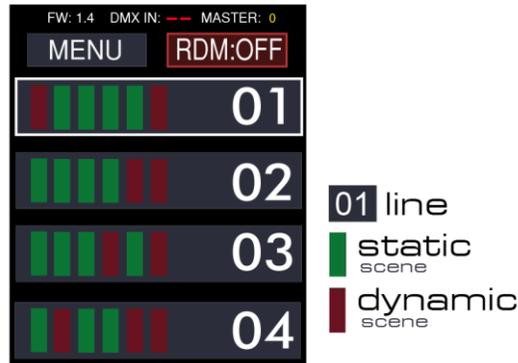
FW: Displays current firmware version on MasterFade. It is recommended to use the latest available firmware available.

DMX IN: Displays the DMX IN signal status. Red line for no DMX IN signal, green line for DMX IN signal.

MASTER: Displays the current MASTER fader status (value) from 0 - 100%.

FADER MENU

When MasterFade is powered on, the "Fader" menu will appear. All memories will be blank (gray rectangles). If static or dynamic scenes are recorded, they will appear as green or red rectangles (green for static, and red for dynamic). Up to eight pages may be recorded, each page consists of one fader memory set (six faders) for a total of 48 recordable fader scenes.



RECORD A MEMORY UNDER FADER MENU

Under the **Fader menu** are eight pages of fader memories. In each of page, six memories can be recorded, **static** or **dynamic**. The length of dynamic memories depends on SD card size.

Remember: **Dynamic** memories do not allow copy and paste due the hardware resources.

To **record** a memory in fader menu in one of the eight pages, do the following:

Step 1: Press the "Fader" button located at the right side of the touchscreen.

Step 2: Press and hold one of the eight page buttons with loading bars on top. A window will appear.

Step 3: Press one of the six select keys (located under faders). Empty memory (gray) or **static** / **dynamic** record will appear. Also, selected button LEDs will illuminate. If it's **green**, it contains recorded **static** memory, if it's **orange**, a dynamic memory is recorded.

Step 4: Press "Record" to record a memory. If there is an active DMX signal, it will record it as needed (**static** or **dynamic**). If there is no active DMX signal input, the device will record all 512 DMX values as zero.

Step 5: Choose from **static** and **dynamic** memory to record. Press the required memory type button and then press "Record".

Step 5.1: "Static - Record" button will change to "wait..." button briefly. Static memory recording is successful.

Step 5.2: "Dynamic - Record" button will turn into a stopwatch indicating the duration of dynamic record. When you have completed changing input signals, press "STOP". Dynamic memory is successfully recorded..

THE DIFFERENCE BETWEEN STATIC AND DYNAMIC RECORD

Dynamic record is a recording primarily used to achieve a dynamic look at 40 frames per second. The length of the recording is limited by capacity of SD card.

Static record is a single frame snapshot (scene).

EDIT A STATIC MEMORY UNDER SCENE/RELAY OR FADER MENU

Memory editing under fader or scene menus are identical.

To edit a memory under **Scene** or **Relay** menu, do the following:

Step 1: Press/hold an active **Scene/Relay** button on the touchscreen as shown in the image below. **Step 2:** Press "**EDIT**" button. The DMX signal editing window will appear.

Step 3: Tap on the cell to edit. The frame of the cell will turn yellow.

Step 4: Edit the value desired using six faders. Value if the fader is at 100% will be 255.

*Remember: **DMX** value editing is not sensitive to the master fader. When editing is complete, press "**EXIT**".*
The confirmation window will appear.

Step 5: To save, press the "**YES**" button. To discard the changes made to DMX values, press "**NO**".

Fader page memories have slightly different access and recording options but identical static memory editing.



NOTE!
Dynamic memory recordings
cannot be edited.



To **edit** a memory in fader menu in one of eight pages, do the following:

Step 1: Press the "**Fader**" button located at the right side of the touchscreen.

Step 2: Press/hold one of eight page buttons with loading bars on top. A window will appear.

Step 3: Choose a memory for editing (DMX value editing is only for **static** memories!). A window will appear.

Step 4: Press **EDIT**. A window with all 512 DMX values (bars) will appear.

Step 5: Edit the **DMX** values as necessary using six faders and press "**EXIT**" at upper-right corner.

Step 5.1: Press the **MENU** button and change DMX values by **+5% (ALL +5%)** or **-5% (ALL -5%)**. It is possible to cancel all values by pressing the "**ALL ZERO**" button.

NOTE: Cells with empty values will not change after pressing the +/-5% button.

Step 6: to save the changes, press the "**YES**" button.

Result: Fader LEDs will begin blinking if the fader values do not match with input values in the cell. All DMX value changes are saved if you have pressed "**YES**" in Step 6.

*TIP: When editing memory cells, use "**Flash/Chase**" buttons to remove the fader status levels quickly.*

SCENE/RELAY STATIC MEMORY EDITING

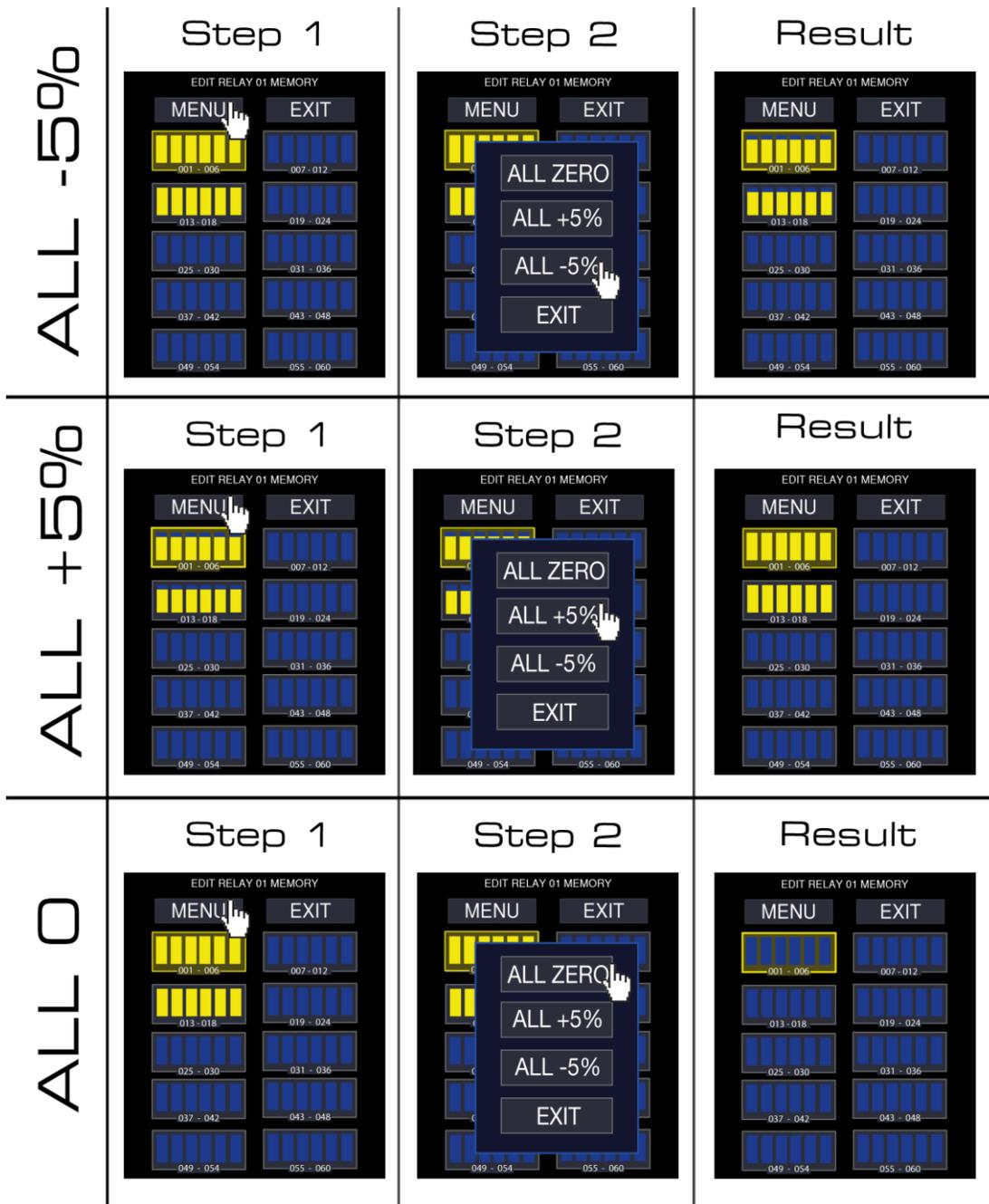
<p>Step 1</p>	<p>Step 2</p>	<p>Step 3</p>	<p>Faders</p>
	<p>Step 5</p>	<p>Step 4</p>	

FADER PAGE STATIC MEMORY EDITING

<p>Step 1</p>	<p>Step 2</p>	<p>Step 3</p>	<p>Step 4</p>
	<p>Step 7</p>	<p>Step 6</p>	<p>Step 5</p>

MENU UNDER EDIT WINDOW

The editing menu brings few new possibilities to make the editing easier. In this menu you have options to increase all values by 5%, decrease by 5%, and set all values to 0. For example:



Step 1: Press "MENU" button in memory editing menu. **ALL -5%**

Step 2: To decrease all values by 5%, press "ALL -5%". All active values will be decreased by 5%. The example above shows what happens if pressed three times (-15%).

Step 3: For increasing all values by 5%, press "ALL +5%". This will increase all active (if) values by 5%. The example above shows what happens if pressed three times (+15%).

ALL ZERO

Step 4: For setting all values to zero, press "ALL 0". This sets all values to 0.

RECORDING A SCENE/RELAY

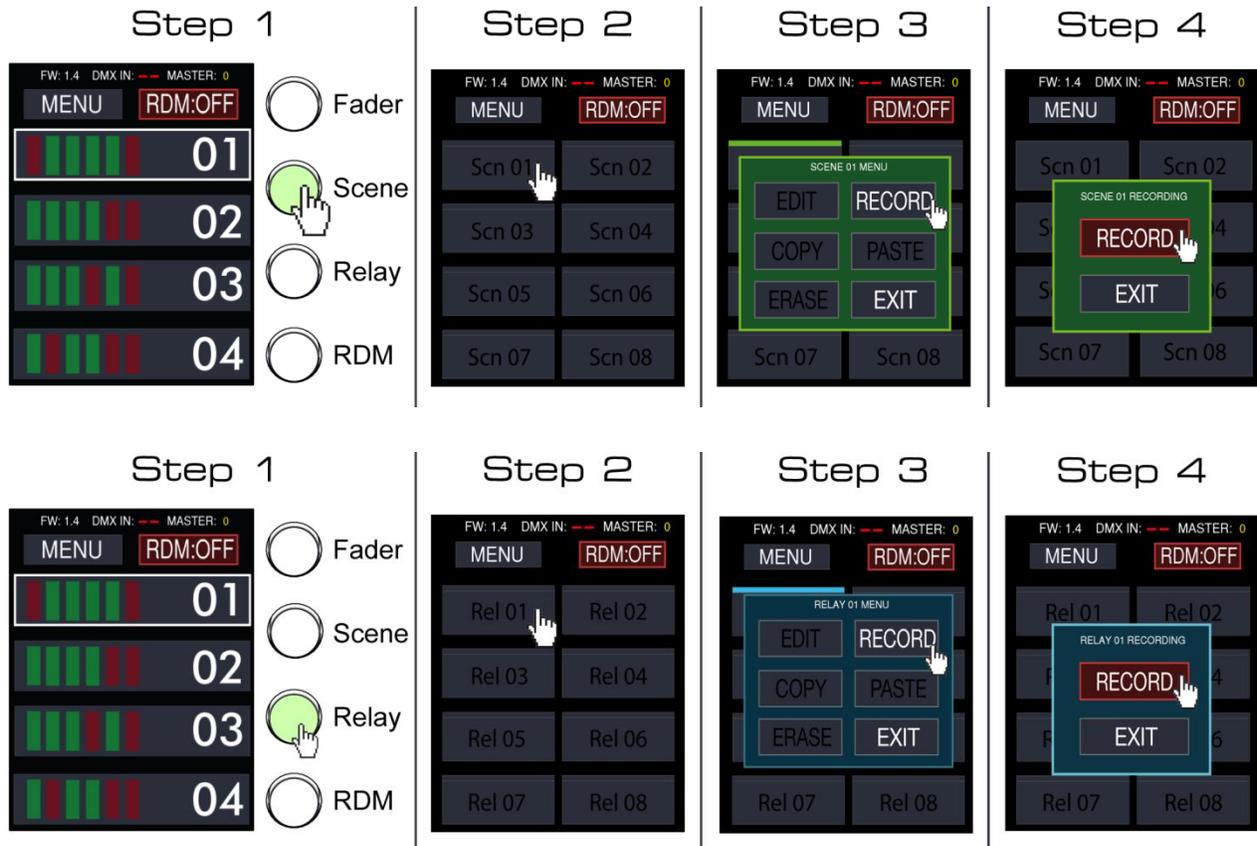
To record a **Scene/Relay**, do the following:

Step 1: Press **"Scene"/"Relay"** button located on the right side of the touchscreen.

Step 2: Choose a scene / relay to record (**Scn 01 to Scn 16**) and press/hold the chosen scenes icon. Scene/Relay 01 - 16 menu will pop-up.

Step 3: Hit the **"RECORD"** button. Recording dialogue will appear.

Step 4: When faders are set, press the **"RECORD"** button. Scene or relay will be recorded.



DIFFERENCE BETWEEN SCENE AND RELAY RECORDING

Relays are more secure due to the playback restrictions. To playback and stop a relay, you must press two buttons, one physical and one on the touchscreen.

Also, relays are not sensitive to "Grand Master" fader changes.

ERASE A SCENE/RELAY RECORDING

To erase a Scene/Relay record, follow these steps:

Step 1: Open **Scene/Relay** menu.

Step 2: Choose a **Scene/Relay** you want to delete.

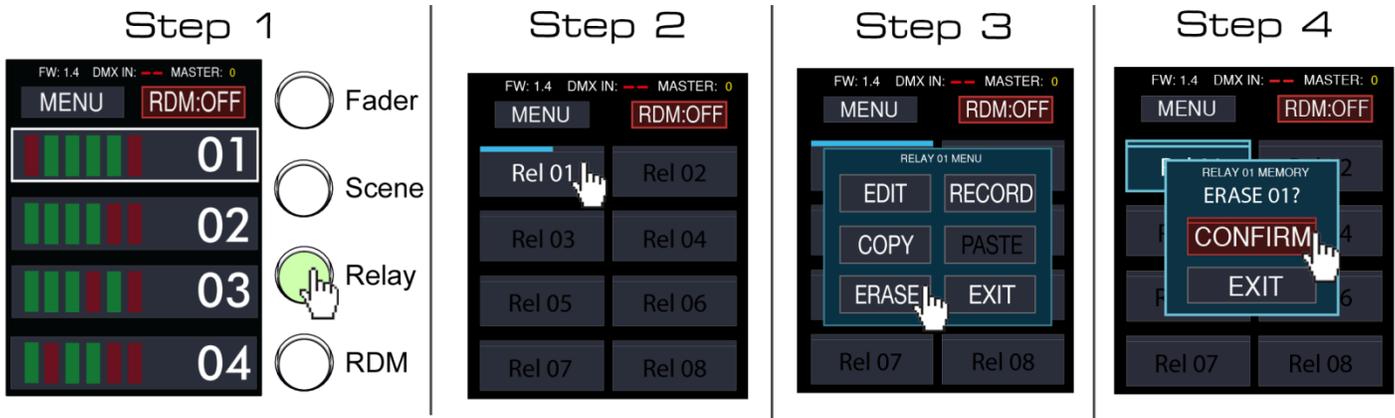
Step 3: Press "**ERASE**" button.

Step 4: Press "**CONFIRM**" button to permanently erase your recorded Scene/Relay record.

Warning: This will erase all data recorded in a Scene/Relay cell.

Step 5: Press "**OK**" button.

Result: Scene or Relay has been successfully deleted.



ACCESS FADER RECORD MENUS

To erase a fader page memory:

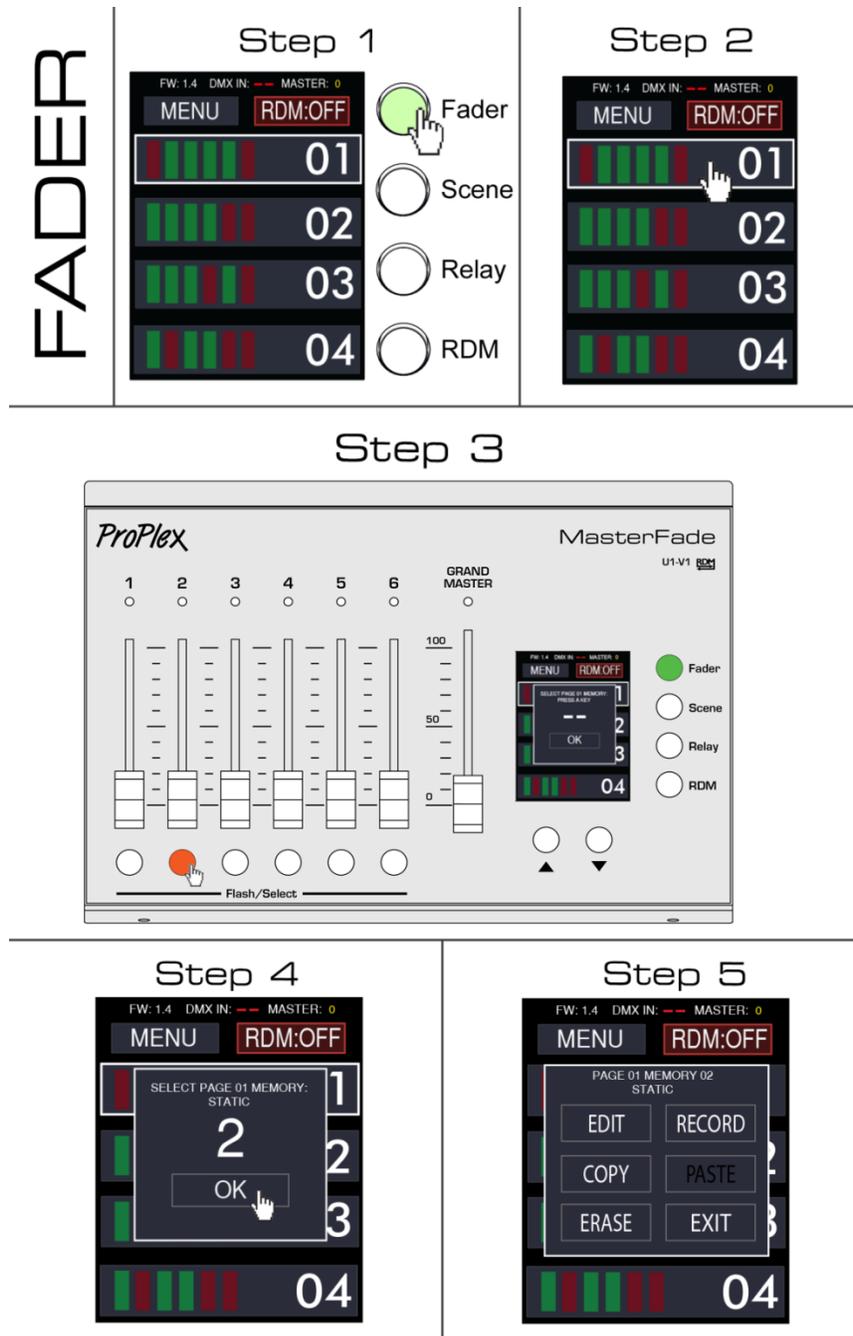
Step 1: Press "Fader" button located at the right side of the touchscreen. This will provide access to "Fader" menu.

Step 2: Press/hold one of eight page buttons with loading bars on top. A window will appear.

Step 3: Press one of six select keys (located under faders). There the user can see if it is an empty memory (gray) or it contains a **static** or **dynamic** record. Also, selected button LEDs will illuminate. If it's **green**, it contains a recorded **static** memory. If **orange**, it contains a **dynamic** memory.

Step 4: Press OK button to confirm memory selection or choose another memory.

Step 5: Record memory menu appears.



ERASE A FADER PAGE MEMORY

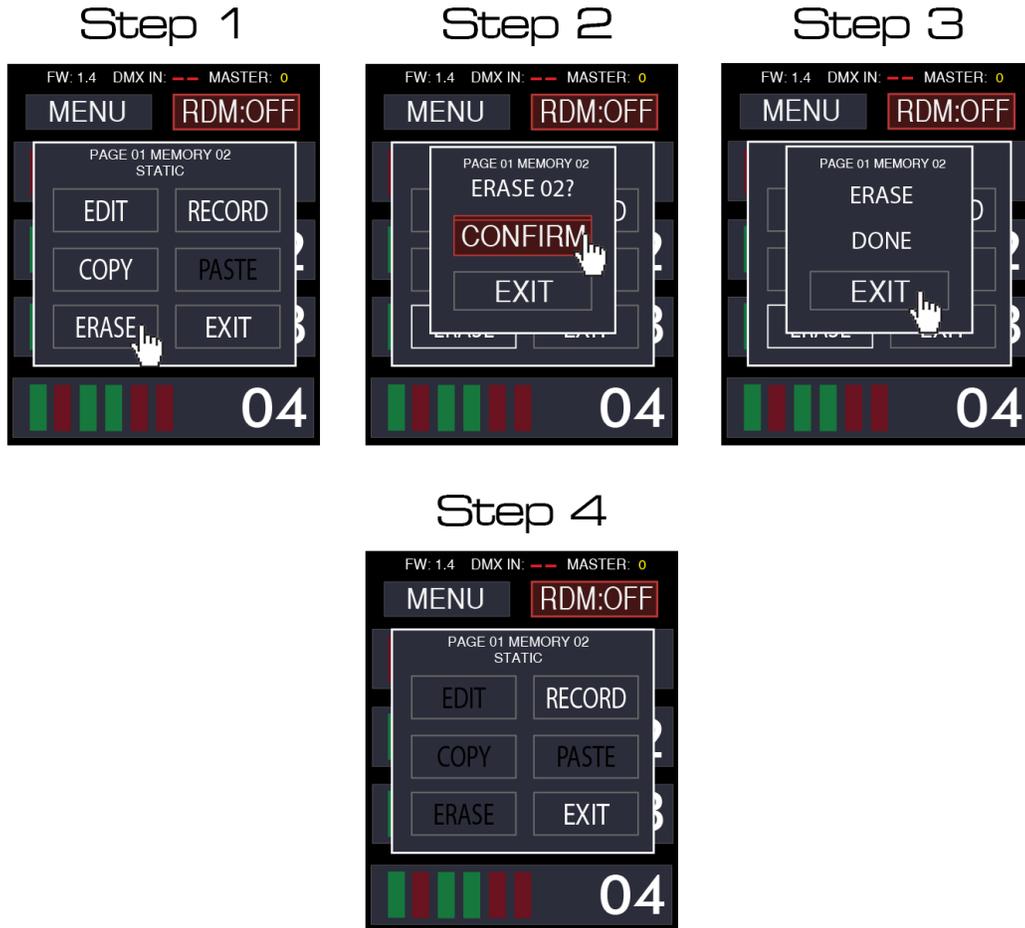
To erase a fader page memory, open the recording menu that you want to delete (described in previous page):

Step 1: Press "ERASE" button.

Step 2: Press/hold "CONFIRM" button to confirm erasing.

Step 3: Press "EXIT" button to return to the menu state.

Step 4: Chosen memory has been successfully erased. Record a new one or return to main state by pressing "EXIT" button.



COPY AND PASTE STATIC PAGE RECORDS

NOTE: Dynamic recordings cannot be copied and pasted!

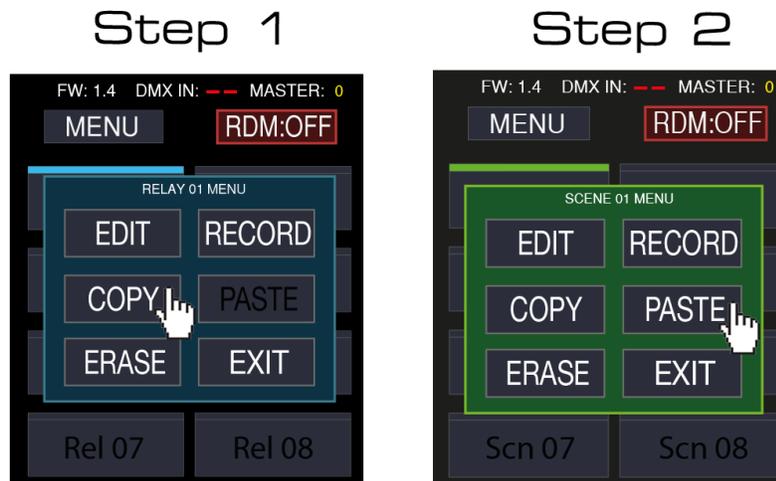
Copy all three kinds of static recordings: Relays, Scenes, and Static Faders.

To copy and paste **static** recordings:

Open a page where the recording is located.

Step 1: Press "**COPY**" button to copy the recording. Go to the desired page to paste recording.

Step 2: Press "**PASTE**" button to paste the copied recording.



RDM

RDM (*Remote Device Management*) is a protocol enhancement to DMX512 protocol, allowing signals to be sent and received. RDM allows bi-directional communication between a lighting or system controller and attached RDM compliant devices over a standard DMX line. This protocol allows configuration, status monitoring, and management of these devices in such a way that does not disturb the normal operation of standard DMX512 devices that do not recognize the RDM protocol.

RDM can provide:

- Identification and classification of connected devices (Fixtures, Dimmers, Splitters, etc.)
- Addressing of devices controllable by DMX512.
- Status reporting of fixtures or other connected devices.
- Configuration of fixtures and other DMX devices.

HOW TO ACTIVATE RDM MENU ON MASTERFADE

The RDM state on the upper-right corner has to be **green** in color. To achieve this state, press the red "RDM:OFF" button.



If the RDM is activated, it will show the connected RDM device count (in this case it shows 01 which means that 1 RDM capable device is recognized).

HOW TO VIEW RDM INFORMATION

The RDM page is organized to display or edit only one RDM device at time. But the user can easily switch between devices with UP/DOWN buttons (located under LCD).

At the top of RDM window, actual RDM device info is displayed:



Selected device plus total devices in the system will be displayed. For example: "3 of 6" indicates selected device 3 of 6 in the system.

UID (Unique ID) 48bit (6byte) long RDM device ID representation in Hex.

Example: "**UID: 4E41:0BC8:6CEC**"

UID consists of a 16-bit ESTA assigned Manufacturer ID (in this case "**44E41**") with a 32-bit Device ID (in this case "**0BC8:6CEC**")

Manufacturer label:

Example: **TMB**

Model description:

Example: **Flare**

Software version string.

Example: "**Vers 9.4**"

DMX footprint: This field specifies the DMX512 footprint (number of consecutive DMX512 slots required).

Example: "**DMX footprint: 20**"

After Info area there are six buttons with labels:

DMX ADDRESS

Displays DMX starting address of current device. Press this button and a new address selection window appear and its can be changed and saved. To edit the DMX address, press one of four buttons (**-1**; **+1**; **-10**; **+10**) to navigate to the necessary DMX address (1-512).

Example: "**DMX Address 1**"



DMX MODE

Current device Mode number and number of available modes is displayed (ie 10/14). Press this button and Mode selection window is displayed. Switch through available modes and save new mode if necessary.

Example shown: "**Mode 10 of 14**", described as "**Strobe + RGBW 1 pix**".



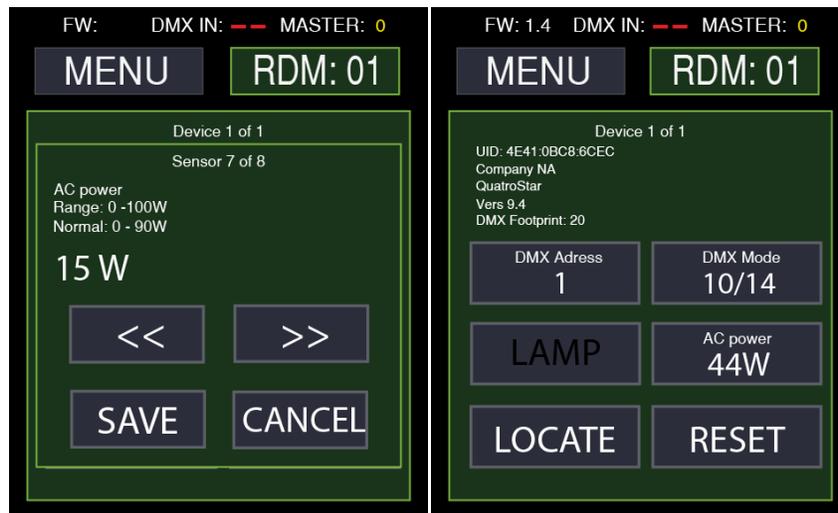
LAMP

This button is active only if device supports lamp control. When pressed, a new “Lamp Control window” appears. Displayed are “Lamp hour counter”, “Lamp strikes counter”, and “Turn On Mode” description fields. It is also possible to turn a lamp ON or OFF by long-pressing desired state button. Example shown: "**Lamp OFF**" (*LED fixture*)



SENSOR

Label and Value are dependant on the selected sensor number. The label shows the selected RDM sensor description string, and the current sensor reading value, ending with corresponding measurement unit symbol. This value is automatically updated every three seconds.



NOTE: The Sensors are identified by their sequence numbers in the device. Select one device sensor with a number 3, e.g. “**LED temperature**”. Switch to another device with different Sensor list, and the new device corresponding Sensor with number 3 will be selected and displayed, but it could be any other Sensor type. If Sensor value is outside of its normal range, the button will be **RED**. This helps to quickly indicate any abnormal condition.

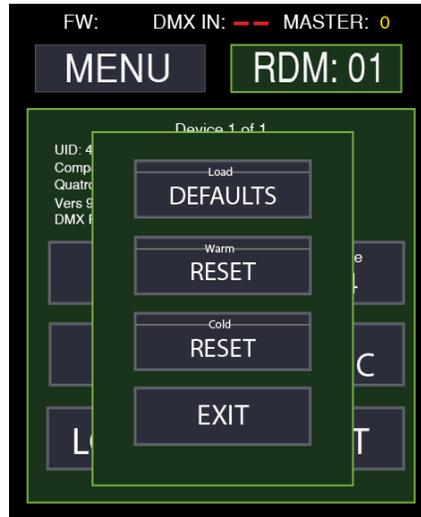
If the selected Sensor number is not present then “-” will appear in instead of a value. This indicates that current device has no such number in the Sensor list. Press this button and the Sensor selection window is displayed. Switch through available Sensors and save the newly selected sensor number if necessary.

LOCATE

Physically identifies the device currently selected. The device will identify itself by using a visible or audible action. For example, strobing a light or releasing fog out of a fog machine.

RESET

Opens a new window with three new submenus:



”Load Defaults”: Press/hold to load device defaults. Device reverts to its Factory Default user settings or configuration determined by the manufacturer.

”Warm Reset”: Press and hold this button to warm reset. Device resets itself. This command shall also clear the Discovery Mute flag.

”Cold Reset”: Press/hold for cold reset (reboot).

FIXTURE DMX LINKING

A DMX data link is needed to run light shows of one or more fixtures using a DMX-512 lighting console. The combined number of channels required by all of the fixtures on the DMX data link will determine the number of fixtures the DMX data link can support.

Important: Fixtures on a DMX data link must be daisy-chained in one single line. To comply with the EIA-485 standard, no more than 32 devices should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically isolated splitter may result in deterioration of the digital DMX signal.

Maximum recommended DMX data link distance between fixtures: 300 meters (984 ft.)

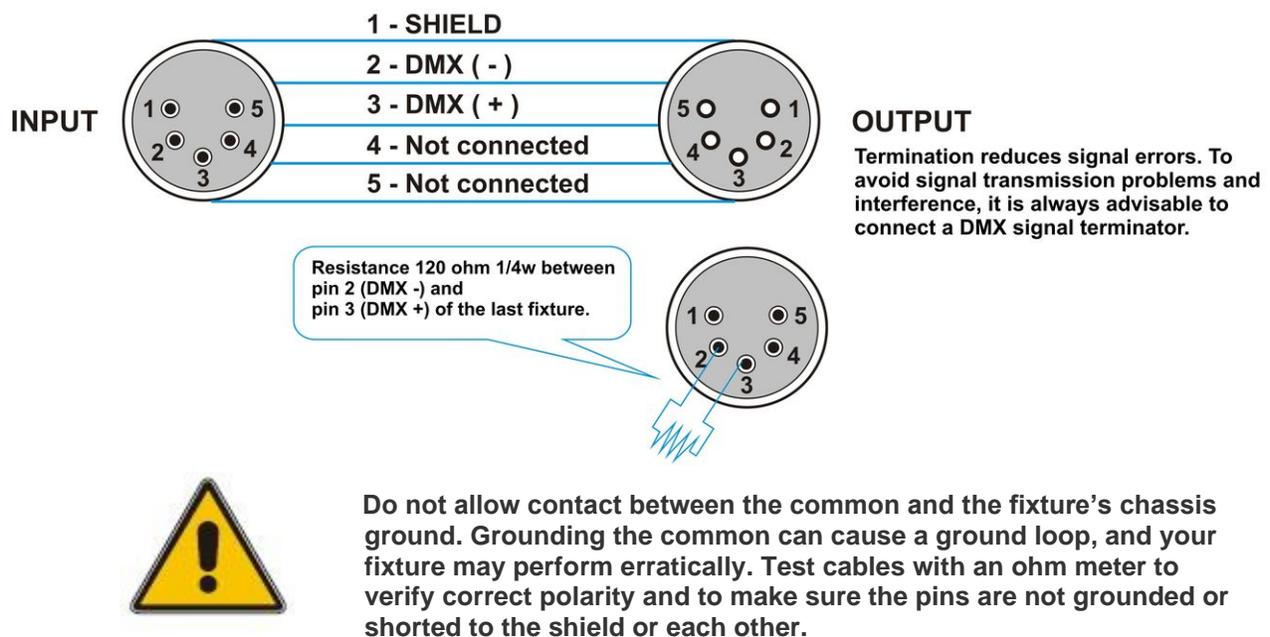
DMX DATA CABLE

Use a ProPlex® DMX cable or equivalent which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The data cable must have the following characteristics:

- 2-conductor twisted pair plus a shield
- Max. capacitance between conductors – 30 pF/ft.
- Max. capacitance between conductor and shield – 55 pF/ft.
- Max. resistance of 20 ohms / 1000 ft.
- Nominal impedance 100-140 ohms

Cabling must have a male XLR connector on one end and a female XLR connector on the other end.

DMX CONNECTOR CONFIGURATION



3-PIN TO 5-PIN CONVERSION CHART

If using a console with a 3-pin DMX output connector, a 3-pin to 5-pin adapter is needed. The chart below details a proper cable conversion:

3-PIN TO 5-PIN CONVERSION CHART		
Conductor	3 Pin Female (output)	5 Pin Male (Input)
Ground / Shield	Pin 1	Pin 1
Data (-) signal	Pin 2	Pin 2
Data (+) signal	Pin 3	Pin 3
Do not use		Do not use
Do not use		Do not use

3. Appendix

BASICS OF DMX CONTROL

There are 512 channels in a DMX-512 connection. Channels may be assigned in any manner. A fixture capable of receiving DMX-512 will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the lighting console. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the overlapping fixtures. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all will respond identically.

DMX fixtures are often designed to receive and transmit data through a DMX daisy-chain. A DMX daisy-chain is where the DMX OUT of one fixture connects to the DMX IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a lighting console communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable such as ProPlex® DMX with 5-pin XLR male to female connectors. The shield/ground is pin 1, while pin 2 is Data Negative (D-) and pin 3 is Data positive (D+). Pins 4 and 5 are not used according to the DMX-512 standard.

GENERAL MAINTENANCE

To maintain optimum performance and minimize wear fixtures should be cleaned frequently. Usage and environment are contributing factors in determining frequency. As a general rule, fixtures should be cleaned at least twice a month. Dust build up reduces light output performance and can cause overheating. This can lead to reduced lamp life and increased mechanical wear. Be sure to disconnect power to the fixture before conducting maintenance.

Unplug fixture from power. Use a vacuum or air compressor and a soft brush to remove dust collected on external vents and internal components. Clean all glass when the fixture is cold with a mild solution of glass cleaner or Isopropyl Alcohol and a soft lint free cotton cloth or lens tissue. Apply solution to the cloth or tissue and drag dirt and grime to the outside of the lens. Gently polish optical surfaces until they are free of haze and lint.

Cleaning of internal and external optical lenses and/or mirrors must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surroundings can cause greater accumulation of dirt on the unit's optics. Clean with soft cloth using normal glass cleaning fluid. Always dry the parts carefully. Clean the external optics at least every 20 days. Clean the internal optics at least every 30 to 60 days.

LIMITED WARRANTY

ProPlex Data Distribution devices are warranted by TMB against defective materials or workmanship for a period of two (2) years from the date of original sale by TMB.

TMB's warranty shall be restricted to the repair or replacement of any part that proves to be defective and for which a claim is submitted to TMB before the expiration of the applicable warranty periods.

This Limited Warranty is void if the defects of the Product are the result of:

- Opening the casing, repair, or adjustment by anyone other than TMB or persons specifically authorized by TMB
- Accident, physical abuse, mishandling, or misapplication of the product.
- Damage due to lightning, earthquake, flood, terrorism, war, or act of God.

TMB will not assume responsibility for any labor expended, or materials used, to replace and/or repair the Product without TMB's prior written authorization. Any repair of the Product in the field, and any associated labor charges, must be authorized in advance by TMB. Freight costs on warranty repairs are split 50/50: Customer pays to ship defective product to TMB; TMB pays to ship repaired product, ground freight, back to Customer.

This warranty DOES NOT cover consequential damages or costs of any kind.

A Return Merchandise Authorization (RMA) Number must be obtained from TMB prior to return of any defective merchandise for warranty or non-warranty repair. For all repairs please contact TMB Tech Support Repair using the contact information below or email TechSupportRepairNA@tmb.com.

527 Park Ave., San Fernando, CA 91340
Tel: +1 818.899.8818
Fax: +1 818.899.8813
tmb-info@tmb.com
www.tmb.com

RETURN PROCEDURE

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will be refused. Please contact TMB and request RMA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. TMB reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA #, please include the following information on a piece of paper inside the box:

- 1) Your name
- 2) Your address
- 3) Your phone number
- 4) The RMA #
- 5) A brief description of the symptoms`

MASTERFADE – TECHNICAL SPECIFICATIONS

WEIGHT & DIMENSIONS

LENGTH	9.65 IN / 245 MM
WIDTH	6.7 IN / 170 MM
HEIGHT	2 IN / 52 MM
WEIGHT	3 LB / 1.4 KG

POWER

OPERATING VOLTAGE.....	100-265V, 48-62Hz
POWER CONSUMPTION.....	10W MAX.

THERMAL

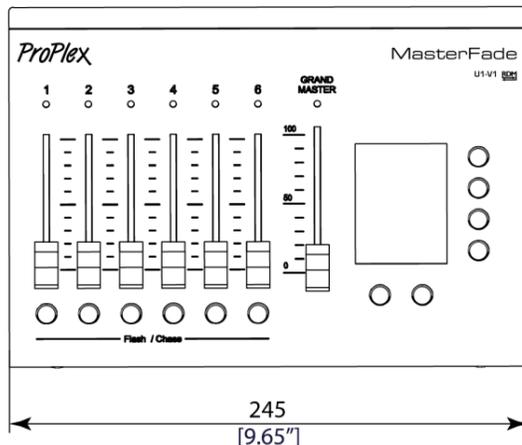
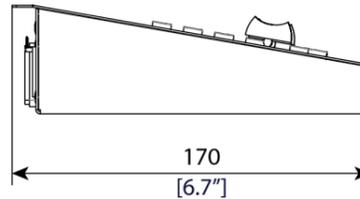
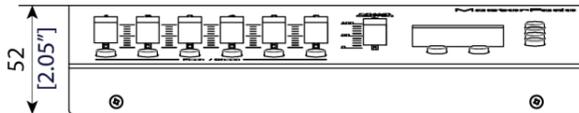
MAXIMUM AMBIENT TEMPERATURE	+40°C
MINIMUM AMBIENT TEMPERATURE	- 20°C
COOLING	Convictional

CONTROL & PROGRAMMING

CONTROL	DMX-512
DMX INPUT.....	LOCKING 5-PIN XLR MALE SOCKET
DMX OUTPUT	LOCKING 5-PIN XLR FEMALE SOCKET
DMX PIN CONFIG	PIN 1 SHIELD; PIN 2 (-); PIN 3 (+); PIN 4, PIN 5 DON'T USE
TOUCHSCREEN SIZE (DIAGONAL).....	4,1CM
RECORD LENGHT.....	24H

WARRANTY INFORMATION

WARRANTY.....	2-YEAR LIMITED WARRANTY
---------------	-------------------------



Dimensions in millimeters [inches]