TFX-D6

Stage Dimmer™ 6

USER MANUAL

2005-04-20/11:20

TABLE OF CONTENT

BEFORE YOU BEGIN

What is included

- ➢ 1 x Stage Dimmer™ 6 (TFX-D6)
- ➢ Manual
- ➢ Warranty Card

Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or 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.

Warning

⚠ Please read these instructions carefully, which includes important information about the installation, usage and maintenance? ⚠

- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- 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 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.
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.
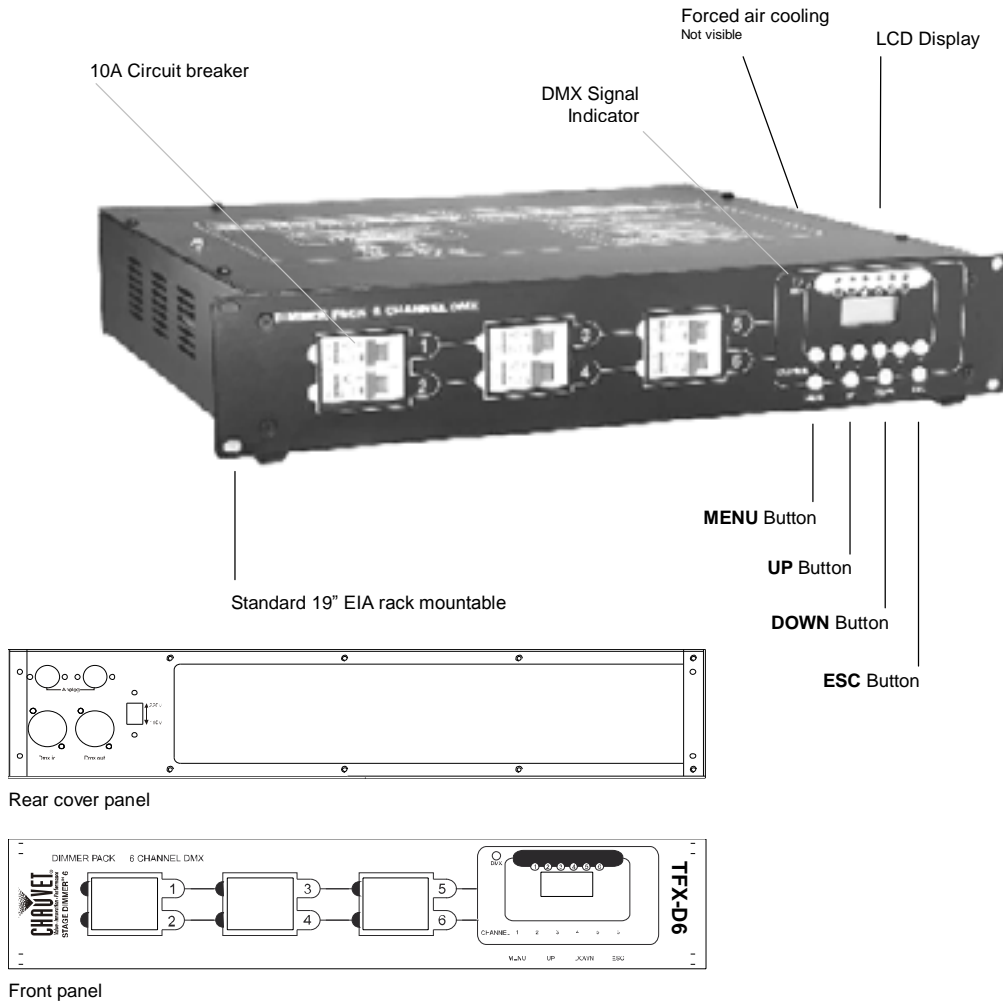
Because Dimmer packs operate at potentially lethal high voltages, installation wiring should be done by qualified persons only!

Do not connect chassis Ground to Neutral, or operate without chassis ground, otherwise the user could be exposed to potentially lethal voltages.

Features

- 6-channel DMX-512 dimmer/switch
- DMX-512 and Analog 0~10v DC control
- Each channel individually DMX addressable
- 12 built-in beat-activated programs (stand-alone)
- 10 Amp magnetic circuit breaker in each channel
- Set preheat voltage to individual channel or all

- Dimmer curve selection; square, switch or linear
- AC phase correction
- Power failure memory
- Digital display and menu navigation buttons
- DMX signal loss failover function
- Thermal switch and short circuit protection
- Fan cooled

Product Overview

10A Circuit breaker

Forced air cooling
Not visible

DMX Signal
Indicator

LCD Display

MENU Button

UP Button

DOWN Button

Standard 19" EIA rack mountable

ESC Button

Rear cover panel

Front panel

I/O Panel

ANALOG

INPUT

OUTPUT

+DC 20V

Ch1   +DC 20V   Ch6

Ch2   Ch5

Ch3   Ch4

Ch1   Ch6

Ch2   Ch5

Ch3   Ch4

DMX IN

1. Ground
2. Data-
3. Data+

DMX OUT

1. Ground
2. Data-
3. Data+

CHANNEL 1 2 3 4 5 6

MENU   UP   DOWN   ESC
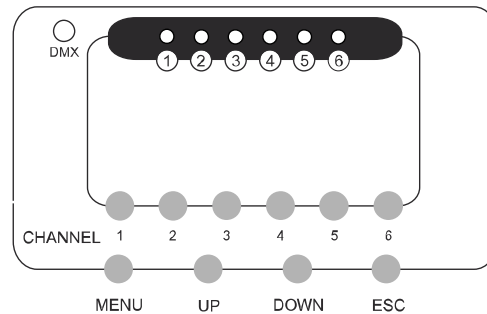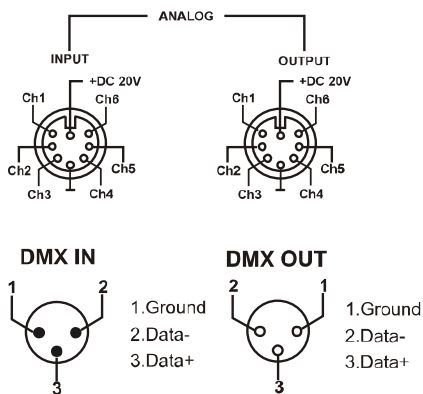
| BUTTON	FUNCTION
MENU	Access the set-up and menu functions
UP	Scroll menu functions or increase values
DOWN	Scroll menu functions or decrease values
ESC	Go back one menu or leave menu system

INSTALLATION

Mounting

The TFX-D6 dimmer packs are designed to be mounted in a standard 19" EIA rack using the two mounting holes on each flange/(ears). The two mounting flanges are designed for securing the dimmer pack to the front rack mounting rails. It is highly recommended that you add support to the rear of the dimmer pack, especially in touring or road case environments.

The TFX-D6 depends on forced air cooling and the following guidelines should be applied during installation:

1. The rack enclosure must maintain a 4 inch minimum clearance on the entire left side of the dimmer rack. The rack enclosure must not be sealed, and must maintain an air exhaust clearance area of at least 20 square inches per installed pack to allow air flow back to the ambient room.

2. The intake manifold on the front of the dimmer pack can never be blocked.

3. Ambient room temperature must never exceed 104°F/50°C

Failure to adhere to proper and safe installation guidelines may result in a VOID of warranty!
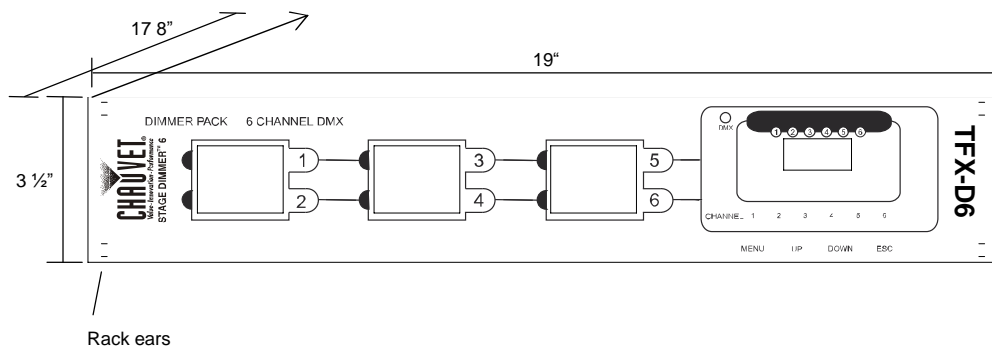
Power Connections

Warning! Make certain that power is removed from the circuits before you begin installation of the dimmer. Consult your local electrical codes to determine the proper wire type and wiring methods for your regional installation.

Input Power

SINGLE-PHASE

1 phase, 3 wire 120/240 VAC, 60 Amps, 50~60Hz

L   N   E

L1   L2   L3   N   N   N   E   E

L N ⏚ N L ⏚ L N ⏚ N L ⏚ L N ⏚ L N ⏚   N   L   ⏚
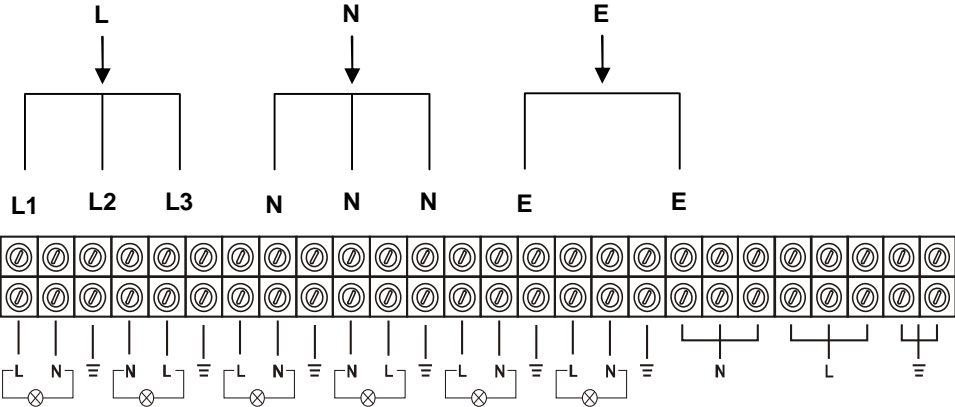
THREE-PHASE

3 phase, 4 wire 120/240 VAC, 20 Amps per phase, 50~60Hz

L1   L2   L3   N   E

L1   L2   L3   N   N   N   E   E

L N ⏚ N L ⏚ L N ⏚ N L ⏚ L N ⏚ L N ⏚   N   L3 L2 L1   ⏚
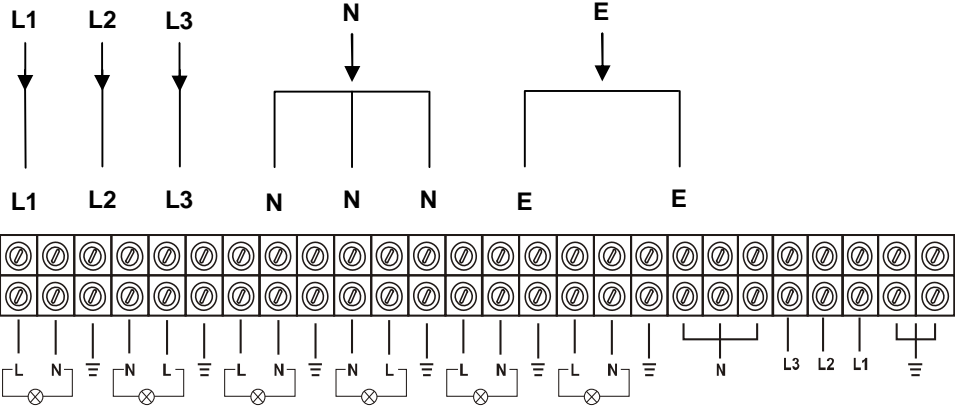
Output Power
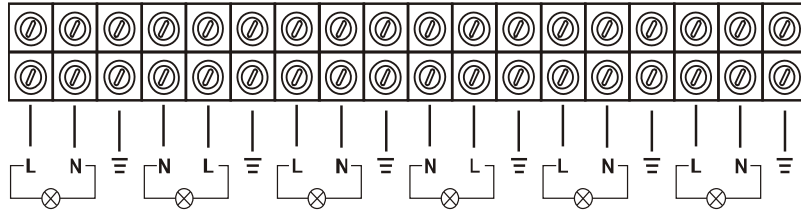
Control Wiring

ANALOG 0-10VDC

Input: 8-pin DIN
Output: 8-pin DIN

Pin	Signal
Ch1	Signal (-)
Ch2	Signal (-)
Ch3	Signal (-)
GND	Ground
Ch4	Signal (-)
Ch5	Signal (-)
Ch6	Signal (-)
+DC 20V	Signal (+)
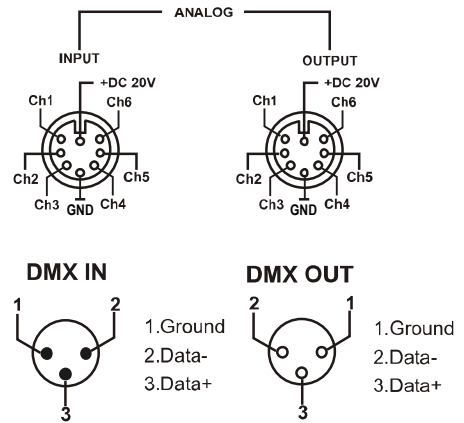
DMX512

Input: 3-pin XLR (male)
Output: 3-pin XLR (female)

Pin	Signal
1	DGND
2	DATA (-)
3	DATA (+)

OPERATING INSTRUCTIONS

Start Menu

Upon powering the dimmer, the LCD panel will display the software version presently installed and shortly after, will enter standby mode.

First line displays dimming levels of each channel.

Second line displays the channel.

Channel buttons

Menu Navigation

| Dmx fail | | Hold |
| Analog |
| Prog.01-12 |

| Curve | | Linear |
| Switch |
| Square |

| Preheat | | All |
| Single Channel |

| DMX addr | | Block |
| Single Channel |

| Pha corr | | Yes |
| No |
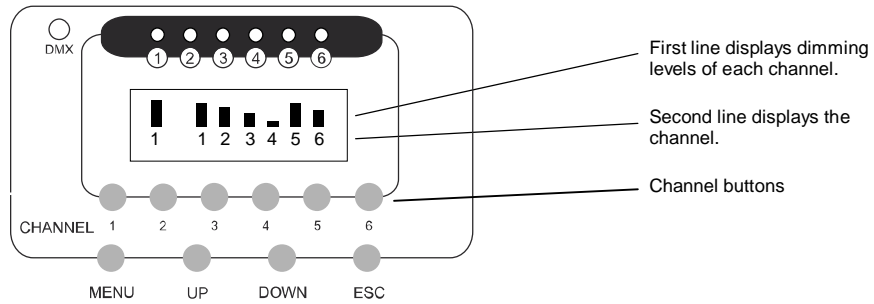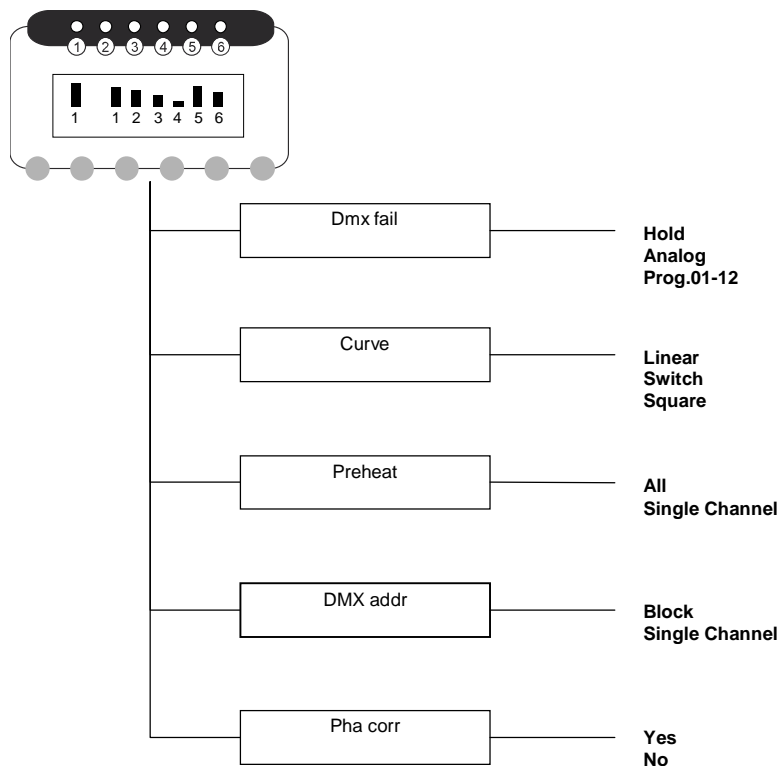
Temporary Intensity Per Channel

Action ☛

1) Press a channel button to select desired channel output. Every press will change intensity once.

2) Hold the button for 2 seconds to change channel intensity rapidly.

3) Press the **ESC** button to switch between increasing or decreasing channel intensity.
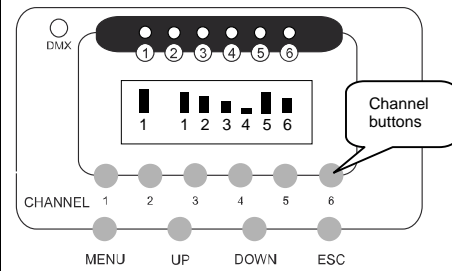
Temporary Intensity All Channels

Action ☛

1) Press the **UP/DOWN** buttons to set desired intensity for all channel outputs. Every press will change intensity once.

2) Hold the button for 2 seconds to change channel intensity rapidly.
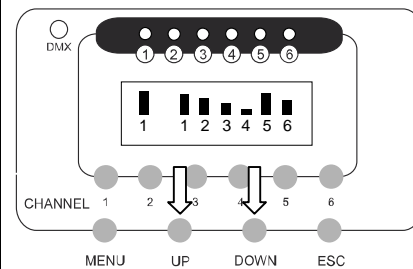
Setup Menu

Action ☛

1) Press the **MENU** button to enter the setup menu.

2) There are 5 menu items to choose from; Dmx fail, Curve, Preheat, Dmx addr, and Pha corr.

3) Press the **UP** and **DOWN** buttons to scroll menu items.

4) Press **ESC** to exit the setup menu.
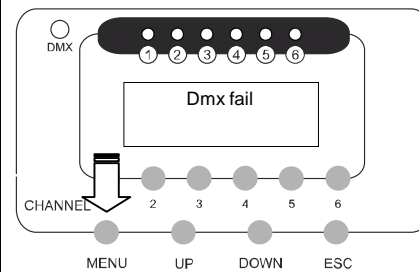
DMX Fail [Dmx fail]

The DMX Fail feature allows the user to select how the dimmer will behave if you were to loose the DMX controller's signal to the dimmer.

Action ☞

1) Press the **MENU** button to enter the setup menu.

2) Press the **UP** and **DOWN** buttons to scroll menu items until you reach **[Dmx fail]**.

3) Press **MENU** to enter the sub-menu.

4) If it were running the built-in scene 08 it would display as per the illustration on the right.

5) Press the **UP/DOWN** buttons to select one of the following; **[Hold]**, **[Analog]**, **[Prog.01-12]**.

```
       Dmx fail
       Prog08
```

Hold – The dimmer will hold the last dmx signal received.

Analog – The dimmer will revert to the Analog input signal.

ProgXX - Will start internal programs 1-12.

HOLD, ANALOG

1) Whether you choose **Hold** or **Analog** press the **ESC** button to confirm and exit.

```
      Dmx fail
   (Hold) or (Analog)
```

PROG.01-12

1) Press the **ESC** button to confirm.

2) Select a chasing speed from 0.1 to 20 seconds using the **UP/DOWN** button. (Hold the UP/DOWN buttons for two seconds to change speed quickly.)

3) Press the **ESC** button to confirm setting.

```
       Speed
       00.3s
```

Phase Correction [Pha corr]

Action ☞

1) Press the **MENU** button to enter the setup menu.

2) Press the **UP/DOWN** buttons until you reach **[Pha corr]**.

3) Press **MENU** to enter the sub-menu.

4) Press **UP/DOWN** buttons to choose between **[Yes]** and **[No]**.

5) Press **ESC** button to activate.

```
       Pha corr
    (Yes) or (No)
```

DMX Address [Dmx addr]

Action ☝

1) Press the **MENU** button to enter the setup menu.

2) Press **UP/DOWN** buttons to choose between **[Block]** and **[Single]** configuration.

3) Press **MENU** button to enter the sub-menu.

Block – Block addressing refers to 6 consecutive channels using only one starting address.
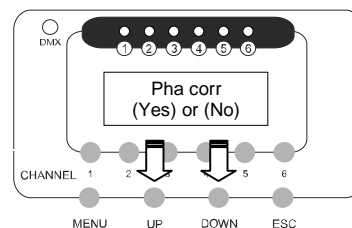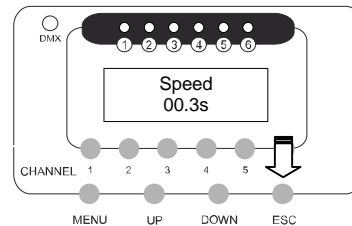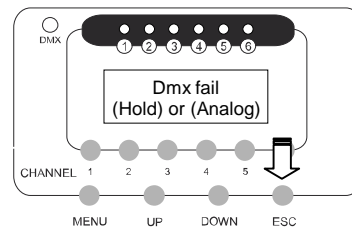
Single – Allows the user to select a starting address for each individual channel.

BLOCK

The dimmer will occupy 6 consecutive channels of DMX control.

1) Press the **ESC** button to confirm.

2) Press **UP/DOWN** buttons to select the start address between 001 and 512.

SINGLE

Each channel can have a different DMX starting address.

1) In **[Chan[1]]/**Single Channel mode press **MENU** to change between the dimmer channel and its' start address as noted by the cursor.

2) In **[Chan]**, press **UP/DOWN** buttons to select dimmer channels 1 thru 6. In **[001]**, press **UP/DOWN** buttons to select DMX starting address [001 to 512].

3) Repeat steps 1 thru 2 to until you have set all 6 channels.

4) Press the **ESC** button to exit and confirm.

Preheat [Preheat]

Enabling the preheat function will protect your lamps against cold starts. Upon powering the dimmer a trickle voltage will be output to the lamps, not enough for the lamp to be visible by the human eye, but enough to warm up the filament. This will help increase the life of your lamps. Usually 6% of 100% output is sufficient.

Action ☜

1) Press the **MENU** button to enter the setup menu.

2) Press the **UP** and **DOWN** buttons to scroll menu items until you reach **[Preheat]**.

3) Press **MENU** button to enter the sub-menu.

4) Press the **UP/DOWN** buttons to choose between **[All]** and **[Chan]**/Single Channel mode.

5) Press **MENU** to select mode.

ALL [All]

1) Press **UP/DOWN** to select the preheat value between [000%] – [050%] for all channels.

SINGLE CHANNEL [Chan [?]]

1) In **[Chan [1]]**/Single Channel mode press **MENU** to change between the channel and its' start address as noted by the cursor.

2) In **[Chan]**, press **UP/DOWN** buttons to select channels 1~6. In **[001]**, press **UP/DOWN** buttons to select percentage [000%-050%].

3) Repeat steps 1 thru 2 for any additional channel you would like to change.

4) Press the **ESC** button to exit and confirm.

Dimmer Curve **[Curve]**

Action ☞

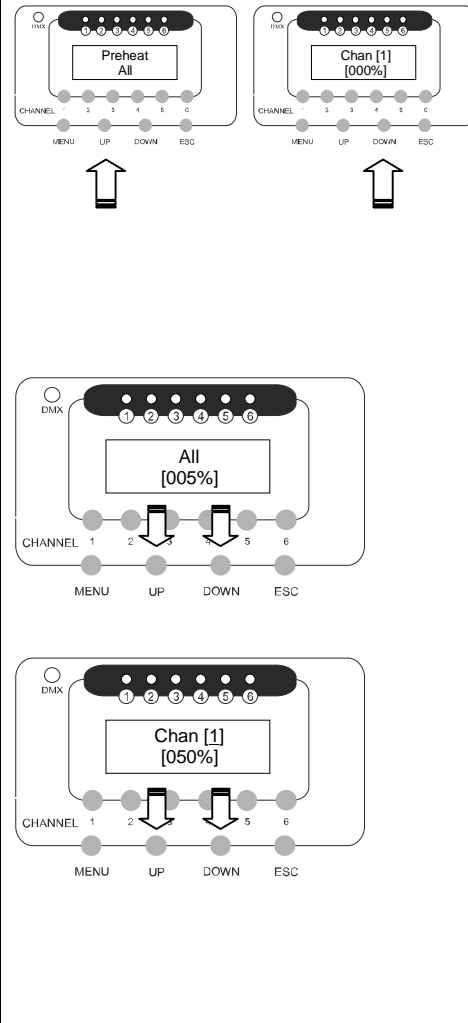1) Press the **MENU** button to enter the setup menu.

2) Press the **UP** and **DOWN** buttons to scroll menu items until you reach **[Curve]**.

3) Press the **MENU** button to enter the sub-menu.

4) Press **UP/DOWN** buttons to select from Single or All. Press **MENU** to confirm.

5) If choosing Single read next step, other wise skip to step 7.

6) Single: You can change the dimmer curve of each channel

    a. Press **UP/DOWN** buttons to select a channel Chan[1] ~ Chan[6], Press **MENU**

    b. Press **UP/DOWN** buttons to select Square, Switch & Linear, Press **MENU**

    c. Skip to step 8 to end.

7) All: Applies the dimmer curve to all channels

    a. Press **UP/DOWN** buttons to select Square, Switch & Linear, Press **MENU**

8) Press **ESC** button to exit and confirm.
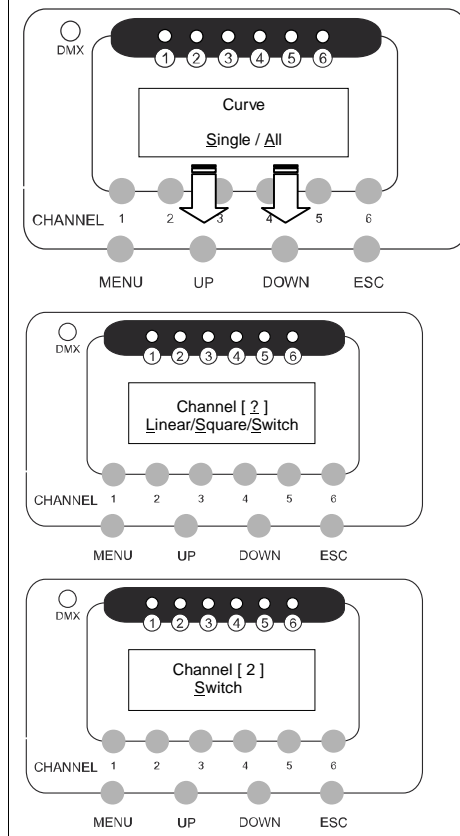
Dimmer Curve Explained

Square Curve: Dimmer scale and output wattage are closer in relationship. It is a more precise method of varying wattage output.

Linear Curve: Preferred method for lighting programmers. See explanation below.

Switch Curve: The dimmer will not dim but simply provide full voltage output when commanded above 50%.

LEGEND
- - - - Square law
——— Linear

The human eye is most sensitive to the intensity of light at levels below 25% of its 100% brightness. Using the Linear dimming curve provides lighting designers greater control of light intensity levels that are most visible by everyone by expanding the range of control using the slider.

Greatest control of levels below 25% using the slider

Least control of levels below 25% using the slider

LIGHT OUTPUT — 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

DIMMER LEVEL — 50% 100%
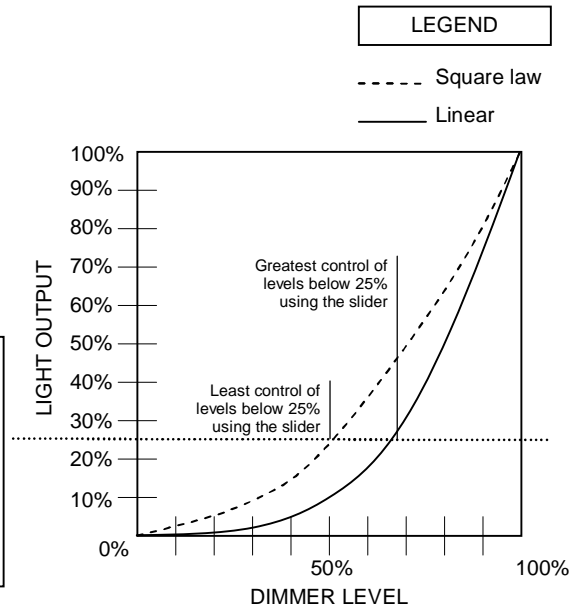
APPENDIX

DMX Primer

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 controller. 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 fixtures whose starting address is set incorrectly. 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 respond exactly the same.

DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller 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 with three pin XLR male to female connectors. The shield connection is pin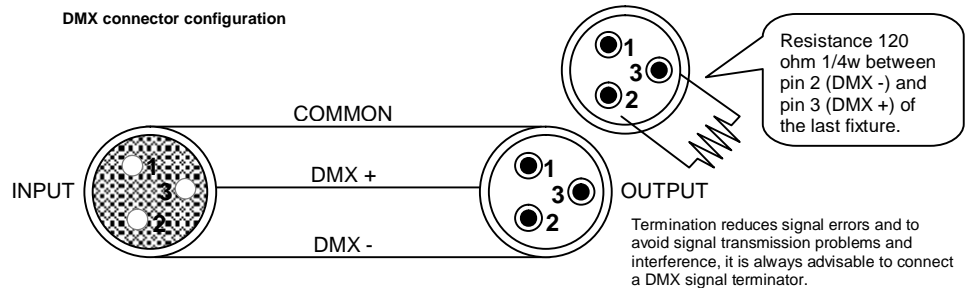 1, while pin 2 is Data Negative (S-) and pin 3 is Data positive (S+). CHAUVET carries 3-pin XLR DMX compliant cables, DMX-10 (33'), DMX-4.5 (15') and DMX-1.5 (5')

FIXTURE LINKING

DMX connector configuration

COMMON

DMX +

INPUT

DMX -

OUTPUT

1
3
2

1
3
2

1
3
2

Resistance 120 ohm 1/4w between pin 2 (DMX -) and pin 3 (DMX +) of the last fixture.

Termination reduces signal errors and to avoid signal transmission problems and interference, it is always advisable to connect a DMX signal terminator.

Note!   **If you use a controller with a 5 pin DMX output connector, you will need to use a 5 pin to 3 pin adapter. CHAUVET Model No: DMX5M.**
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

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 can cause overheating. Be sure to power off 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.

Returns 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 (RA #). Products returned without an RA # will be refused. Call CHAUVET and request RA # 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. CHAUVET 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.

Claims

Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise. It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Any other claim for items such as missing component/part, damage not related to shipping, and concealed damage, must be made within seven (7) days of receiving merchandise.

Technical Specifications

WEIGHT & DIMENSIONS
Length .... 452 mm (17.8 in)
Width .... 483 mm (19 in)
Height .... 89 mm (3.5 in)
Weight .... 9.98 Kg (22 lbs)

INPUT POWER
Switch-selectable power setting (on-board PCB) .... 115V 60 Hz or 230V 50 Hz
Single-phase input .... 3 wire + GD, 120/230 VAC, 60 Amps, 50-60Hz
Three-phase input .... 4 wire + GD, 120/230 VAC, 60 Amps, 50-60Hz

OUTPUT CAPACITY
120VAC, 6-channels .... 1200 Watts per channel @ 120VAC
230VAC, 6-channels .... 2300 Watts per channel @ 230VAC

OUTPUT PANEL
.... Hard-wired terminal blocks

OVERLOAD PROTECTION
.... 10 Amp Fast Acting Circuit Breakers per Channel

CONTROL & PROGRAMMING
Data input .... locking 3-pin XLR male socket
Data output .... locking 3-pin XLR female socket
Data pin configuration .... pin 1 shield, pin 2 (-), pin 3 (+)
Protocols .... DMX-512 USITT
DMX Channels 6
Analog .... 6 channels of 0-10VDC

ORDERING INFORMATION
Stage Dimmer™ 6 .... TFX-D6