

Mozart



USER MANUAL

1. BEFORE YOU BEGIN

WHAT IS INCLUDED IN MOZART PACKAGE

- ▶ 1x Mozart
- ▶ Warranty Card
- ▶ Users Manual

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 it self 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.

CONTACT US

General Information **Company NA**
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SAFETY INSTRUCTIONS



**Please read these instructions carefully,
which includes important information about the
installation, usage and maintenance of this product.**



- Please keep this User manual 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 the decal or rear panel of the fixture.
- Make sure there are no flammable materials close to the unit while operating.
- Always disconnect from power source before servicing or replacing fuse and be sure to replace with same fuse source.
- Secure fixture to fastening device using a safety chain.
- Maximum ambient temperature (Ta) is (40°C). Do not operate fixture at temperatures higher than this.
- 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.
- Don't connect the device to a dimmer pack.
- 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: „Company NA” at: +37167801110.*

2. DEVICE DESCRIPTION

MOZART - LED fixture, the smallest LED fixture ever made by Company NA, also- one of the smallest DMX512 controlled LED fixtures in the market. Due to its size and appearance, Mozart is great to use as a part of scenery.

Mozart has got 16 pixels which consists out of 4 one chip RGB LEDs. It has an ultra high refresh rate- rated at 38 400Hz. 16 bit colour dimming control ensures very smooth dimming.

It has got 3 operating modes- **1 pixel (3ch)**, **4 pixel (12ch)** and **16 pixel (48ch)**. Also, Mozart is silent (makes no sound at all) and waterproof (**IP65**).

To keep Mozart small as possible, there is a power supply unit made for Mozart (Mozart PSU) which is used to provide the DMX signal and power for Mozart.

This fixture is controlled by DMX512 protocol, using **RDM**- DMX512 protocol enhancement which allows bi-directional communication between a lighting or system controller and attached RDM compliant devices over a standard DMX line.

FEATURES

- 64 CREE MC-E RGB LED light sources
- DMX 512A control with RDM protocol
- Power consumption- 20W at peak
- SwitchCraft EN3 DMX and power connectors
- 1, 4 or 16 pixels
- 3, 12 or 48 channel controls (depending on pixel count)
- 16 bit colour dimming control
- Beam spread of 120°
- Up to 10 Mozart fixtures connectable to 1 Mozart PSU unit

MOZART TECHNICAL SPECIFICATION

WEIGHT & DIMENSIONS

Length	119 mm
Width	45mm
Height.....	119mm
Weight	565g

POWER

Operating voltage.....	24V DC
Power consumption	20W @ full load
DMX/ power connectors.....	SwitchCraft EN3

LIGHT SOURCE

LED count	64
Colours.....	red , green , blue
Beam spread.....	120°
Refresh reate	38 400Hz
Average Colour Wavelength.....	red: 625 nm green: 530 nm blue: 460 nm

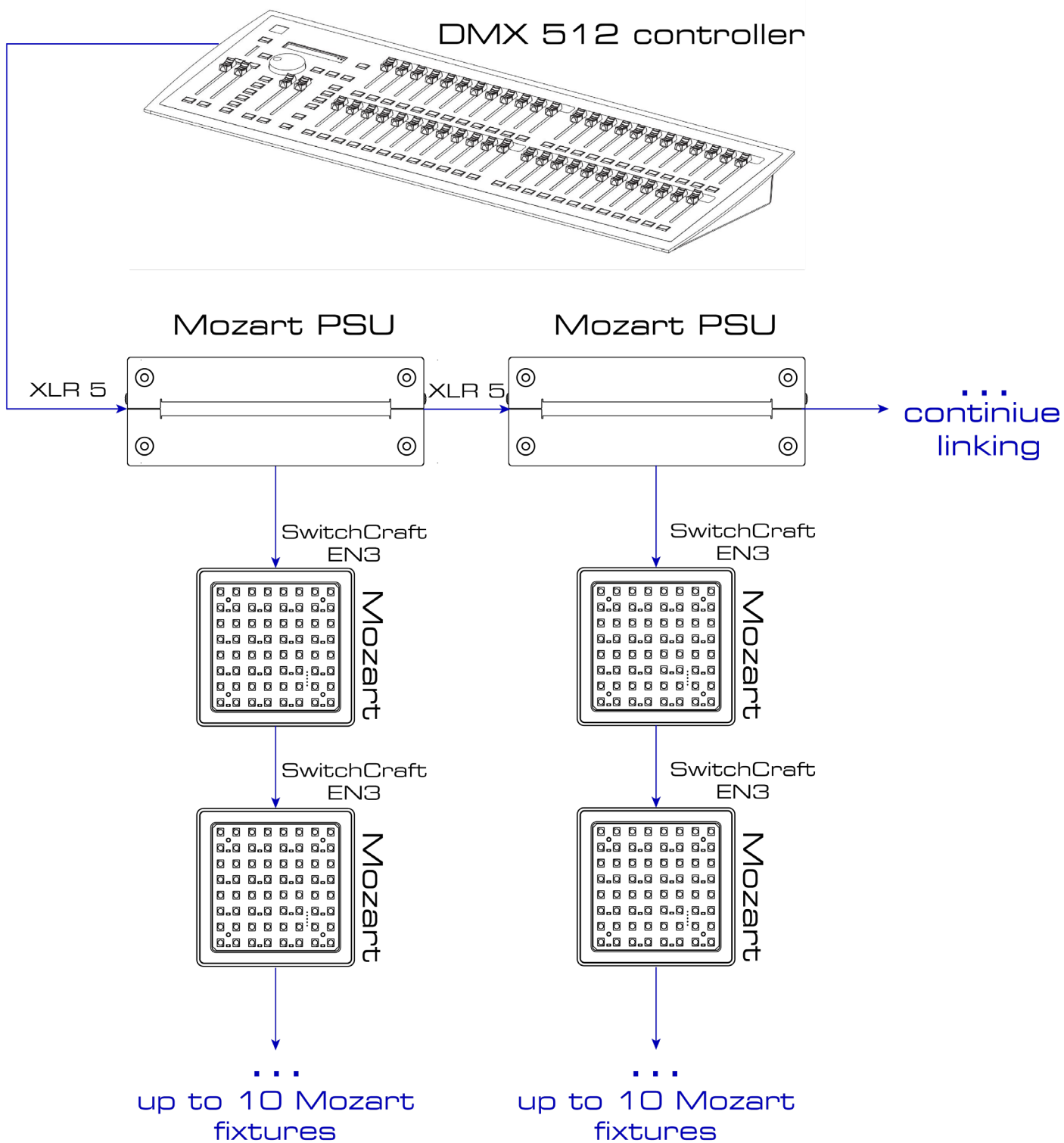
THERMAL

Maximum ambient temperature	+40°C
Minimum ambient temperature	20°C
Cooling	Conventional
IP rating.....	IP 65

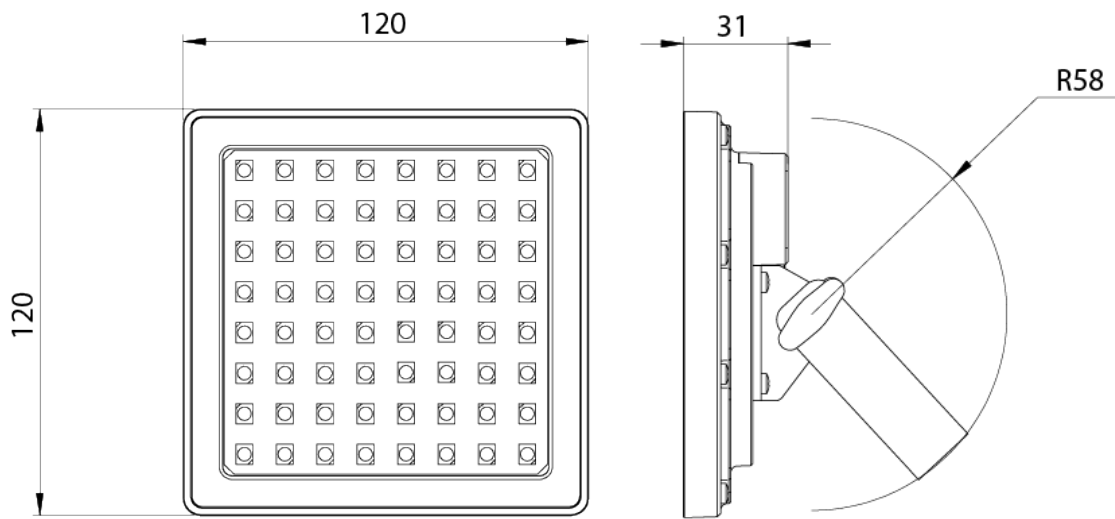
CONTROL & PROGRAMMING

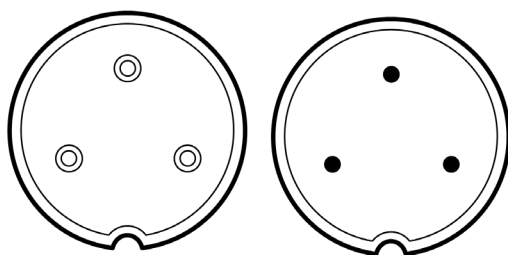
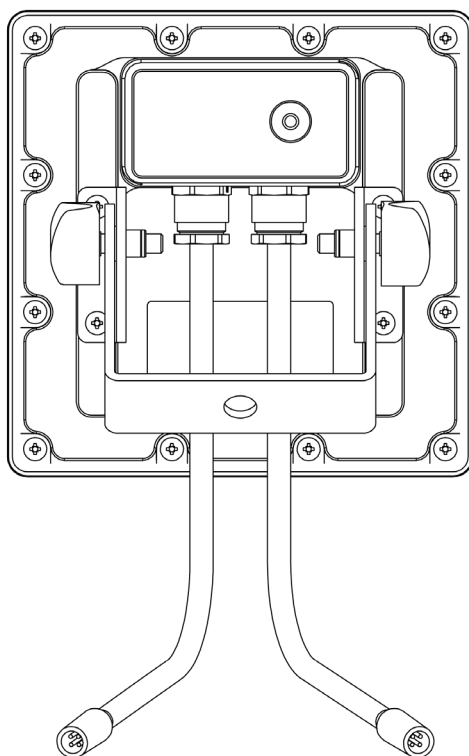
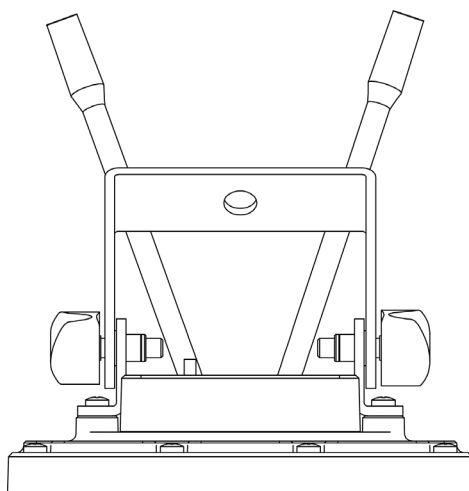
Control	DMX-512 with RDM
Colour dimming control	16bit
Pixel amount	1, 4, 16
DMX Channels	3, 12, 48 (depends on selected pixel amount)
Colour dimming control	16 bit
DMX/ power connectors.....	SwitchCraft EN3

FIXTURE LINKING



MOZART DIMENSIONS





SwitchCraft EN3

FIXTURE OVERVIEW



3. OPERATING INSTRUCTIONS

PIXEL MAP

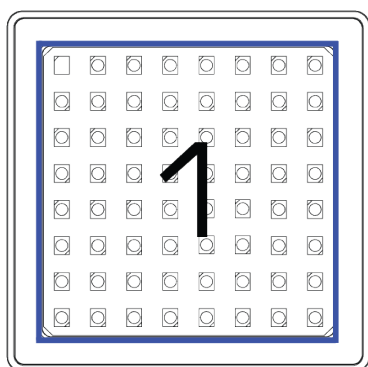
Mozart in total consists out of **64 RGB 1 chip engines** which are located in **8 rows** and **8 columns**.

There are 3 possible ways how to control Mozart:

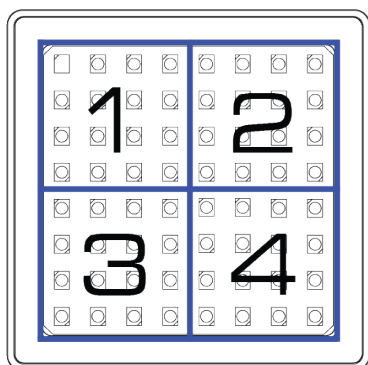
- 1) As **1 pixel unit (3 channel mode)**
- 2) As **4 pixel unit (12 channel mode)**
- 3) As **16 pixel unit (48 channel mode)**

You can change these modes only by using RDM protocol.

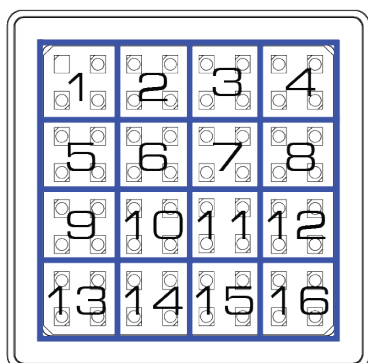
Illustration of **Mozart pixel map**:



1 pixel (3Ch)



4 pixel (12Ch)



16 pixel (48Ch)

INTERNAL ADDRESS SET

To keep the Mozart small as possible, we have made a power supply units for Mozarts which also includes a controlling device which has to be controlled using RDM.

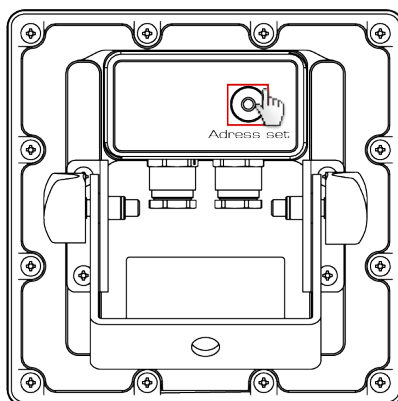
To **set address** for Mozarts, at first you have to set address for the Mozart PSU.

For instance: DMX address is set to the 1st channel.

No

To set internal addressing of Mozart fixtures (1-10), you have to follow these steps:

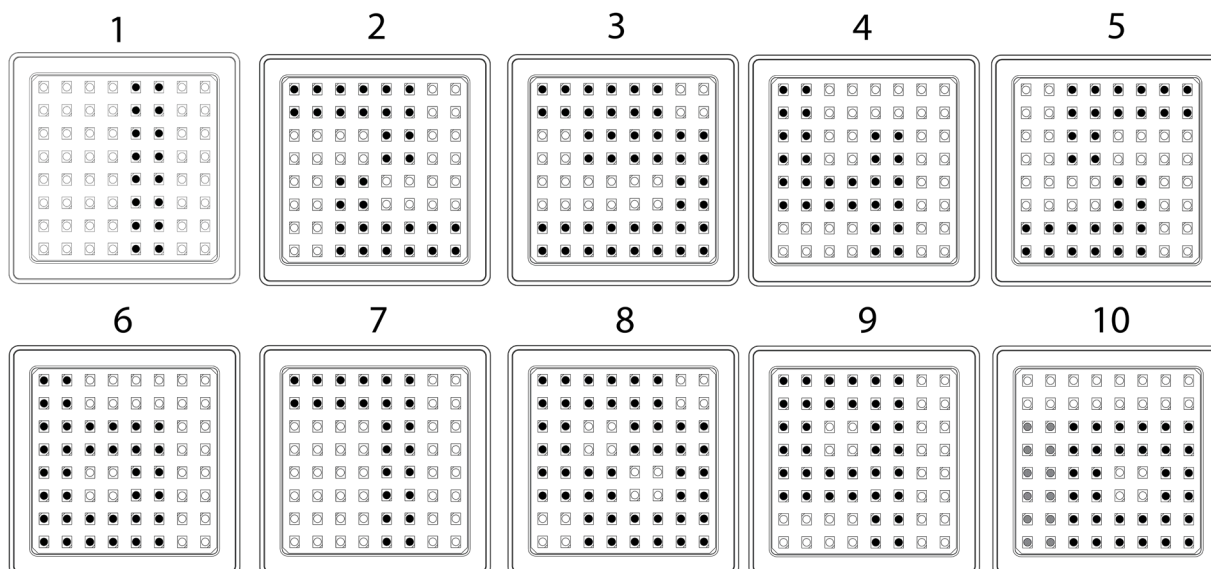
Press and hold **<Address set>** button located at the back of the Mozart.



The current internal addressing number will appear (1-10).

To **change** this number, press **<Address set>** button. The next addressing number will appear. Repeat until the wanted addressing number is shown on the pixels

Picture of numbers from 1-10 shown on Mozarts LEDs.



DMX		FIXTURE ID		
CH		1 PIX	4 PIX	16 PIX
1	R	1	1	
2	G			
3	B			
4	R	2		
5	G			
6	B			
7	R	3		
8	G			
9	B			
10	R	4		
11	G			
12	B			
13	R	5	2	
14	G			
15	B			
16	R	6		
17	G			
18	B			
19	R	7		
20	G			
21	B			
22	R	8		
23	G			
24	B			
25	R	9	1	
26	G			
27	B			
28	R	10		
29	G			
30	B			
31	R	1		
32	G			
33	B			
34	R	2		
35	G			
36	B			
37	R	3		
38	G			
39	B			
40	R	4		
41	G			
42	B			
43	R	5		
44	G			
45	B			
46	R	6		
47	G			
48	B			

DMX		FIXTURE ID		
CH		1 PIX	4 PIX	16 PIX
49	R	7	5	
50	G			
51	B			
52	R	8		
53	G			
54	B			
55	R	9		
56	G			
57	B			
58	R	10		
59	G			
60	B			
61	R	1	6	
62	G			
63	B			
64	R	2		
65	G			
66	B			
67	R	3		
68	G			
69	B			
70	R	4		
71	G			
72	B			
73	R	5	2	
74	G			
75	B			
76	R	6		
77	G			
78	B			
79	R	7		
80	G			
81	B			
82	R	8		
83	G			
84	B			
85	R	9		
86	G			
87	B			
88	R	10		
89	G			
90	B			
91	R	1		
92	G			
93	B			
94	R	2		
95	G			
96	B			

... continue
as necessary

RDM

Using RDM you also have an option to **locate the device**.
This will force currently selected Mozart to strobe its sequence number in white.

SENSORS

NA Mozart has 3 sensors:

Temperature sensor;

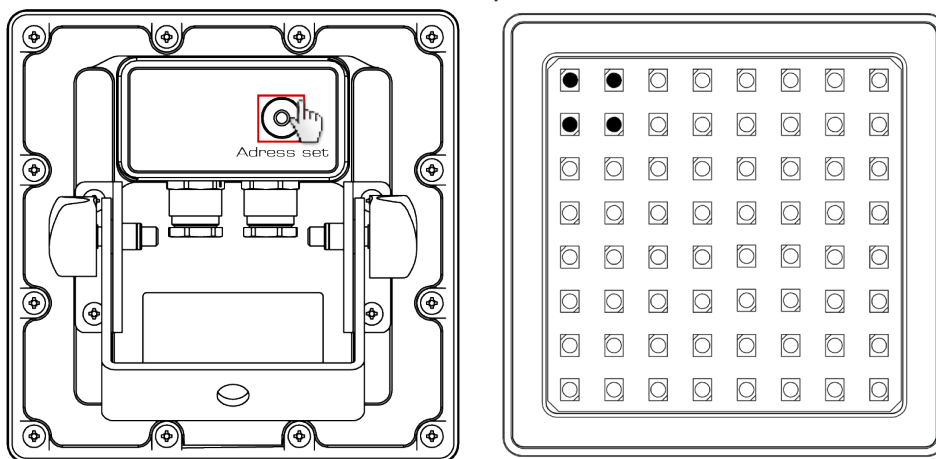
Bus current sensor;

DC voltage sensor.

Bus current and DC voltage values can be seen only using RDM compliant lighting control device (for example, **NA MasterFade**).

To see current **temperature** of NA Mozart, you have to press "**Adress set**" button located at the back of fixture.

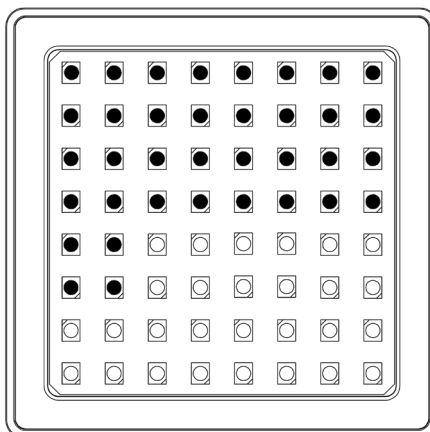
If Mozarts temperature is below or equal 40°C, one **green** pixel (4 LEDs) will appear as shown in picture:



You can read the Mozarts temperature by the pixel amount shown- one pixel equals 2.5°C increase. Also, hotter the Mozart- pixels get more **red** in color.

At 60°C fixture is prompted to slowly decrease the LEDs output intensity to reduce the temperature of fixture.

This picture shows that current t° of Mozart is **60°C** (40°C base pixel and 8 additional pixels):



4.SETUP

You will need a DMX data link to run light shows of one or more fixtures using a DMX-512 lighting console. The combined number of channels required by all the fixtures on a DMX data link determines 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

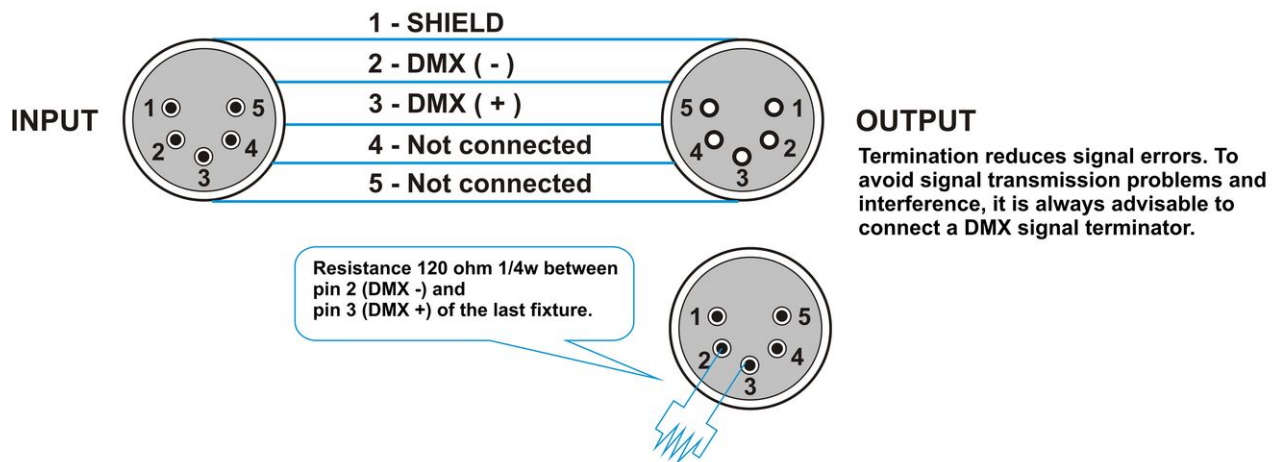
Use a Belden© 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable will have the following characteristics:

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

CABLE CONNECTORS

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

DMX CONNECTOR CONFIGURATION FOR MOZART PSU



Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

3-PIN TO 5-PIN CONVERSION CHART

NOTE ! If you use a console with a 5 pin DMX output connector, you will need to use a 5 pin to 3 pin adapter. 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

SETTING UP A DMX SERIAL LINK

1. Connect the (male) 5 pin connector side of the DMX cable to the output (female) 5 pin connector of the DMX console.
2. Connect the end of the cable coming from the DMX console with 5 pin (female) connector to the input connector of the Mozarts PSU consisting of a (male) 5 pin connector.
3. Then, proceed to connect from the fixture output as stated above to the input of the following fixture and so on.
4. Then, continue the linking till last planted fixture is connected in your DMX signal data chain.

5. 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 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 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 DMX Chain. A DMX Chain connection 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 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+). Company NA carries 3-pin and 5-pin XLR DMX compliant cables.

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 once a month. Dust build up reduces light output performance and can cause overheating. This can lead to reduced LED count life and increased mechanical wear. 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. 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.

The 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 surrounding 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 30 days. Clean the internal optics at least every 60 / 90 days.

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. Call Company NA 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. Company NA 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

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.