



**JVL**  
intelligent motors

# DMX512

3/5-2022 – 14:00 local time



# DMX512

DMX used  
for theaters

MAC and  
MIS setup

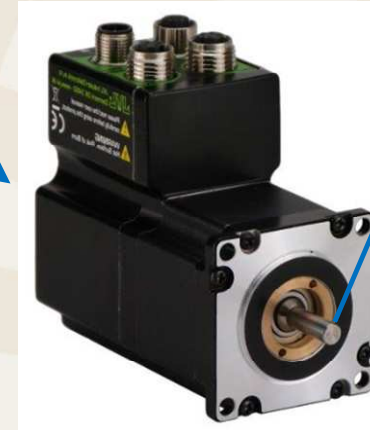
DMX  
controller

How to  
program

Results

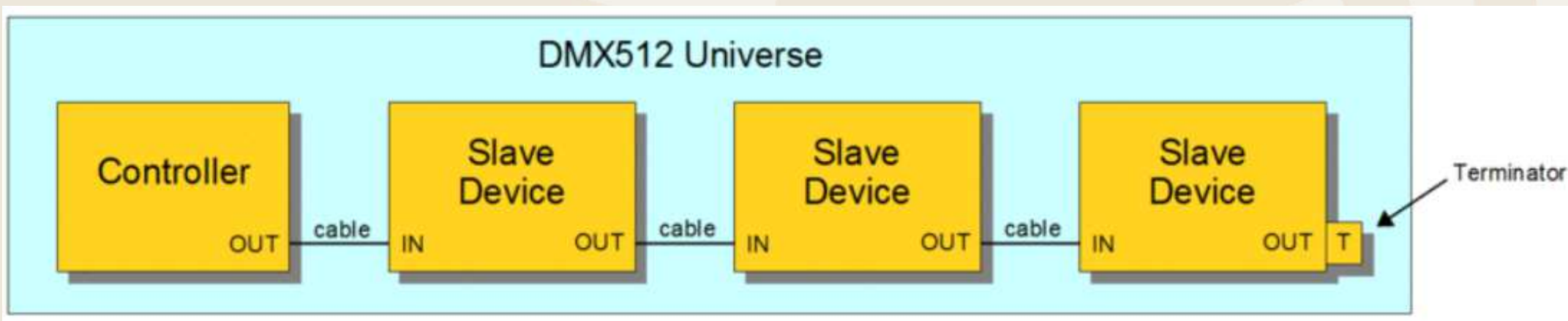
**Peter Nielsen**  
Support and Sales  
Worldwide







# DMX512



RS485 channel

Simple one-way control for

- Control
- Position
- Velocity
- Acceleration

Value set from 0 to 255 – Scaling in motor



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## MAC:

### SETUP

MAC00-FS4:  
RS232 M12, 8-pin

MIS:  
RS485 and/or RS422  
depending if with or without  
Ethernet

Actual setup

Baudrate 230400 baud  
Address 254  
GroupID 254

Setup

Inputs

Inx1  
Inx2  
Inx3  
Inx4  
AIN

Clear

#### Debug information

```
MAC00-FSx started
```

**Communication settings**

Baudrate: 230400

Address: 254

GroupID: 254

Module mode: DMX mode

**DMX Settings**

Offset	0		RPM
Jog velocity	249	250	RPM
Start Address 1	1		
Start Address 2	4	4	

**DMX Position settings**

Nominator	100		Counts
Denominator	1		
Offset	0		

**DMX Acceleration settings**

Nominator	1		RPM/s <sup>2</sup>
Denominator	100	100	
Offset	248	277	

**DMX Velocity settings**

Nominator	10		RPM
Denominator	1		
Offset	0		

**DMX homing settings**

Homing mode: Torque

**DMX Options**

Auto clear errors

Compact communication package

Send acceleration only at standstill

Swap outputs

OK Cancel

Communication: 9600 to 230400

Address if more RS485 lines are used

Group ID: If 250 is used the zero search is not activated. For absolute encoders.

Auto clear errors can be done by Control

Sends Position, Velocity and Acceleration in one package

Can change Acceleration only in standstill

Swap O1 and O2

SA1 + 0 Position value (coarse)  
 SA1 + 1 Position value (fine)  
 SA1 + 2 Control channel  
 SA2 + 0 Acceleration  
 SA2 + 1 Maximum velocity



# Zero Search ( Homing )

Main Registers Advanced Event Log Tests Scope MAC00-FSx Homing

**Homing method** Mechanical Endstop

**Advanced settings** Reverse

Homing parameters

Homing position 0 Counts

Homing velocity -50.07 RPM

Homing torque 20 %

Use index after homing

Homing on powerup

Press “Save in Motor”

Remove RS232 line from MAC motor





MIS:

DMX512 Options

Protocols Setup

RS422: DMX512 Disabled

RS485: DMX512

- Auto Clear Errors
- Send Acceration Only at Standstill
- Skip Homing

DMX512 Settings

Default Velocity 1000.00 RPM

Jog Velocity 100.00 RPM

Start Address 1 21

Start Address 2 24

DMX512 Position Settings

Nominator 100

Denominator 1

Offset 0 Counts

DMX512 Acceleration Settings

Nominator 1

Denominator 100

Offset 277 RPM/s

DMX512 Velocity Settings

Nominator 10

Denominator 1

Offset 0.00 RPM

DMX512 Zero Search Settings

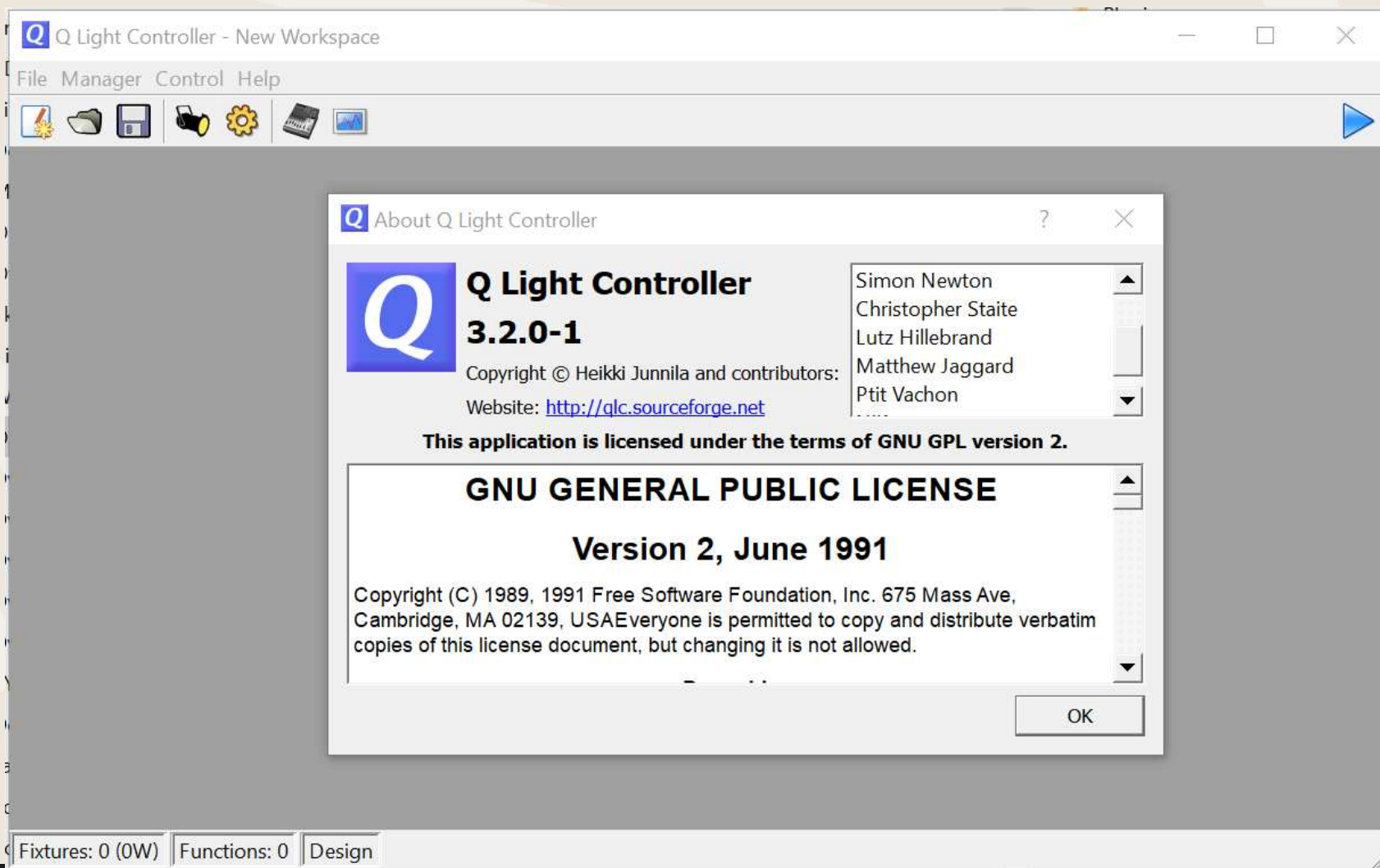
DMX512 Options Torque





# Q Light Controller

Can be  
used for  
free.





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**File:**

New/Open/Save/Save as

**Manager:**

Fixtures / Functions  
/ Busses  
/ Input / Outputs

**Control:**

Operate  
/ Virtual Console  
/ Monitor

Steps: 0-255

Q Light Controller - C:\JVL\DMX\MAC140\JVL-Test-011-MAC140.qxw

File Manager Control Help

Virtual Console

Add Edit Tools

100% 0.00

Grand Master Hold

000 072 000 028 000

Control X  
200-209 Clear Errors  
180-189 Start homing  
60-69 Position mode  
0-9 Passive mode

Position Coarse/Fine Velocity Acceleration

Fixtures: 4 (0W) Functions: 4 Design

Start/Stop



**Fixture Manager**

+ -

Universe	Address	Name
1	001 - 002	Position X
1	003 - 003	Control X
1	004 - 004	Acceleration X
1	005 - 005	Velocity X

Information Console

**Position X**

Type: Generic Dimmer

Universe: 1  
Address: 2  
Binary Address (DIP): 000000001

Channel	DMX	Name
1	1	Intensity
2	2	Intensity

**Fixture Monitor**

DMX Channels Relative Channels DMX Values >>

Position X (Universe 1)		Control X (Universe 1)	
001	002	001	
072	000	000	

Acceleration X (Universe 1)		Velocity X (Universe 1)	
001		001	
000		028	



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# COM setup

Q Light Controller - C:\JVL\DMX\MAC140\JV

File Manager Control Help

- Fixtures Alt+X
- Functions Alt+U
- Buses Alt+B
- Inputs Alt+I
- Outputs Alt+O

100% 0.00 000 Output

Mapping properties for output universe 1

Mapping

- Plugins/Outputs
  - None
  - Enttec DMX USB Output
    - 1: High Speed USB To RS-485 (S/N: DAYMA7AO)

Output Information

**1: High Speed USB To RS-485 (S/N: DAYMA7AO)**

Device is operating correctly.

**DMX Frame Frequency: 30Hz**

Display zero-based DMX addresses for this universe

OK

Output Manager

Universe	Plugin	Output
1	Enttec DMX USB Output 1: High Speed US...	
2	None	None
3	None	None
4	None	None



### Control X

- 200-209 Clear Errors
- 180-189 Start homing
- 60-69 Position mode
- 0-9 Passive mode

The diagram shows five potentiometers arranged horizontally. Each potentiometer has a vertical shaft with a slider. The values are: 064, 079, 000, 255, and 146. Below the potentiometers are labels for their functions: Control X, Position Coarse/Fine, Velocity, and Acceleration. The Control X label is positioned below the first potentiometer (064). The Position Coarse/Fine label is positioned below the second and third potentiometers (079 and 000). The Velocity label is positioned below the fourth potentiometer (255). The Acceleration label is positioned below the fifth potentiometer (146).

Potentiometer Value	Function
064	Control X
079	Position Coarse/Fine
000	
255	Velocity
146	Acceleration

Control X  
200-209 Clear Errors  
180-189 Start homing  
60-69 Position mode  
0-9 Passive mode



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Questions?