

# User Manual

# KNV



KNV  
CUBE



KNV  
ARC

Software Version 14.8



GLP® KNV Cube and Arc User Manual – Revision B

This document covers fixture software version 14.8

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## 1. Safety

### Key to symbols

The following symbols are used in the product's user documentation:



**Warning!** Safety hazard.  
Risk of injury or death.



**Warning!** Hazardous voltage.  
Risk of lethal or severe electric shock.



**Warning!** See user documentation for important safety information.



**Warning!** Fire hazard.



**Warning!** Risk of eye injury.



**Warning!** Read the **KNV Quick Start and Safety Manual** supplied with the product and available for download from [www.glp.de](http://www.glp.de) before installing, operating or servicing the product. The **Quick Start and Safety Manual** contains important information for the safe use of **KNV fixtures**. If you fail to read that information you may create a safety hazard with a risk of injury, death or damage.

If you have any doubts or questions about how to use the product safely, contact your GLP supplier for assistance. Your GLP supplier will be happy to help.

The user documentation for GLP® KNV lighting fixtures consists of three documents:

- The **KNV Quick Start and Safety Manual**, supplied with KNV fixtures and available for download from [www.glp.de](http://www.glp.de). The Quick Start and Safety Manual contains important safety information and installation instructions that the installer and user must read. It also contains dimensions drawings and technical specifications for the product.
- The **KNV User Manual**, available for download from [www.glp.de](http://www.glp.de). The User Manual explains features and control of KNV fixtures.
- The **KNV DMX Channel Index**, available for download from [www.glp.de](http://www.glp.de). The Channel Index is a separate document containing the DMX control channel layout and DMX commands available in the fixture. This information is also included in the User Manual.

The KNV is intended for use by experienced professionals with the knowledge and skills to set up, operate, and maintain high-powered, remotely controlled lighting equipment safely and efficiently. These operations require expertise that may not be provided in this manual.

- Respect all warnings and directions given in the product's user documentation and on the product. Read the product's Quick Start and Safety Manual and familiarize yourself with the safety precautions it contains before installing, using or servicing the product. GLP and affiliated companies will take no responsibility for damage or injury resulting from disregard for the information in the user documentation.
- Check the GLP website at [www.glp.de](http://www.glp.de) and make sure that you have the latest versions of the product's Quick Start and Safety Manual and this user manual.
- Check the fixture software version indicated on page 2 of this user manual and then use the fixture's control panel to check the version installed in the fixture. If the versions are not the same, the user manual may still cover the fixture, because software updates do not always affect the use of the fixture. However, it is possible that this manual does not match the fixture perfectly. Software release notes can help clarify this question. You can consult software release notes and download the correct version of this user manual on the GLP website if necessary.
- Make both the Quick Start and Safety Manual and this user manual available to all persons who will install, operate or service the product. Save both documents for future reference.
- If you have any questions about the safe operation of the fixture, please contact an authorized GLP distributor (see list of distributors at [www.glp.de](http://www.glp.de)).

### ***GLP Service and Support***

Contact information for the nearest GLP Service and Support is available online at [www.glp.de/en/service](http://www.glp.de/en/service), by email at [info@glp.de](mailto:info@glp.de), or by telephone at the following numbers:

- GLP Germany: +49 (7248) 927 19-55
- GLP N. America: +1 818 767-8899
- GLP UK: +44 1392 690140
- GLP Asia: +852 (3151) 7730
- GLP Nordic: +46 737 57 11 40

## 2. KNV Cube overview

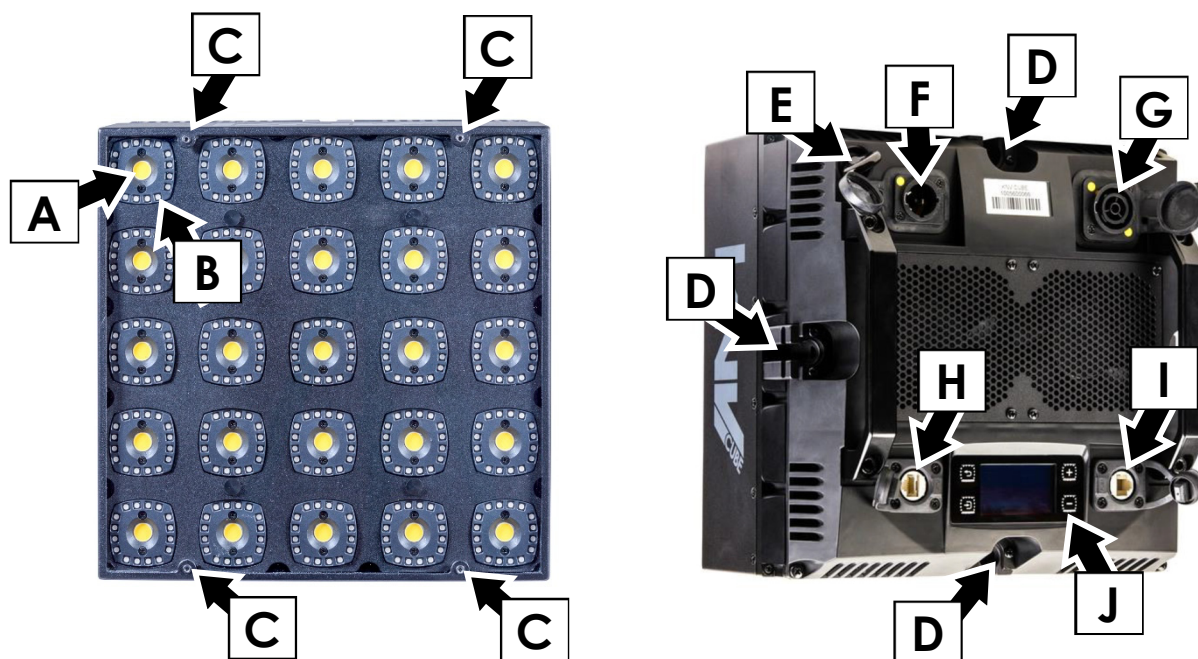


Figure 1. Cube overview

- A – White LED
- B – RGB LEDs
- C – Mounting points for optical accessories
- D – Mechanical connector attachment points
- E – Safety cable attachment point
- F – AC mains power IN (Neutrik powerCON TRUE1)
- G – AC mains power OUT / THRU (Neutrik powerCON TRUE1)
- H – Neutrik EtherCON port for control data (DMX/Art-Net/sACN in/out)
- I – Neutrik EtherCON port for control data (DMX/Art-Net/sACN in/out)
- J – Control panel with backlit LCD display

### 3. KNV Arc overview

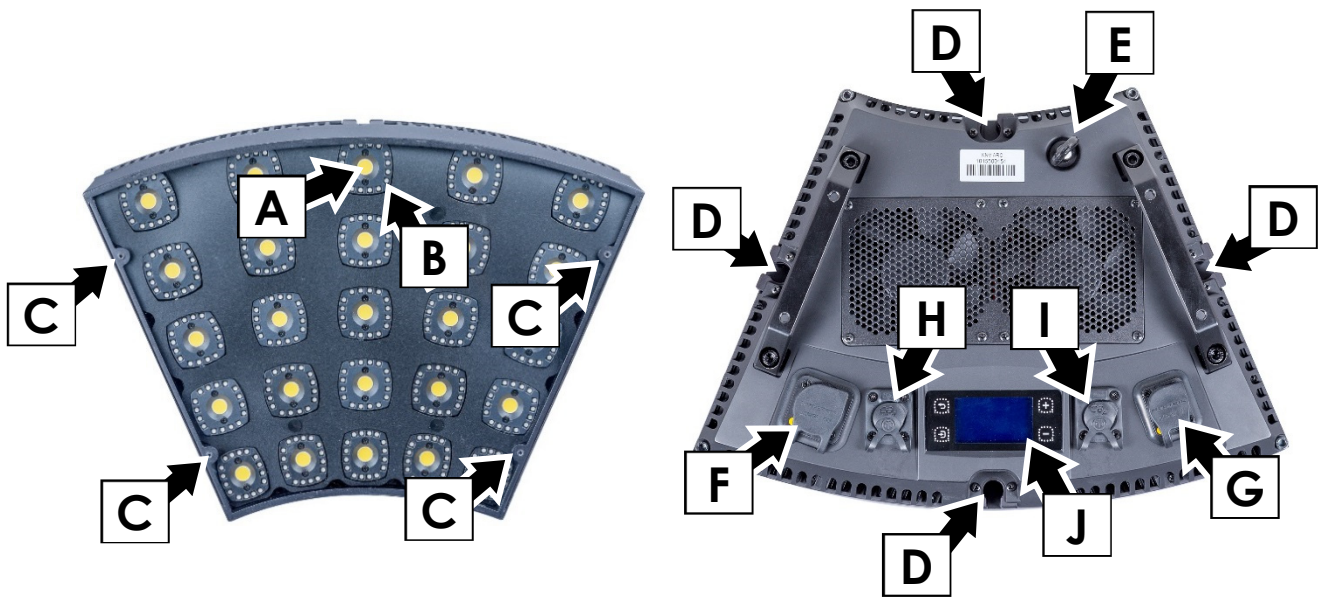


Figure 2. Arc overview

- A – White LED
- B – RGB LEDs
- C – Mounting points for optical accessories
- D – Mechanical connector attachment points
- E – Safety cable attachment point
- F – AC mains power OUT / THRU (Neutrik powerCON TRUE1)
- G – AC mains power IN (Neutrik powerCON TRUE1)
- H – Neutrik EtherCON port for control data (DMX/Art-Net/sACN in/out)
- I – Neutrik EtherCON port for control data (DMX/Art-Net/sACN in/out)
- J – Control panel with backlit LCD display

## 4. Features

The KNV from GLP is a powerful strobe/color effect lighting fixture. It is available in modular Cube and Arc variants that can be interlocked and combined to form lines and curves, giving enormous creative possibilities.

The fixture combines powerful white light output from a 5x5 matrix of 30-watt cool white LEDs with bright color output from a color wash panel that uses 400 high-quality RGB LEDs in circles around the white LEDs. Total luminous flux can exceed 50 000 lumens per module.

The LED array can be pixel-mapped through any standard controller. White and color output can be controlled separately or combined for stunning strobe, continuous output and wash effects. Using the powerful internal multilayer FX engine, complex dynamic effects can be created quickly with no need for a separate pixel-mapping media server.

The KNV can be used indoors in permanent and temporary installations. Its rugged construction and IP54 rating mean that it can also be used outdoors in temporary installations if precautions are taken to prevent immersion in water and damage from direct sunlight. It can be placed upright on a level surface or suspended from a suitable structure as described in the product's Quick Start and Installation Manual.

Four mounting points with M3 threaded holes are provided on the front of KNV fixtures for mounting optical accessories from GLP.

Power and data can be daisy-chained and products can be interlocked for ease of installation.

The KNV is not suitable for household use, for use in any location where unattended children have access to it, or for use in permanent outdoor installations.

### **White LEDs**

The KNV features a 5x5 matrix of cool white LEDs that produce powerful white light at 5000 K. The white LEDs can be controlled together or individually depending on the DMX control mode selected.

The white LEDs offer shutter and dimming effects including a powerful strobe, flashing at up to 16.67 Hz, or operate continuously to give high-output wash effects with a 120° beam angle.

You can also select from a wide range of pre-programmed dynamic FX patterns to run on the white LEDs.

### **Color LEDs**

The KNV's 400 RGB LEDs are arranged into circles of 16 LEDs that surround each white LED. The RGB LEDs can be controlled together or individually depending on the DMX control mode selected.

You can run a wide range of color effects (including strobe effects and dynamic FX patterns) on the RGB LEDs, or you can operate them continuously using RGB color mixing to provide a color wash with a 120° beam angle.

You can also use the RGB LEDs to add blue or red to the powerful white LEDs and adjust their color temperature.



### Pixel mapping

If you control the KNV's 5 x 5 matrix of LED blocks individually, pixels are numbered as shown below as seen from the front of the fixture:

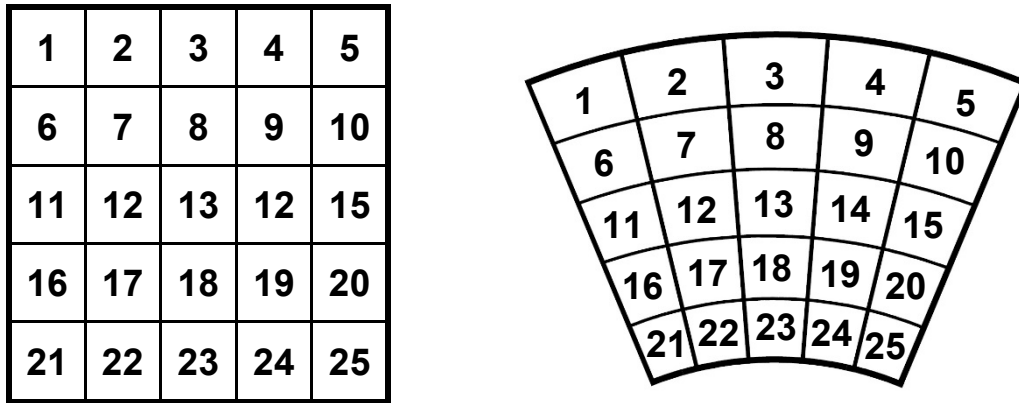


Figure 3. Pixel layout, Cube and Arc fixtures

### Pixel mirror

The *Pixel mirror* setting flips the numbering of the KNV's pixels right to left. This lets you set up symmetrical effects in multiple fixtures quickly without the need to reprogram cues.

Figure 3 above shows the default pixel orientation when *Pixel mirror* is set to **OFF** (Normal). Figure 4 below shows the pixel orientation when *Pixel mirror* is set to **ON**.

You can apply *Pixel mirror* using the *Control / Settings* DMX channel or in the control panel.

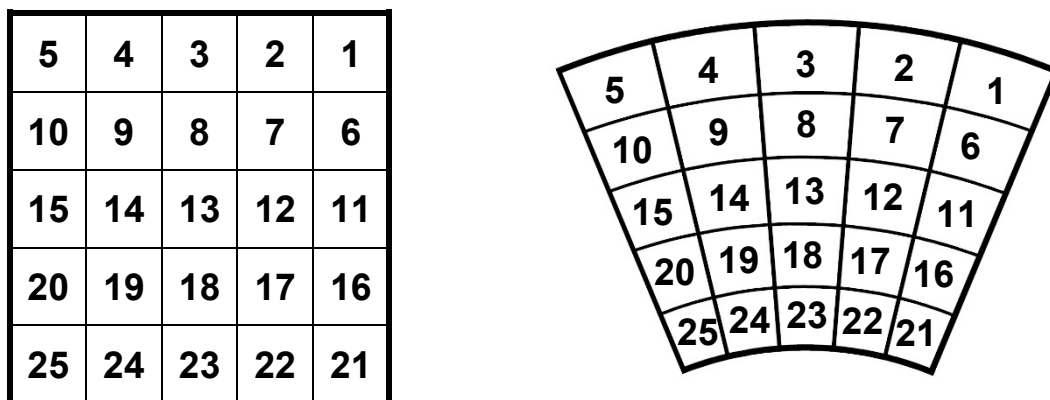


Figure 4. Pixel Mirror = ON

If you want to check a fixture's *Pixel mirror* status from the control desk, apply a Test pattern (see Figure 6 on page 16) on the *Control / Settings* DMX channel.

## Pixel orientation

In addition to the *Pixel mirror* setting described above, you can rotate the pixels in 90° steps using the *Control / Settings* DMX channel or the fixture's control panel.



The fixture's pixel orientation setting is indicated by an arrow in the bottom right-hand corner of the control panel display. See illustration on left: an arrow pointing upwards indicates normal pixel orientation.

## Dimming

See Figure 5. You can select from two dimming curves using the control panel or the *Control / Settings* DMX channel – **Linear** and **Soft**:

- Light output using the **Linear** curve will appear to increase and decrease evenly throughout the dimming range.
- The **Soft** curve gives finer control at low light levels (where the eye is more sensitive to changes in light level) and coarser control at high levels.

The default setting is **Soft**.

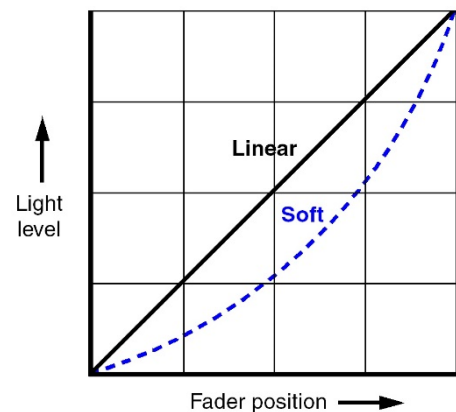


Figure 5. Dimming curves

## Output limitation

You can reduce the maximum intensity that white LEDs or RGB LEDs can be set to using the *Output limitation* options in the control panel or on the *Control / Settings* DMX channel. Limiting LED output can help you reduce fan noise

## Flare effect

A feature which we call the *Flare effect* can be applied to flashes when they are activated on strobe channels. The *Flare effect* is an interference effect that you can superimpose onto a flash. This effect is particularly impressive when combined with increased flash length.

## Random pixel sparkle

The KNV's *Flare effect* channels include a *Random pixel* setting. This setting applies the flare effect to individual pixels at random, giving an impressive sparkling effect. Again, we recommend that you try combining this effect with increased flash length.

## Hyperspeed

Hyperspeed is a very fast flash rate on the Shutter effects channels that gives a very powerful effect.

## FX

The KNV's pre-programmed dynamic FX give you quick access to a wide range of dynamic patterns and movement options.

FX patterns have active and passive pixels. Active pixels are visible and passive pixels are transparent. In the *Snake* pattern, for example, the snake itself consists of active pixels. These pixels can light in RGBW color (or be black if the FX RGBW color is set to zero intensity and visibility is set to 100% on the FX transparency channel). All the other cells in the snake pattern are passive pixels. They are transparent and will let the color of the lower priority layer through.

When FX are active, you can control them using six DMX channels:

- Five dedicated channels let you select an FX, set a crossfading speed, set pattern orientation, adjust FX length in pixels and set offsets.
- In addition to these channels, if an FX is active the third strobe channel becomes a sixth FX control channel and lets you adjust FX speed (see details below).

### Dedicated FX channels

- The first FX channel, the **FX Selection** channel, lets you choose and activate an FX from a list of dynamic FX patterns.

*If this channel is set to zero, the third strobe channel controls strobe flash rate. If an FX is selected on this channel, the third strobe channel controls FX speed.*

- The second FX channel, the **FX Crossfading** channel, sets the time it takes for the FX to fade out. You can set FX to crossfading and apply a crossfading time from fast to slow. You can also set FX to leave a tail behind them and apply a crossfading time for the tail from slow to fast.
- The third FX channel, the **FX Orientation** channel, lets you select from a long list of options for the orientation of the FX. Running the same FX but with different orientation options in multiple fixtures is a fast way to set up symmetrical and/or coordinated effects.
- The fourth FX channel, the **FX Offset** channel, lets you apply offsets to the FX, a feature which lets you quickly set up synchronized FX chases in multiple fixtures.

Setting an offset determines the pixel *in the pattern* (not the pixel on the fixture) where the FX pattern will start. For example, if you set the length of an FX pattern to 10 pixels and you apply an offset of 6 pixels, the fixture will blackout for the time it takes the FX pattern to run on pixels 1 – 5, then the FX pattern will appear on the fixture when the pattern reaches pixel 6.

- The fifth FX control channel, the **FX Length** channel, lets you set the total length in pixels of the FX pattern.

### FX speed control

If you select an FX on the *FX Selection* channel, the third strobe channel is redeployed and becomes the **FX Speed** control channel. Instead of controlling strobe flash rate, it now becomes the sixth FX control channel and lets you adjust the speed of the FX.

## FX layer transparency

DMX modes 5 and 8 include Transparency channels for FX layers.

- Setting these channels to zero makes the FX layer completely transparent, meaning that FX are not visible on top of lower priority layers.
- Increasing the values on these channels makes FX increasingly visible on top of lower priority layers.

## Setting up FX chases

If you select the same FX with the same speed in multiple fixtures, you can use the other FX channels in combination to set up an FX chase across multiple fixtures:

- **FX Crossfading / Crossfading with tail** sets the rate at which one FX pattern step fades out before the next pattern step arrives.
- **FX Orientation** can be used to add variety to a chase or set up multiple coordinated chases in different groups of fixtures.
- **FX Offset** sets the pixel on which the FX pattern will start.

*An FX pattern with no offset starts on pixel 1. You will obtain this if you set the FX Offset channel to zero or 001.*

- **FX Length** sets the number of pixels over which the FX pattern will run.

*Different FX patterns have different lengths. If you set FX Length to zero, you will obtain the original pattern length. It is not possible to set FX Length to less than the original length of the pattern.*

*Because different patterns have different lengths, in self-contained KNV installations you may find it difficult to set up a clean crossing from the end to the start of the installation. In this case the easiest solution is to use a pixel mapping setup.*

*When you set up FX chases, you will normally obtain the best results if you increase FX length in steps of five pixels (one fixture).*

To obtain synchronized chases in multiple fixtures you must set up FX Length and FX Offset parameters in combination. Here is how FX Length and FX Offset work in a single fixture with an FX pattern that has a length of five pixels:

- FX Length = Off (DMX value zero on the FX Length DMX channel): The FX pattern will have the normal length of five pixels. It will start at pixel 1, run from pixel 1 to pixel 5 and then immediately start at pixel 1 again.
- FX Length = 30 (DMX value 030 on the FX Length DMX channel): The FX pattern will start at pixel 1, run from pixel 1 to pixel 5 and then black out for the time it takes to run the FX pattern on pixels 6 – 30.
- FX Offset = Off (DMX value zero on the FX Offset DMX channel): The FX pattern will start at pixel 1.
- FX Offset = 6 (DMX value 006 on the FX Offset DMX channel): The FX pattern will start at pixel 6. If you have set an FX length of 30, the pixels will black out for the time it takes to run the FX pattern on pixels 1 – 5, then run the FX pattern on pixels 6 – 10, then black out for the time it takes to run the FX pattern on pixels 11 – 30.

To create a single FX chase in which an FX pattern that is five pixels long runs across an array of multiple fixtures, you need to:

- Set FX Length in all the fixtures to the total number of pixels that the pattern will run across, and
- Set FX Offset in each fixture in a sequence five pixels apart.

This means that, if you want an FX pattern to run across six fixtures in a horizontal row and return immediately to pixel 1 when it reaches pixel 30 at the end of the row, you must set FX Length to 30 on all six fixtures and set FX Offsets with a gap of five pixels between fixtures. To give a concrete example, here is how you must set up each fixture:

- Fixture 1: FX Length = 30, FX Offset = 1  
*FX will start at Pixel 1 of the 30 pixels in FX Length and run on pixels 1 - 5*
- Fixture 2: FX Length = 30, FX Offset = 6  
*FX will start at Pixel 6 of the 30 pixels in FX Length and run on pixels 6 - 10*
- Fixture 3: FX Length = 30, FX Offset = 11  
*FX will start at Pixel 11 of the 30 pixels in FX Length and run on pixels 11 - 15*
- Fixture 4: FX Length = 30, FX Offset = 16  
*FX will start at Pixel 16 of the 30 pixels in FX Length and run on pixels 16 - 20*
- Fixture 5: FX Length = 30, FX Offset = 21  
*FX will start at Pixel 21 of the 30 pixels in FX Length and run on pixels 21 - 25*
- Fixture 6: FX Length = 30, FX Offset = 26  
*FX will start at Pixel 26 of the 30 pixels in FX Length and run on pixels 26 - 30*

### **RGB color generator**

Where available, the RGB color generator effect gives instant access to automatic color effects such as random colors, ramp up/down colors and random pixel colors. These effects would be difficult to program on a DMX controller.

### **Dimmer Flash mode**

A shortcut to creating single flashes is available if you activate *Dimmer Flash* using the *Control / Settings* DMX channel or the *Settings* menu in the fixture's control panel.

When *Dimmer Flash* mode is enabled, if the Flash rate channel (the third of the Strobe channels) is set to zero, any new DMX value that you input on the Intensity channel (the first of the Strobe channels) will produce a single flash. In effect, all you need to do is 'nudge the dimmer fader' to produce a flash.

If you activate this function, you can tap flashes in sync with a music beat, easily keeping track of changes in the beat.

### **Extra shutter**

In DMX modes 1, 6 and 7, an extra shutter effect is available. You can choose whether this shutter effect should run on all LEDs (RGBW), on RGB LEDs only or on White LEDs

only. You can make this choice via DMX on the Control / Settings channel in modes 1,6 and 7 or using the fixture's control panel.

The default setting for the extra shutter effect is RGBW.

### **Behavior when the fixture is not receiving a DMX signal**

You can set the fixture to react in three different ways if no DMX signal is present (if the fixture is being controlled by DMX but the DMX signal stops, or if you apply power to the fixture when no DMX signal is present):

- **Hold** sets the fixture to continue obeying the last DMX values it received. This is the default setting.  
If no DMX values were being received, the fixture will black out.
- **Blackout** sets the fixture to black out.
- **Captured Scene** sets the fixture to show the scene that has been stored using *Capture scene* (see below). For safety reasons and to avoid unwanted surprises, the *Captured Scene* will always fade in slowly if it is activated.
- **Capture scene** stores the scene that the fixture is currently displaying. Once stored, the scene is used as the fixture's *Captured Scene*.

All these settings are available via DMX on the *Control / Settings* channel and in the fixture's control panel.

To avoid any possibility of unexpected behavior from a powerful strobe light if the DMX signal fails, we recommend that you always set the fixture to *Blackout*.

### **Display**

The illuminated graphic LCD display with self-charging battery lets you change fixture settings even when the power is off. See Chapters 5 and 6 for more details.

Using the *Control / Settings* DMX channel or the fixture's control panel you can:

- Change the display orientation from Normal to Inverted for easier reading if the fixture is flown upside-down in a rig.
- Choose between three different display modes:
  - **Auto:** The display will automatically switch off after a few seconds if the fixture is receiving a valid control signal and has not detected an error. If the fixture is not receiving a valid control signal the display will flash. If the fixture has detected an error, the display will remain constantly on and show the error.
  - **On:** The display stays on constantly. This setting can be useful when you are configuring or servicing the fixture.
  - **Off:** The display will automatically switch off after a few seconds even if the fixture is not receiving a valid control signal or if it has detected an error.

## Fan modes

Four different cooling fan modes are available on the *Control / Settings* DMX channel and in the fixture's control panel. The modes let you choose cooling fan operation options depending on how you want to allocate priority between light output and fan noise:

- **Regulated** gives priority to light output and only operates fans as necessary. If the fixture is blacked out, fans run at minimum speed. When light output intensity is increased, temperature regulation increases fan speed to the level necessary to keep the fixture at optimum temperature.

If light output is set to maximum intensity but the fans can keep the fixture at optimum temperature, there will be no regulation of light intensity. If the fixture begins to exceed optimum temperature, light intensity will be reduced until optimum temperature can be maintained.

- **High Speed** sets fans to constant high speed. This mode is optimized for maximum light output and suits operation in high ambient temperatures and/or where fan noise is not a critical issue. Light output intensity is smoothly reduced if it becomes necessary in order to keep fixture temperature at optimum level.

Besides maximizing light output in high ambient temperatures, you can use *High speed* mode to cool down a fixture quickly or to remove dust from cooling fans.

- **Medium Speed** sets fans to constant medium speed. Light output intensity is smoothly reduced if it becomes necessary in order to keep fixture temperature at optimum level.

If you want to avoid any automatic reductions in output intensity that may occur in *Regulated* mode (see above) or if fixture temperature exceeds optimum level, we recommend that you use *Medium speed* mode in combination with one of the *Output limitation* levels available in the fixture's control panel or on the *Control / Settings* DMX channel to keep the fixture in output/temperature balance.

- **Low Speed** sets fans to constant low speed. This mode is optimized for minimum noise. Light output intensity is smoothly reduced if it becomes necessary in order to keep fixture temperature at optimum level.

If you want to avoid any automatic reductions in output intensity that may occur if fixture temperature exceeds optimum level, we recommend that you use *Low speed* mode in combination with one of the *Output limitation* levels available in the fixture's control panel or on the *Control / Settings* DMX channel to keep the fixture in output/temperature balance.

In all fan modes, if fixture temperature reaches an unsafe level, LEDs will be shut down for a period until the fans have brought the temperature down to a safe level.

## Effect synchronization

To synchronize dynamic effects in multiple fixtures, all fixtures need to use the same clock or time data. **Effect sync** in the control panel lets you decide which source of time data the fixture should use. Two options are available:

- If you select **Power Line** (the default setting), the fixture uses the AC frequency of the mains power input. If multiple fixtures all draw AC power from the same mains power

grid, the timing of multiple fixtures will be perfectly synchronized and FX will not go out of sync over time.

- If you select **Internal**, the fixture uses an internal clock. If multiple fixtures draw AC power from generators that do not supply a perfectly stable AC frequency, the internal clock will reduce the risk of FX losing sync over time. However, the internal clock frequency can be affected by load, temperature etc., so the **Internal** setting will not guarantee perfect synchronization over longer periods of time in multiple fixtures in all situations.
- If you send an **Immediate** command to multiple fixtures on the Control / Settings DMX channel, all fixtures will immediately synchronize their FX. This command gives you a quick way of recovering if FX drift out of sync in multiple fixtures.

### Fixture information

The **Information** menu in the control panel gives access to items of information from the fixture's sensors and memory. You can check temperature sensor readouts, see total operating hours counters and power cycle count, and see DMX signal quality data, for example.

### Test pattern

If you need to check a fixture's orientation, call up the test pattern on the *Control / Settings* DMX channel or in the fixture's control panel. If the fixture is oriented normally, the test pattern will appear as shown below (blue corners, white vertical stripe in center, red reversed **L** on left, green **L** on right):

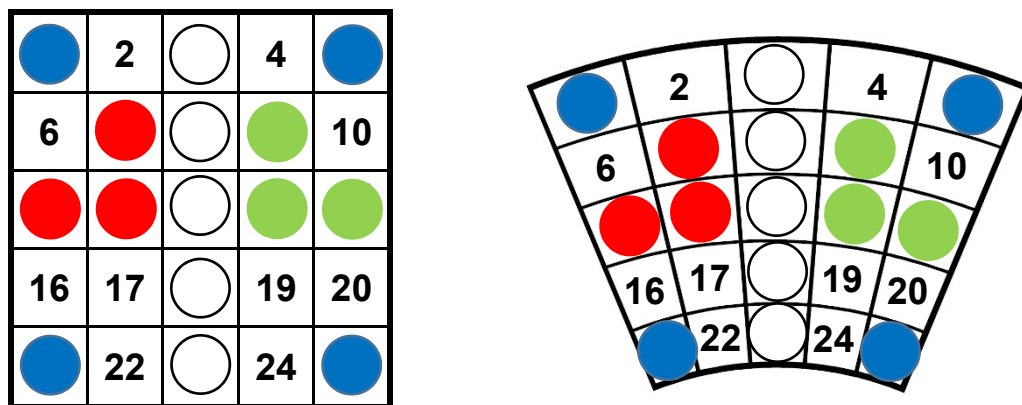


Figure 6. Test pattern

If you display the test pattern on a fixture, the control panel buttons flash in a clockwise rotation so that you can identify the fixture from the back.

### Custom settings and factory defaults

You can customize fixture settings (DMX mode, Fan mode, Pixel orientation, etc.) via DMX or using the fixture's control panel. Custom settings are stored after a power off/on cycle and after a reset.



Two options are available in the fixture's control panel for deleting multiple custom settings and restoring defaults:

- **Load Setting Defaults** reloads all the fixture's factory default settings **except** DMX address, DMX mode and Control protocol. This option returns the fixture to baseline settings (default Fan mode, Output limitation, Pixel orientation, Dimmer curve, etc.) without affecting its basic configuration in an installation.
- **Load Factory Backup** reloads all the fixture's factory default settings **including** DMX address, DMX mode and Control Protocol. This option reinitializes the fixture completely and returns to its state when it left the factory.

## 5. Control menus and LCD display



**Warning!** DMX control is disabled when the control menus are active. Be prepared for the fixture to emit strong light as soon as you exit the control menus.

The control panel and backlit LCD display provide access to user settings, readouts and utilities.

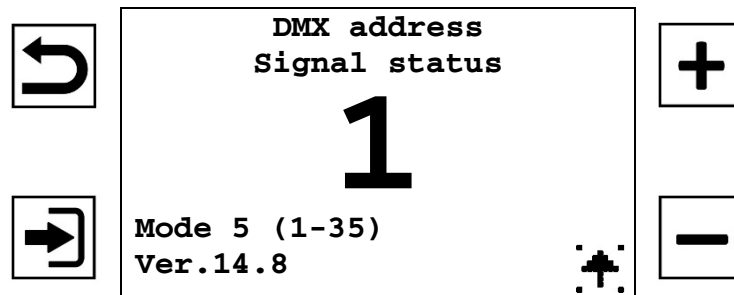


Figure 7. Main screen, fixture set up for DMX protocol, DMX Mode 5

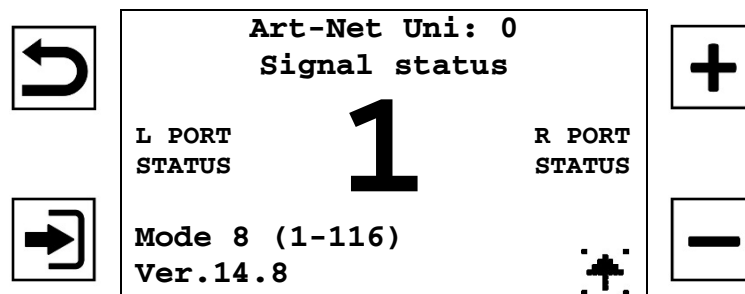


Figure 8. Main screen, fixture set up for Art-Net protocol, DMX Mode 8

The four backlit control buttons have the following functions:



**Escape:** Go back one level and return to the top of the menu.



**Enter:** Activate the control panel if it is in sleep mode. Then enter a menu, select a setting or implement a command.



**Up:** Scroll up or increase a number.



**Down:** Scroll down or reduce a number.

When the fixture boots up, the control panel briefly displays fixture information including firmware version and fixture hours. Then it displays PCB reset status while it resets. Once reset is complete, the panel displays the main screen.

### ***Information in the main screen***

See Figure 7. When the fixture is set up to receive control data via DMX cable, the main screen displays the fixture's:

- DMX connection / signal status
- DMX address
- DMX mode and channels occupied (in Figure 7, the fixture is in DMX Mode 5 and occupies DMX channels 1-35. Channel 36 is available for the next fixture on the control data link)
- Firmware version and build data
- Pixel orientation (arrow at bottom right of display).

See Figure 8. When the fixture is set up to receive control data via network protocol, the main screen displays the fixture's:

- Protocol type (Art-Net or sACN) and number of Art-Net or sACN universe
- Network connection / signal status
- Network in and out status at left and right Ethernet ports
- DMX address
- DMX mode and channels occupied (in Figure 8, the fixture is in DMX Mode 8 and occupies DMX channels 1-116. Channel 117 is available for the next fixture on the control data link)
- Firmware version and build data
- Pixel orientation (arrow at bottom right of display).

### ***Inverting the display***

The display can be inverted, to make it easier to read if the fixture is installed upside-down, or set to invert automatically depending on fixture orientation, using the Display options on the *DMX Control / Settings* channel and in the *Display* control menu in the control panel.

## 6. Fixture control setup

To configure the KNV for use in a show or fixed installation, open the fixture's control menus and configure the fixture's DMX Address, Control Mode (DMX Mode) and Control Protocol (DMX, Art-Net or sACN).

If you are using Art-Net or sACN you need to set the fixture's IP address and SubNet Mask.

The DMX, Art-Net and sACN fixture control settings described below will not be affected if you apply a *Load Default Settings* command in the fixture's control panel, but they **will** be returned to factory defaults if you apply a *Load Factory Backup* command in the fixture's control panel.

### Setting up fixture control

The KNV Cube and Arc can be controlled via USITT512 DMX, Art-Net network or sACN network. The etherCON in and out ports are fail-safe (if a fixture stops working, the control data signal will still be relayed between the ports).

If you would like advice with planning and installing a suitable control link, your GLP supplier will be happy to provide assistance.

#### DMX

To control a KNV Cube or Arc via USITT512 DMX you need to use an *XLR 5-pin male-to-etherCON adapter cable* to connect the DMX signal coming from standard DMX cable to the etherCON port of the fixture. You can use CAT 6 or higher Ethernet cable to link multiple KNV fixtures.

You can also change back to standard DMX cable by using an etherCON-to-XLR 5-pin female adapter cable.

Adapter cables have the following pinout:

- XLR Pin 1 ↔ RJ45 Pin 8
- XLR Pin 2 ↔ RJ45 Pin 2
- XLR Pin 3 ↔ RJ45 Pin 1

To configure the fixture for DMX control over a DMX cable link, open the menus in the fixture's control panel and make the following adjustments:

1. In the first menu (root menu), set the fixture's DMX address to a suitable address.
2. Scroll to **Control Mode** and choose how you want to control the fixture.
3. Scroll to **Control Protocol / DMX Source** and select **DMX**.

You can now control the KNV using standard DMX.

#### Art-Net

To control a KNV Cube or Arc via Art-Net you need to set up an Ethernet network. Use CAT 6 or higher Ethernet cable to link multiple KNV fixtures.

To configure the fixture to receive control data via Art-Net, open the menus in the fixture's control panel and make the following adjustments:

1. In the first menu (root menu), set the fixture's DMX address to a suitable address.

2. Scroll to **Control Mode** and choose how you want to control the fixture.
3. Scroll to **Control Protocol / DMX Source** and select **Art-Net**.
4. Scroll to **IP Config** and configure all fixtures with their own unique IP addresses. To do this, you can either:
  - a) set fixtures to generate their own IP addresses by choosing the ranges 2.x.x.x or 10.x.x.x (Art-Net specification),
  - b) set fixtures to acquire IP addresses automatically by DHCP, or
  - c) assign IP addresses manually by entering individual IP addresses and Subnet mask.
5. Select an Art-Net port/universe from 00000 (Network 0 / Subnet 0 / Universe 0) to 32767 (Network 7 / Subnet 15 / Universe 255). Note that the first Art-Net universe is considered to be universe number 00000, not 00001.

You can now control the KNV via Art-Net.

Note that it is possible to transmit DMX data as broadcast or unicast packages via Art-Net. If a large number of universes (more than 30) is broadcast, data loss can occur. If you suspect that this is happening, configure your console to unicast Art-Net DMX packages to fixtures or switch to sACN.

### sACN

To control a KNV Cube or Arc via sACN you need to set up an Ethernet network. Use CAT 6 or higher Ethernet cable to link multiple KNV fixtures.

To configure the fixture to receive control data via sACN, open the menus in the fixture's control panel and make the following adjustments:

1. In the first menu (root menu), set the fixture's DMX address to a suitable address.
2. Scroll to **Control Mode** and choose how you want to control the fixture.
3. Scroll to **Control Protocol / DMX Source** and select **sACN**.
4. Scroll to **IP Config** and configure all fixtures with their own unique IP addresses. To do this, you can either:
  - a) set fixtures to generate their own IP addresses by choosing the ranges 2.x.x.x or 10.x.x.x (Art-Net specification),
  - b) set fixtures to acquire IP addresses automatically by DHCP, or
  - c) assign IP addresses manually by entering individual IP addresses and Subnet mask.
5. Select an sACN universe from 00001 to 63999.

You can now control the KNV via sACN.

## 7. Control menu layout

Menus		Notes	
DMX Address			
1-512		Enter DMX address	
Control Mode			
Mode 1		RGBW + Shutter	
Mode 2		W Strobe + RGB Strobe	
Mode 3		RGB Strobe + 25 x W pix	
Mode 4		W Strobe + 25 x RGB pix	
<b>Mode 5</b>		Multilayer	
Mode 6		25x RGBW pix 8-bit	
Mode 7		25x RGBW pix 16-bit	
Mode 8		25x RGBW pix 8-bit + FX	
Control Protocol			
DMX Source	DMX		Control via DMX protocol
	<b>ArtNet</b>		Control via Art-Net protocol (default)
	sACN		Control via sACN protocol
IP Config	Address Mode	<b>Auto 2.X.X.X</b>	Auto addressing in the range 2.X.X.X
		Auto 10.X.X.X	Auto addressing in the range 10.X.X.X
		Static IP	Use custom IP address
		DHCP	Get IP address by DHCP
	Static IP/Subnet	Enter IP address	Enter custom IP address
		Enter Subnet Mask	Enter custom subnet mask
sACN UDP Port		Select which port listens for sACN packets	
Art-Net Universe	0-32768		Set Art-Net universe
sACN Universe	1-63999		Set sACN universe
Fixture Settings			
Pixel Orientation	<b>Normal</b>		Set pixel orientation
	Rotate 90 deg.		
	Rotate 180 deg.		
	Rotate 270 deg.		
Pixel Mirrored	<b>Off</b>		Set pixel flip right-to-left
	On		
Output Limitation White	<b>No limit</b>		Set maximum output for White LEDs
	80% Output		
	60% Output		
	40% Output		
	20% Output		
	10% Output		

Output Limitation RGB	<b>No limit</b>	Set maximum output for RGB LEDs
	80% Output	
	60% Output	
	40% Output	
	20% Output	
Dimmer Curve	<b>Soft</b>	Select dimming curve
	Linear	
Dimmer Flash	<b>Off</b>	Activate flash when dimmer channel value is moved
	On	
Extra Shutter	<b>RGB+White</b>	Sets which LEDs are used in the extra shutter effect that is available in DMX Modes 1, 6 and 7.
	RGB	
	White	
No DMX	<b>Blackout</b>	Fixture blacks out when no DMX signal present
	Hold	Fixture holds current scene when no DMX signal present
	Captured Scene	Fixture goes to Stand-Alone scene when no DMX signal present
Display Mode	On	Display constantly on
	Off (silent)	Display off, even if error detected or no valid control signal
	<b>Auto</b>	Display sleeps unless error detected or no valid control signal
Display Orientation	Normal	Display orientation normal
	Upside Down	Display orientation inverted
	<b>Auto</b>	Display orientation matches fixture orientation
Fan Mode	<b>Regulated</b>	Fan speed temperature-regulated
	High Speed	Fan speed constant high
	Medium Speed	Fan speed constant medium
	Low Speed	Fan speed constant low
Effect Sync	Internal	Use fixture's internal clock to synchronize FX movement
	<b>Power Line</b>	Use frequency of AC mains power input to synchronize FX movement
Capture Scene	Cancel	Store current scene for use when No DMX → Captured Scene is active
	Execute!	
Load Defaults	Cancel	Load factory default settings <u>apart from</u> DMX address, DMX mode, Control protocol
	Execute!	

Manual Control			
Reboot	<b>Cancel</b>		Force fixture to reboot
	Execute!		
Manual DMX	Red	Set DMX value 000 - 255	
	Green	Set DMX value 000 - 255	
	Blue	Set DMX value 000 - 255	
	White	Set DMX value 000 - 255	
	Shutter	Set DMX value 000 - 255	
	Capture Scene	Cancel	
Execute!			
Information			
DMX Link status	Online/Offline	Link status	
	XXXX	Time that the link has been in that state	
	XXXX	Current DMX frame rate	
	XX %	Percentage of dropped frames (should be as low as possible)	
	XX %	Percentage of DMX channels that are noise-free (should be as close to 100% as possible)	
Network	TCP/IP	Link Up/Requesting DHCP/ Link Down	Link status
		XXX.XXX.XXX.XXX XXX.XXX.XXX.XXX XX-XX-XX-XX-XX-XX	IP address Subnet Mask MAC Address
	Ethernet Port Status	<p><i>If a network is connected:</i></p> <p>Connected</p> <p>XXXX</p> <p>XXXX XXXX</p> <p>XXXX</p> <p><i>If no network is connected:</i></p> <p>Disconnected</p> <p>XXXX</p> <p>XXXX</p>	<p>Connection status</p> <p>Time that the network has been connected since power on</p> <p>Connection speed and duplex mode</p> <p>Counter showing number of times connection has been lost (if any) since power on</p> <p>Connection status</p> <p>Time that the network has been disconnected since power on</p> <p>Counter showing number of times connection has been lost (if any) since power on</p>



Temperatures		Show temperature readings from all internal sensors	
Device Life	Total (non-resettable)		Show total fixture hours since manufacture
	Total (resettable)		Shows fixture hours since last counter reset
	Reset Counter	Cancel Execute!	Sets resettable fixture hours counter to zero
Errors		Displays any currently active system messages: <ul style="list-style-type: none"> <li>• Critical events (0xx codes)</li> <li>• Errors (1xx codes)</li> <li>• Warnings (2xx codes)</li> <li>• Info (3xx codes)</li> </ul>	
Fixture Details	Page 1	Displays fixture's: <ul style="list-style-type: none"> <li>• MAC address</li> <li>• RDM address</li> <li>• Type (Cube/Arc)</li> <li>• Serial number</li> </ul>	
	Page 2	Displays all CPU firmware versions	
	Page 3	Displays all CPU bootloader versions	
	Shape	Shows fixture type (Cube / Arc)	
	Power Cycles	Shows total number of power cycles (not resettable)	
System voltage		Shows master voltage Shows driver voltage	
RDM Statistics	XXX	Number of RDM GET commands received and accepted	
	XXX	Number of RDM SET commands received and accepted	
	XXX	Number of RDM commands not accepted (e.g. invalid RDM command or DMX mode change that would result in invalid DMX address)	
	XXX	Number of RDM commands received that are not for this fixture	
	XXX	Number of invalid RDM packets (i.e. packets containing errors and that should not be used by any device)	
<b>Service</b>			
Test Pattern	<b>Off</b>	Display test pattern on fixture	
	On		
Load Defaults	Cancel	Load default settings <u>apart from DMX address</u> , DMX mode, Control protocol	
	Confirm		
Load Factory Backup (!)	Cancel	Load all factory default settings <u>including DMX address</u> , DMX mode, Control protocol	
	Confirm (Hold for 3 seconds to activate)		

### Control Menus

Default settings are written in **BOLD type**.

## 8. DMX control modes

Eight DMX control modes are available in the KNV.

In all eight DMX modes, the last DMX channel is the *Control / Settings* channel. This channel lets you adjust fixture settings remotely from the DMX control desk.

- DMX Mode 1** lets you control all 25 pixels together as a group with 16-bit resolution. A separate Shutter channel provides strobe, pixel and ramp-up/down effects. This extra shutter affects all white and all RGB LEDs by default, but you can change this setting via the Control/Settings DMX Channel or the fixture's control panel so that the shutter applies to white LEDs only or RGB LEDs only.

Mode 1 RGBW + Shutter	
1	Red coarse
2	Red fine
3	Green coarse
4	Green fine
5	Blue coarse
6	Blue fine
7	White coarse
8	White fine
9	Shutter
10	Control/Settings

- DMX Mode 2** splits the KNV into a White Strobe and a separate RGB Strobe, each with standard strobe light control channels: Intensity, Flash Rate and Flash Duration. In addition, the Flare effect and pre-programmed dynamic FX are available for each strobe.

Mode 2 W Strobe + RGB Strobe	
1	White - Intensity (Dimmer)
2	White - Flash duration
3	White - Flash rate / FX speed
4	White - Flare FX
5	White - FX selection
6	White - FX crossfade time
7	White - Orientation
8	White - FX Offset
9	White - FX Length
10	RGB - Intensity (Dimmer)
11	RGB - Flash duration
12	RGB - Flash rate / FX speed
13	Red
14	Green
15	Blue
16	RGB - Flare FX
17	RGB - FX selection
18	RGB - FX crossfade time
19	RGB - FX orientation
20	RGB - FX offset
21	RGB - FX length
22	RGB - FX color generator
23	Control/Settings

- DMX Mode 3** provides an RGB strobe plus 25 individually controllable white pixels. The RGB strobe has standard strobe control channels: Intensity, Flash Rate and Flash Duration. It also has the Flare effect and pre-programmed dynamic FX. The 25 individual white pixels have a separate Shutter channel with strobe, pixel and ramp-up/down effects.

Mode 3 RGBStrobe + 25 Wpix	
1	RGB - Intensity (Dimmer)
2	RGB - Flash duration
3	RGB - Flash rate / FX speed
4	Red
5	Green
6	Blue
7	RGB - Flare FX
8	RGB - FX selection
9	RGB - FX crossfade time
10	RGB - FX orientation
11	RGB - FX offset
12	RGB - FX length
13	RGB - FX color generator
14	White - Pixel 01
15	White - Pixel 02
...	...
38	White - Pixel 25
39	Extra shutter
40	CONTROL

- DMX Mode 4** provides a White Strobe plus 25 individually controllable RGB pixels. The White strobe has standard strobe control channels: Intensity, Flash Rate and Flash Duration. It also has the Flare effect and pre-programmed dynamic FX. The 25 individual RGB pixels have a separate Shutter channel with strobe, pixel and ramp-up/down effects.

Mode 4 W Strobe + 25 RGB Pix	
1	White - Intensity (Dimmer)
2	White - Flash duration
3	White - Flash rate / FX speed
4	White - Flare FX
5	White - FX selection
6	White - FX crossfade time
7	White - Orientation
8	White - FX offset
9	White - FX length
10	Red - Pixel 01
11	Green - Pixel 01
12	Blue - Pixel 01
13	Red - Pixel 02
14	Green - Pixel 02
15	Blue - Pixel 02
...	...
82	Red - Pixel 25

83	Green - Pixel 25
84	Blue - Pixel 25
85	Extra shutter
86	Control/Settings

- **DMX Mode 5** provides three different layers:
  - The **Base Layer** has lowest priority (other layers override it), so it acts as a background layer. The Base layer has RGBW intensity control.
  - **Layer 2** has priority over the base layer, so it acts as a middle layer.
  - **Layer 3** has highest priority, so it acts as a top layer.
  - **Layers 2 and 3** both have standard RGBW strobe control channels plus the Flare effect and pre-programmed dynamic FX.
  - **Layers 2 and 3** also have 16-bit Layer Transparency Channels that control the visibility of the layer. At DMX value zero on these channels, the layer is totally transparent. As you increase the DMX values, the layer becomes more and more visible over lower priority layers.

FX layer priorities work in true color, which means that colors are not mixed. If you run a red snake FX on Layer 2 over the top of a blue background on the base Layer, the snake will be red, not a mix of blue and red.

Reducing the visibility of a layer by reducing the DMX values sent on the Transparency channel allows the color of the background layer (i.e. the lower priority layer) to shine through.

If you want to dim a higher priority layer's colors without color from lower priority layers shining through, reduce the intensity of the higher priority layer's colors but keep it at full visibility. If you reduce the intensity of all the higher priority layer's colors to zero but set the higher priority layer's transparency channels to 100% (full visibility), you can run a black effect over the top of lower priority layers.

Mode 5 Multilayer	
1	Red
2	Green
3	Blue
4	White
5	Layer 2 Transparency coarse
6	Layer 2 Transparency fine
7	Layer 2 Flash duration
8	Layer 2 Flash rate / FX speed
9	Layer 2 Flare FX
10	Layer 2 Red
11	Layer 2 Green
12	Layer 2 Blue
13	Layer 2 White
14	Layer 2 FX Selection
15	Layer 2 FX Crossfade timing
16	Layer 2 FX Orientation
17	Layer 2 FX Offset
18	Layer 2 FX Length
19	Layer 2 FX Color generator

20	Layer 3 Transparency coarse
21	Layer 3 Transparency fine
22	Layer 3 Flash duration
23	Layer 3 Flash rate / FX speed
24	Layer 3 Flare FX
25	Layer 3 Red
26	Layer 3 Green
27	Layer 3 Blue
28	Layer 3 White
29	Layer 3 FX Selection
30	Layer 3 FX Crossfade timing
31	Layer 3 FX Orientation
32	Layer 3 FX Offset
33	Layer 3 FX Length
34	Layer 3 FX Color generator
35	Control/Settings

- In **DMX Modes 2, 3, 4 and 5** if no FX is selected (FX Selection channel is set to zero), the Flash rate channel controls the flash rate of the Strobe. If an FX is selected, the Flash rate channel is redeployed and controls the speed of the effect instead.
- **DMX Modes 6 and 7** give you individual control of 25 separate pixels with 8- or 16-bit resolution. A separate Shutter channel provides strobe, pixel and ramp-up/down effects. This extra shutter affects all the LEDs, both white and RGB, by default, but you can change this setting via the *Control / Settings* DMX Channel or the fixture's control panel so that the shutter applies to white LEDs only or to RGB LEDs only.

Mode 6 25 RGBW Pix 8bit	
1	Red - Pixel 01
2	Green - Pixel 01
3	Blue - Pixel 01
4	White - Pixel 01
5	Red - Pixel 02
6	Green - Pixel 02
7	Blue - Pixel 02
8	White - Pixel 02
...	...
97	Red
98	Green
99	Blue
100	White
101	Shutter
102	Control/Settings

Mode 7 25 RGBW Pix 16bit	
1	Red coarse - Pixel 01
2	Red fine - Pixel 01
3	Green coarse - Pixel 01
4	Green fine - Pixel 01
5	Blue coarse - Pixel 01
6	Blue fine - Pixel 01
7	White coarse - Pixel 01
8	White fine - Pixel 01
9	Red coarse - Pixel 02
10	Red fine - Pixel 02
11	Green coarse - Pixel 02
12	Green fine - Pixel 02
13	Blue coarse - Pixel 02
14	Blue fine - Pixel 02
15	White coarse - Pixel 02
16	White fine - Pixel 02
...	...
193	Red coarse - Pixel 25
194	Red fine - Pixel 25
195	Green coarse - Pixel 25
196	Green fine - Pixel 25
197	Blue coarse - Pixel 25
198	Blue fine - Pixel 25
199	White coarse - Pixel 25
200	White fine - Pixel 25
201	Shutter
202	Control/Settings

- **DMX Mode 8** is similar to Mode 6, with 25 individually controllable RGBW pixels in Layer 1 (the base layer). But in addition, Mode 8 offers a Layer 2 with higher priority that allows you to run pre-programmed dynamic FX and Flare FX over the top of the individually controlled pixels. Thus Layer 2 – the FX layer – has priority over Layer 1 – the individual pixel RGBW layer.

Layer 2 – the FX layer – has 16-bit Layer Transparency channels, Channels 1 and 2, that control the visibility of the layer. At DMX value zero on these channels, the FX layer is totally transparent. As you increase the DMX value you reduce the FX layer's transparency so that the FX layer becomes more and more visible on top of Layer 1.

If you want to dim the FX on Layer 2 without color from Layer 1 shining through, reduce the intensity of the FX colors using channels 6-9 but set channels 1 and 2 to 100% (full visibility). If you set the intensity of the FX colors to zero using channels 6-9 and set channels 1 and 2 to 100%, you can run a black effect on top of Layer 1.

The FX on Layer 2 work in true color, which means that FX colors are not mixed with the colors of Layer 1. If you run a red snake effect on Layer 2 on top of blue individual pixels on Layer 1, the snake will be red, not a mix of blue and red.

Mode 8 25 RGBW Pix 8 + FX Layer	
1	Layer 2 Transparency coarse
2	Layer 2 Transparency fine
3	Layer 2 Flash duration
4	Layer 2 Flash rate / FX speed
5	Layer 2 Flare FX
6	Layer 2 Red
7	Layer 2 Green
8	Layer 2 Blue
9	Layer 2 White
10	Layer 2 FX Selection
11	Layer 2 FX Crossfade timing
12	Layer 2 FX Orientation
13	Layer 2 FX Offset
14	Layer 2 FX Length
15	Layer 2 FX Color generator
16	Red - Pixel 01
17	Green - Pixel 01
18	Blue - Pixel 01
19	White - Pixel 01
20	Red - Pixel 02
21	Green - Pixel 02
22	Blue - Pixel 02
23	White - Pixel 02
...	...
112	Red - Pixel 25
113	Green - Pixel 25
114	Blue - Pixel 25
115	White - Pixel 25
116	Control/Settings

## ***Control channel layout tables***

### **Special notes on the DMX tables**

In the following DMX channel layout tables:

- Default settings are indicated with **bold type**.
- Where commands are marked with an asterisk \* you must send that value continuously for 3 seconds (or other duration if indicated in the table) to apply the command.
- Where LED orientation commands are marked with two asterisks \*\* the direction of FX pattern *movement* is reversed compared to the similar commands available earlier on the same channel. The FX pattern *orientation* is unchanged.

## DMX Mode 1: RGBW 16-bit

### 10 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>RGBW</b>						
1	<b>Red coarse</b>	All pixels, intensity 0-100%	0-65535	0-100%	0	Fade
2	<b>Red fine</b>					
3	<b>Green coarse</b>	All pixels, intensity 0-100%	0-65535	0-100%	0	Fade
4	<b>Green fine</b>					
5	<b>Blue coarse</b>	All pixels, intensity 0-100%	0-65535	0-100%	0	Fade
6	<b>Blue fine</b>					
7	<b>White coarse</b>	All pixels, intensity 0-100%	0-65535	0-100%	0	Fade
8	<b>White fine</b>					
9	<b>Shutter</b>	Shutter closed	0-4	0-1.6%	255	Snap
		Sync ramp up slow > fast	5-39	2.0-15.3%		Fade
		Sync ramp down slow > fast	40-74	15.7-29.0%		Fade
		Sync ramp up-down slow > fast	75-109	29.4-42.7%		Fade
		Sync double flash slow > fast	110-144	43.1-56.5%		Fade
		Random pixel slow > fast	145-179	56.9-70.2%		Fade
		Random strobe slow > fast	180-214	70.6-83.9%		Fade
		Sync strobe 0.289 > 16.67 Hz	215-249	84.3-97.6%		Fade
		Hyperspeed	250-252	98.0-98.8%		Snap
Open	253-255	99.2-100%	Snap			
<b>Control / Settings</b>						
10	<b>Control / Settings</b>	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-56	21.2-22.0%		
		<b>Extra Shutter RGBW*</b>	57-59	22.4-23.1%		
		Extra Shutter RGB only*	60-62	23.5-24.3%		
		Extra Shutter White only*	63-65	24.7-25.5%		
		No function	66-68	25.9-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
<b>Display invert Off*</b>	93-95	36.5-37.3%				
Display invert On*	96-98	37.6-38.4%				



Capture scene*	99-101	38.8-39.6%
No DMX = Play captured scene*	102-104	40.0-40.8%
<b>No DMX = Blackout*</b>	105-107	41.2-42.0%
No DMX = Hold current scene*	108-110	42.4-43.1%
Test pattern On*	111-113	43.5-44.3%
<b>Test pattern Off*</b>	114-116	44.7-45.5%
<b>Rotation Off*</b>	117-119	45.9-46.7%
Rotate 90° *	120-122	47.1-47.8%
Rotate 180° *	123-125	48.2-49.0%
Rotate 270° *	126-128	49.4-50.2%
<b>Pixel mirror Off*</b>	129-131	50.6-51.4%
Pixel mirror On*	132-134	51.8-52.5%
<b>White output limitation Off*</b>	135-137	52.9-53.7%
White output limitation 80%*	138-140	54.1-54.9%
White output limitation 60%*	141-143	55.3-56.1%
White output limitation 40%*	144-146	56.5-57.3%
White output limitation 20%*	147-149	57.6-58.4%
White output limitation 10%*	150-152	55.8-59.6%
No function	153-158	60.0-62.0%
<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%
RGB output limitation 80%*	162-164	63.5-64.3%
RGB output limitation 60%*	165-167	64.7-65.5%
RGB output limitation 40%*	168-170	65.9-66.7%
RGB output limitation 20%*	171-173	67.1-67.8%
RGB output limitation 10%*	174-176	68.2-69.0%
No function	177-251	69.4-98.4%
Reboot fixture*	252-255	98.8-100%

## DMX Mode 2: White strobe with FX, RGB with FX

### 23 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>Channel group A: White strobe with FX</b>						
1	White LEDs intensity	Intensity 0-100%	0-255	0-100%	0	Fade
2	White LEDs flash duration	Flash duration 7-650 ms	0-255	0-100%	0	Fade
3	White LEDs flash rate (if FX are not active)	No flash <i>Single flash if Dimmer Flash = ON and value is changed on Ch 1</i>	0-1	0-0.4%	0	Snap
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-252	98.4-98.8%		Snap
	FX speed (if FX are active)	Continuously on	253-255	99.2-100%		Snap
		FX speed = stop	0-1	0-0.4%		Snap
		FX speed = slow > fast	2-253	0.8-98.8%		Fade
		FX speed = stop	254-255	99.2-100%		Snap
4	White LEDs Flare effect	Off	0-9	0-3.5%	0	Snap
		Slow > fast	10-49	3.9-19.2%	Fade	
		Off	50-59	19.6-23.1%	Snap	
		Random slow > fast	60-109	23.5-42.7%	Fade	
		Off	110-119	43.1-46.7%	Snap	
		Random pixel slow > fast	120-169	47.1-66.3%	Fade	
		Off	170-255	66.7-100%	Snap	
5	White LEDs FX selection	Sync strobe - all	0-2	0-0.8%	0	Snap
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
		Random strobe - 4 dot mask	18-20	7.1-7.8%		
		Random strobe - 1 dot mask	21-23	8.2-9.0%		
		Lite in/out - all	24-26	9.4-10.2%		
		Lite in/out - circle mask	27-29	10.6-11.4%		
		Lite in/out - 4 dot mask	30-32	11.8-12.6%		
		Lite in/out - 1 dot mask	33-35	12.9-13.7%		
		Snake	36-38	14.1-14.9%		
		Raindrops	39-41	15.3-16.1%		
		Random pixel	42-44	16.5-17.3%		
		Random fake x 2 (length = 13)	45-47	17.6-18.4%		
		Random fake x 4 (length = 7)	48-50	18.8-19.6%		
		Line (length = 5)	51-53	20.0-20.8%		
		Double line (length = 3)	54-56	21.2-22.0%		
		Corner to corner line (length = 9)	57-59	22.4-23.1%		
		Tilted double lines (length = 3)	60-62	23.5-24.3%		
		Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%		
		Center line running dot (length = 5)	66-68	25.9-26.7%		
		Middle line running dot (length = 5)	69-71	27.1-27.8%		
		Outer line running dot (length = 5)	72-74	28.2-29.0%		
		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
Wave (length = 8)	81-83	31.8-32.5%				
Wheel (length = 8)	84-86	32.9-33.7%				

		Half wheel (length = 16)	87-89	34.1-34.9%						
		Circling dot (length = 8)	90-92	35.3-36.1%						
		Outer circle (length = 8)	93-95	36.5-37.3%						
		Inner circle (length = 4)	96-98	37.6-38.4%						
		Outer 4 dots (length = 4)	99-101	38.8-39.6%						
		Outer single dot (length = 16)	102-104	40.0-40.8%						
		Middle single dot (length = 8)	105-107	41.2-42.0%						
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%						
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%						
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%						
		Square (length = 3)	117-119	45.9-46.7%						
		Inside out (length = 6)	120-122	47.1-48.8%						
		Inside out 2 (length = 3)	123-125	48.2-49.0%						
		Abstract 1 (length = 3)	126-128	49.4-50.2%						
		Abstract 2 (length = 3)	129-131	50.6-51.4%						
		Abstract 3 (length = 3)	132-134	51.8-52.5%						
		Hash tag (length = 2)	135-137	52.9-53.7%						
		Flip flop (length = 2)	138-140	54.1-54.9%						
		Jumping slash (length = 13)	141-143	55.3-56.1%						
		Jumping 'L' (length = 12)	144-146	56.5-57.3%						
		Jumping pins (length = 12)	147-149	57.6-58.4%						
		Off - No Strobe or Fx	150-255	58.8-100%						
		Fat dot (length = 4)	150-152	58.8-59.6%						
		Bars (length = 2)	153-155	60.0-60.8%						
		3 x lines (length = 5)	156-158	61.2-62.0%						
		2 x lines (length = 5)	159-161	62.4-63.1%						
		Spiral (length = 28)	162-164	63.5-64.3%						
		Off - No Strobe or FX	165-255	64.7-100%						
		<b>6</b>	<b>White LEDs FX crossfade time</b>	Off			0-1	0-0.4%	0	Snap
				Crossfade fast > slow			2-127	0.8-49.8%		Fade
Crossfade and tail slow > fast	128-255			50.2-100%	Fade					
<b>7</b>	<b>White LEDs orientation</b>	Off	0-4	0-1.6%	0	Snap				
		Rotate 90°	5-9	2.0-3.5%						
		Rotate 180°	10-14	3.9-5.5%						
		Rotate 270°	15-19	5.9-7.5%						
		Horizontal flip	20-24	7.8-9.4%						
		Rotate 90° & vertical flip	25-29	9.8-11.4%						
		Rotate 180° & horizontal flip	30-34	11.8-13.3%						
		Rotate 270° & vertical flip	35-39	13.7-15.3%						
		Off	40-44	15.7-17.3%						
		Random rotate & flip	45-49	17.7-19.2%						
		Random position	50-54	19.6-21.2%						
		Fix 90° rotation & random position	55-59	21.6-23.1%						
		Fix 180° rotation & random position	60-64	23.5-25.1%						
		Fix 270° rotation & random position	65-69	25.5-27.1%						
		Off	70-74	27.5-29.0%						
		Bounce	75-79	29.4-31.0%						
		Bounce & rotate 90°	80-84	31.4-32.9%						
		Bounce & rotate 180°	85-89	33.3-34.9%						
		Bounce & rotate 270°	90-94	35.3-36.9%						
		Off	95-99	37.3-38.8%						
		Rotate CCW at end	100-104	39.2-40.8%						
		Rotate CW at end	105-109	41.2-42.7%						
		Random rotate at end	110-114	43.1-44.7%						
		Off	115-134	45.1-52.5%						
		Rotate 90° **	135-139	52.9-54.5%						

		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random position **	185-189	72.5-74.1%		
		Fix 180° rotation & random position **	190-194	74.5-76.1%		
		Fix 270° rotation & random position **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
<b>8</b>	<b>White LEDs FX offset</b>	0-100%	0-255	0-100%	0	Fade
<b>9</b>	<b>White LEDs FX length</b>	0-100%	0-255	0-100%	0	Fade
<b>Channel group B: RGB strobe with FX</b>						
<b>10</b>	<b>RGB LEDs dimmer</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>11</b>	<b>RGB LEDs flash duration</b>	Flash duration 7-650 ms	0-255	0-100%	0	Fade
<b>12</b>	<b>RGB LEDs flash rate (if FX are not active)</b>	No flash	0-1	0-0.4%	0	Snap
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-254	98.4-99.6%		Snap
		Continuously on	255	100%		Snap
	<b>FX speed (if FX are active)</b>	FX speed = stop	0-1	0-0.4%		Snap
		FX speed = slow > fast	2-253	0.8-98.8%		Fade
FX speed = stop		254-255	99.2-100%	Snap		
<b>13</b>	<b>Red</b>	Red intensity 0-100%	0-255	0-100%	255	Fade
<b>14</b>	<b>Green</b>	Green intensity 0-100%	0-255	0-100%	255	Fade
<b>15</b>	<b>Blue</b>	Blue intensity 0-100%	0-255	0-100%	255	Fade
<b>16</b>	<b>RGB LEDs Flare effect</b>	Off	0-9	0-3.5%	0	Snap
		Slow > fast	10-49	3.9-19.2%		Fade
		Off	50-59	19.6-23.1%		Snap
		Random slow > fast	60-109	23.5-42.7%		Fade
		Off	110-119	43.1-46.7%		Snap
		Random pixel slow > fast	120-169	47.1-66.3%		Fade
		Off	170-255	66.7-100%		Snap
<b>17</b>	<b>RGB LEDs FX selection</b>	FX Off	0-2	0-0.8%	0	Snap
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
Random strobe - 4 dot mask	18-20	7.1-7.8%				

<b>RGB LEDs FX selection (continued)</b>	Random strobe - 1 dot mask	21-23	8.2-9.0%
	Lite in/out - all	24-26	9.4-10.2%
	Lite in/out - circle mask	27-29	10.6-11.4%
	Lite in/out - 4 dot mask	30-32	11.8-12.6%
	Lite in/out - 1 dot mask	33-35	12.9-13.7%
	Snake	36-38	14.1-14.9%
	Raindrops	39-41	15.3-16.1%
	Random pixel	42-44	16.5-17.3%
	Random fake x 2 (length = 13)	45-47	17.6-18.4%
	Random fake x 4 (length = 7)	48-50	18.8-19.6%
	Line (length = 5)	51-53	20.0-20.8%
	Double line (length = 3)	54-56	21.2-22.0%
	Corner to corner line (length = 9)	57-59	22.4-23.1%
	Tilted double lines (length = 3)	60-62	23.5-24.3%
	Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%
	Center line running dot (length = 5)	66-68	25.9-26.7%
	Middle line running dot (length = 5)	69-71	27.1-27.8%
	Outer line running dot (length = 5)	72-74	28.2-29.0%
	Corner to corner (length = 5)	75-77	29.4-30.2%
	Arrow (length = 7)	78-80	30.6-31.4%
	Wave (length = 8)	81-83	31.8-32.5%
	Wheel (length = 8)	84-86	32.9-33.7%
	Half wheel (length = 16)	87-89	34.1-34.9%
	Circling dot (length = 8)	90-92	35.3-36.1%
	Outer circle (length = 8)	93-95	36.5-37.3%
	Inner circle (length = 4)	96-98	37.6-38.4%
	Outer 4 dots (length = 4)	99-101	38.8-39.6%
	Outer single dot (length = 16)	102-104	40.0-40.8%
	Middle single dot (length = 8)	105-107	41.2-42.0%
	Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%
	Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%
	Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%
	Square (length = 3)	117-119	45.9-46.7%
	Inside out (length = 6)	120-122	47.1-48.8%
	Inside out 2 (length = 3)	123-125	48.2-49.0%
	Abstract 1 (length = 3)	126-128	49.4-50.2%
	Abstract 2 (length = 3)	129-131	50.6-51.4%
	Abstract 3 (length = 3)	132-134	51.8-52.5%
	Hash tag (length = 2)	135-137	52.9-53.7%
	Flip flop (length = 2)	138-140	54.1-54.9%
	Jumping slash (length = 13)	141-143	55.3-56.1%
	Jumping 'L'	144-146	56.5-57.3%
	Jumping pins	147-149	57.6-58.4%
	Jumping pins (length = 12)	147-149	57.6-58.4%
	Fat dot (length = 4)	150-152	58.8-59.6%
Bars (length = 2)	153-155	60.0-60.8%	
3 x lines (length = 5)	156-158	61.2-62.0%	
2 x lines (length = 5)	159-161	62.4-63.1%	
Spiral (length = 28)	162-164	63.5-64.3%	
Off - No Strobe or FX	165-255	64.7-100%	

18	RGB LEDs FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
19	RGB LEDs orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		
		Off	70-74	27.5-29.0%		
		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
		Rotate CCW at end	100-104	39.2-40.8%		
		Rotate CW at end	105-109	41.2-42.7%		
		Random rotate at end	110-114	43.1-44.7%		
		Off	115-134	45.1-52.5%		
		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
Random position **	180-184	70.6-72.2%				
Fix 90° rotation & random posn. **	185-189	72.5-74.1%				
Fix 180° rotation & random posn. **	190-194	74.5-76.1%				
Fix 270° rotation & random posn. **	195-199	76.5-78.0%				
Off	200-204	78.4-80.0%				
Bounce **	205-209	80.4-82.0%				
Bounce & rotate 90° **	210-214	82.4-83.9%				
Bounce & rotate 180° **	215-219	84.3-85.9%				
Bounce & rotate 270° **	220-224	86.3-87.8%				
Off	225-229	88.2-89.8%				
Rotate CCW at end **	230-234	90.2-91.8%				
Rotate CW at end **	235-239	92.2-93.7%				
Random rotate at end **	240-244	94.1-95.7%				
Off	245-255	96.1-100%				
20	RGB LEDs FX offset	0-100%	0-255	0-100%	0	Fade
21	RGB LEDs FX length	0-100%	0-255	0-100%	0	Fade

22	RGB LEDs color generator	Off	0-9	0-3.5%	0	Snap
		Random all pixels RGBCMY	10-19	3.9-7.5%		Snap
		Random single pixel RGBCMY	20-29	7.8-11.4%		Snap
		Random all pixels bright colors	30-39	11.8-15.3%		Snap
		Random single pixel bright colors	40-49	15.7-19.2%		Snap
		Red / Blue	50-59	19.6-23.1%		Snap
		Red / Green	60-69	23.5-27.1%		Snap
		Blue / Green	70-79	27.5-31.0%		Snap
		Yellow / Magenta	80-89	31.4-34.9%		Snap
		Yellow / Cyan	90-99	35.3-38.8%		Snap
		Cyan / Magenta	100-109	39.2-42.7%		Snap
		Yellow / Blue	110-119	43.1-46.7%		Snap
		Green / Magenta	120-129	47.1-50.6%		Snap
		Red / Green / Blue	130-139	51.0-54.5%		Snap
		Red / Yellow / Blue	140-149	54.9-58.4%		Snap
		Red / Green / Blue / Yellow / Magenta / Cyan	150-159	58.8%-62.4%		Snap
		Red / Green / Blue - Horizontal line	160-169	62.7-66.3%		Snap
		Red / Green / Blue - Vertical line	170-179	66.7-70.2%		Snap
		No function	180-219	70.6-85.9%		Snap
		Color scroll, slow -> fast	220-229	86.3-89.8%		Fade
Lite in	230-239	90.2-93.7%	Snap			
Lite out	240-249	94.1-97.6%	Snap			
Off	250-255	98.0-100%	Snap			
<b>Control / Settings</b>						
23	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-68	21.2-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
<b>No DMX = Blackout*</b>	105-107	41.2-42.0%				
No DMX = Hold current scene*	108-110	42.4-43.1%				
Test pattern On*	111-113	43.5-44.3%				
<b>Test pattern Off*</b>	114-116	44.7-45.5%				

	<b>Rotation Off*</b>	117-119	45.9-46.7%
	Rotate 90° *	120-122	47.1-47.8%
	Rotate 180° *	123-125	48.2-49.0%
	Rotate 270° *	126-128	49.4-50.2%
	<b>Pixel mirror Off*</b>	129-131	50.6-51.4%
	Pixel mirror On*	132-134	51.8-52.5%
	<b>White output limitation Off*</b>	135-137	52.9-53.7%
	White output limitation 80%*	138-140	54.1-54.9%
	White output limitation 60%*	141-143	55.3-56.1%
	White output limitation 40%*	144-146	56.5-57.3%
	White output limitation 20%*	147-149	57.6-58.4%
	White output limitation 10%*	150-152	55.8-59.6%
	No function	153-158	60.0-62.0%
	<b>RGB output limitation Off*</b>	159-161	62.4-63.1%
	RGB output limitation 80%*	162-164	63.5-64.3%
	RGB output limitation 60%*	165-167	64.7-65.5%
	RGB output limitation 40%*	168-170	65.9-66.7%
	RGB output limitation 20%*	171-173	67.1-67.8%
	RGB output limitation 10%*	174-176	68.2-69.0%
	No function	177-251	69.4-98.4%
	Reboot fixture*	252-255	98.8-100%



## DMX Mode 3: RGB strobe with FX, White 25-pixel

### 40 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>Channel group A: RGB strobe with FX</b>						
1	<b>RGB LEDs dimmer</b>	Intensity 0-100%	0-255	0-100%	0	Fade
2	<b>RGB LEDs flash duration</b>	Flash duration 7-650 ms	0-255	0-100%	255	Fade
3	<b>RGB LEDs flash rate (if FX not active)</b>	No flash <i>Single flash if Dimmer Flash = ON and value is changed on Ch 1</i>	0-1	0-0.4%	0	Snap
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-254	98.4-99.6%		Snap
	Continuously on	255	100%	Snap		
	<b>RGB LEDs FX speed (if FX active)</b>	<i>FX speed = stop</i>	0-1	0-0.4%		Snap
		<i>FX speed = slow &gt; fast</i>	2-253	0.8-98.8%		Fade
<i>FX speed = stop</i>		254-255	99.2-100%	Snap		
4	<b>Red</b>	Red intensity 0-100%	0-255	0-100%	255	Fade
5	<b>Green</b>	Green intensity 0-100%	0-255	0-100%	255	Fade
6	<b>Blue</b>	Blue intensity 0-100%	0-255	0-100%	255	Fade
7	<b>RGB LEDs Flare effect</b>	Off	0-9	0-3.5%	0	Snap
		Slow > fast	10-49	3.9-19.2%		Fade
		Off	50-59	19.6-23.1%		Snap
		Random slow > fast	60-109	23.5-42.7%		Fade
		Off	110-119	43.1-46.7%		Snap
		Random pixel slow > fast	120-169	47.1-66.3%		Fade
		Off	170-255	66.7-100%		Snap
8	<b>RGB LEDs FX selection</b>	FX Off	0-2	0-0.8%	0	Snap
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
		Random strobe - 4 dot mask	18-20	7.1-7.8%		
		Random strobe - 1 dot mask	21-23	8.2-9.0%		
		Lite in/out - all	24-26	9.4-10.2%		
		Lite in/out - circle mask	27-29	10.6-11.4%		
		Lite in/out - 4 dot mask	30-32	11.8-12.6%		
		Lite in/out - 1 dot mask	33-35	12.9-13.7%		
		Snake	36-38	14.1-14.9%		
		Raindrops	39-41	15.3-16.1%		
		Random pixel	42-44	16.5-17.3%		
		Random fake x 2 (length = 13)	45-47	17.6-18.4%		
		Random fake x 4 (length = 7)	48-50	18.8-19.6%		
		Line (length = 5)	51-53	20.0-20.8%		
		Double line (length = 3)	54-56	21.2-22.0%		
		Corner to corner line (length = 9)	57-59	22.4-23.1%		
Tilted double lines (length = 3)	60-62	23.5-24.3%				
Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%				
Center line running dot (length = 5)	66-68	25.9-26.7%				
Middle line running dot (length = 5)	69-71	27.1-27.8%				
Outer line running dot (length = 5)	72-74	28.2-29.0%				

		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
		Wave (length = 8)	81-83	31.8-32.5%		
		Wheel (length = 8)	84-86	32.9-33.7%		
		Half wheel (length = 16)	87-89	34.1-34.9%		
		Circling dot (length = 8)	90-92	35.3-36.1%		
		Outer circle (length = 8)	93-95	36.5-37.3%		
		Inner circle (length = 4)	96-98	37.6-38.4%		
		Outer 4 dots (length = 4)	99-101	38.8-39.6%		
		Outer single dot (length = 16)	102-104	40.0-40.8%		
		Middle single dot (length = 8)	105-107	41.2-42.0%		
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%		
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%		
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%		
		Square (length = 3)	117-119	45.9-46.7%		
		Inside out (length = 6)	120-122	47.1-48.8%		
		Inside out 2 (length = 3)	123-125	48.2-49.0%		
		Abstract 1 (length = 3)	126-128	49.4-50.2%		
		Abstract 2 (length = 3)	129-131	50.6-51.4%		
		Abstract 3 (length = 3)	132-134	51.8-52.5%		
		Hash tag (length = 2)	135-137	52.9-53.7%		
		Flip flop (length = 2)	138-140	54.1-54.9%		
		Jumping slash (length = 13)	141-143	55.3-56.1%		
		Jumping 'L' (length = 12)	144-146	56.5-57.3%		
		Jumping pins (length = 12)	147-149	57.6-58.4%		
		Fat dot (length = 4)	150-152	58.8-59.6%		
		Bars (length = 2)	153-155	60.0-60.8%		
		3 x lines (length = 5)	156-158	61.2-62.0%		
		2 x lines (length = 5)	159-161	62.4-63.1%		
		Spiral (length = 28)	162-164	63.5-64.3%		
		Off - No Strobe or FX	165-255	64.7-100%		
9	RGB LEDs FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
10	RGB LEDs orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		
		Off	70-74	27.5-29.0%		
		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
Rotate CCW at end	100-104	39.2-40.8%				

		Rotate CW at end	105-109	41.2-42.7%		
		Random rotate at end	110-114	43.1-44.7%		
		Off	115-134	45.1-52.5%		
		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random posn. **	185-189	72.5-74.1%		
		Fix 180° rotation & random posn. **	190-194	74.5-76.1%		
		Fix 270° rotation & random posn. **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
<b>11</b>	<b>RGB LEDs FX offset</b>	0-100%	0-255	0-100%	0	Fade
<b>12</b>	<b>RGB LEDs FX length</b>	0-100%	0-255	0-100%	0	Fade
<b>13</b>	<b>RGB LEDs color generator</b>	Off	0-9	0-3.5%	0	Snap
		Random all pixels RGBCMY	10-19	3.9-7.5%		Snap
		Random single pixel RGBCMY	20-29	7.8-11.4%		Snap
		Random all pixels bright colors	30-39	11.8-15.3%		Snap
		Random single pixel bright colors	40-49	15.7-19.2%		Snap
		Red / Blue	50-59	19.6-23.1%		Snap
		Red / Green	60-69	23.5-27.1%		Snap
		Blue / Green	70-79	27.5-31.0%		Snap
		Yellow / Magenta	80-89	31.4-34.9%		Snap
		Yellow / Cyan	90-99	35.3-38.8%		Snap
		Cyan / Magenta	100-109	39.2-42.7%		Snap
		Yellow / Blue	110-119	43.1-46.7%		Snap
		Green / Magenta	120-129	47.1-50.6%		Snap
		Red / Green / Blue	130-139	51.0-54.5%		Snap
		Red / Yellow / Blue	140-149	54.9-58.4%		Snap
		Red / Green / Blue / Yellow / Magenta / Cyan	150-159	58.8%-62.4%		Snap
		Red / Green / Blue - Horizontal line	160-169	62.7-66.3%		Snap
		Red / Green / Blue - Vertical line	170-179	66.7-70.2%		Snap
		No function	180-219	70.6-85.9%		Snap
		Color scroll, slow -> fast	220-229	86.3-89.8%		Fade
		Lite in	230-239	90.2-93.7%		Snap
		Lite out	240-249	94.1-97.6%		Snap
		Off	250-255	98.0-100%		Snap

Channel group B: White 25-pixel						
14	White pixel 1	Intensity 0-100%	0-255	0-100%	0	fade
15	White pixel 2	Intensity 0-100%	0-255	0-100%	0	fade
16	White pixel 3	Intensity 0-100%	0-255	0-100%	0	fade
17	White pixel 4	Intensity 0-100%	0-255	0-100%	0	fade
18	White pixel 5	Intensity 0-100%	0-255	0-100%	0	fade
19	White pixel 6	Intensity 0-100%	0-255	0-100%	0	fade
20	White pixel 7	Intensity 0-100%	0-255	0-100%	0	fade
21	White pixel 8	Intensity 0-100%	0-255	0-100%	0	fade
22	White pixel 9	Intensity 0-100%	0-255	0-100%	0	fade
23	White pixel 10	Intensity 0-100%	0-255	0-100%	0	fade
24	White pixel 11	Intensity 0-100%	0-255	0-100%	0	fade
25	White pixel 12	Intensity 0-100%	0-255	0-100%	0	fade
26	White pixel 13	Intensity 0-100%	0-255	0-100%	0	fade
27	White pixel 14	Intensity 0-100%	0-255	0-100%	0	fade
28	White pixel 15	Intensity 0-100%	0-255	0-100%	0	fade
29	White pixel 16	Intensity 0-100%	0-255	0-100%	0	fade
30	White pixel 17	Intensity 0-100%	0-255	0-100%	0	fade
31	White pixel 18	Intensity 0-100%	0-255	0-100%	0	fade
32	White pixel 19	Intensity 0-100%	0-255	0-100%	0	fade
33	White pixel 20	Intensity 0-100%	0-255	0-100%	0	fade
34	White pixel 21	Intensity 0-100%	0-255	0-100%	0	fade
35	White pixel 22	Intensity 0-100%	0-255	0-100%	0	fade
36	White pixel 23	Intensity 0-100%	0-255	0-100%	0	fade
37	White pixel 24	Intensity 0-100%	0-255	0-100%	0	fade
38	White pixel 25	Intensity 0-100%	0-255	0-100%	0	fade
39	White LEDs shutter	Shutter closed	0-4	0-1.6%	255	Snap
		Sync ramp up slow > fast	5-39	2.0-15.3%		Fade
		Sync ramp down slow > fast	40-74	15.7-29.0%		Fade
		Sync ramp up-down slow > fast	75-109	29.4-42.7%		Fade
		Sync double flash slow > fast	110-144	43.1-56.5%		Fade
		Pixel flare effect slow > fast	145-179	56.9-70.2%		Fade
		Random strobe slow > fast	180-214	70.6-83.9%		Fade
		Sync strobe 0.289 > 16.67 Hz	215-249	84.3-97.6%		Fade
		Hyperspeed	250-252	98.0-98.8%		Snap
		Open	253-255	99.2-100%		Snap
Control / Settings						
40	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-68	21.2-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
No function	81-83	31.8-32.5%				

Display On*	84-86	32.9-33.7%
Display Off*	87-89	34.1-34.9%
<b>Display Auto*</b>	90-92	35.3-36.1%
<b>Display invert Off*</b>	93-95	36.5-37.3%
Display invert On*	96-98	37.6-38.4%
Capture scene*	99-101	38.8-39.6%
No DMX = Play captured scene*	102-104	40.0-40.8%
<b>No DMX = Blackout*</b>	105-107	41.2-42.0%
No DMX = Hold current scene*	108-110	42.4-43.1%
Test pattern On*	111-113	43.5-44.3%
<b>Test pattern Off*</b>	114-116	44.7-45.5%
<b>Rotation Off*</b>	117-119	45.9-46.7%
Rotate 90° *	120-122	47.1-47.8%
Rotate 180° *	123-125	48.2-49.0%
Rotate 270° *	126-128	49.4-50.2%
<b>Pixel mirror Off*</b>	129-131	50.6-51.4%
Pixel mirror On*	132-134	51.8-52.5%
<b>White output limitation Off*</b>	135-137	52.9-53.7%
White output limitation 80%*	138-140	54.1-54.9%
White output limitation 60%*	141-143	55.3-56.1%
White output limitation 40%*	144-146	56.5-57.3%
White output limitation 20%*	147-149	57.6-58.4%
White output limitation 10%*	150-152	55.8-59.6%
No function	153-158	60.0-62.0%
<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%
RGB output limitation 80%*	162-164	63.5-64.3%
RGB output limitation 60%*	165-167	64.7-65.5%
RGB output limitation 40%*	168-170	65.9-66.7%
RGB output limitation 20%*	171-173	67.1-67.8%
RGB output limitation 10%*	174-176	68.2-69.0%
No function	177-251	69.4-98.4%
Reboot fixture*	252-255	98.8-100%

## DMX Mode 4: White strobe with FX, RGB 25-pixel

### 86 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>Channel group A: White strobe with FX</b>						
1	<b>White LEDs dimmer</b>	Intensity 0-100%	0-255	0-100%	0 Fade	
2	<b>White LEDs flash duration</b>	Flash duration 7-650 ms	0-255	0-100%	0 Fade	
3	<b>White LEDs flash rate (if FX are not active)</b>	No flash	0-1	0-0.4%	0 Snap	
		Single flash if Dimmer Flash = ON and value is changed on Ch 1				
		Flash rate 0,289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-252	98.4-98.8%		Snap
	<b>FX speed (If FX are active)</b>	Continuously on	253-255	99.2-100%	Snap	
		FX speed = stop	0-1	0-0.4%	Snap	
		FX speed = slow > fast	2-253	0.8-98.8%	Fade	
	FX speed = stop	254-255	99.2-100%	Snap		
4	<b>White LEDs Flare effect</b>	Off	0-9	0-3.5%	0 Snap	
		Slow > fast	10-49	3.9-19.2%		Fade
		Off	50-59	19.6-23.1%		Snap
		Random slow > fast	60-109	23.5-42.7%		Fade
		Off	110-119	43.1-46.7%		Snap
		Random pixel slow > fast	120-169	47.1-66.3%		Fade
		Off	170-255	66.7-100%		Snap
5	<b>White LEDs FX selection</b>	Sync strobe - all	0-2	0-0.8%	0 Snap	
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
		Random strobe - 4 dot mask	18-20	7.1-7.8%		
		Random strobe - 1 dot mask	21-23	8.2-9.0%		
		Lite in/out - all	24-26	9.4-10.2%		
		Lite in/out - circle mask	27-29	10.6-11.4%		
		Lite in/out - 4 dot mask	30-32	11.8-12.6%		
		Lite in/out - 1 dot mask	33-35	12.9-13.7%		
		Snake	36-38	14.1-14.9%		
		Raindrops	39-41	15.3-16.1%		
		Random pixel	42-44	16.5-17.3%		
		Random fake x 2 (length = 13)	45-47	17.6-18.4%		
		Random fake x 4 (length = 7)	48-50	18.8-19.6%		
		Line (length = 5)	51-53	20.0-20.8%		
		Double line (length = 3)	54-56	21.2-22.0%		
		Corner to corner line (length = 9)	57-59	22.4-23.1%		
		Tilted double lines (length = 3)	60-62	23.5-24.3%		
		Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%		
		Center line running dot (length = 5)	66-68	25.9-26.7%		
		Middle line running dot (length = 5)	69-71	27.1-27.8%		
		Outer line running dot (length = 5)	72-74	28.2-29.0%		
		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
Wave (length = 8)	81-83	31.8-32.5%				

		Wheel (length = 8)	84-86	32.9-33.7%		
		Half wheel (length = 16)	87-89	34.1-34.9%		
		Circling dot (length = 8)	90-92	35.3-36.1%		
		Outer circle (length = 8)	93-95	36.5-37.3%		
		Inner circle (length = 4)	96-98	37.6-38.4%		
		Outer 4 dots (length = 4)	99-101	38.8-39.6%		
		Outer single dot (length = 16)	102-104	40.0-40.8%		
		Middle single dot (length = 8)	105-107	41.2-42.0%		
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%		
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%		
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%		
		Square (length = 3)	117-119	45.9-46.7%		
		Inside out (length = 6)	120-122	47.1-48.8%		
		Inside out 2 (length = 3)	123-125	48.2-49.0%		
		Abstract 1 (length = 3)	126-128	49.4-50.2%		
		Abstract 2 (length = 3)	129-131	50.6-51.4%		
		Abstract 3 (length = 3)	132-134	51.8-52.5%		
		Hash tag (length = 2)	135-137	52.9-53.7%		
		Flip flop (length = 2)	138-140	54.1-54.9%		
		Jumping slash (length = 13)	141-143	55.3-56.1%		
		Jumping 'L' (length = 12)	144-146	56.5-57.3%		
		Jumping pins (length = 12)	147-149	57.6-58.4%		
		Fat dot (length = 4)	150-152	58.8-59.6%		
		Bars (length = 2)	153-155	60.0-60.8%		
		3 x lines (length = 5)	156-158	61.2-62.0%		
		2 x lines (length = 5)	159-161	62.4-63.1%		
		Spiral (length = 28)	162-164	63.5-64.3%		
		Off - No Strobe or FX	165-255	64.7-100%		
6	White LEDs FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
7	White LEDs orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		
		Off	70-74	27.5-29.0%		
		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
Rotate CCW at end	100-104	39.2-40.8%				
Rotate CW at end	105-109	41.2-42.7%				
Random rotate at end	110-114	43.1-44.7%				
Off	115-134	45.1-52.5%				

		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random posn. **	185-189	72.5-74.1%		
		Fix 180° rotation & random posn. **	190-194	74.5-76.1%		
		Fix 270° rotation & random posn. **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
8	White LEDs FX offset	0-100%	0-255	0-100%	0	Fade
9	White LEDs FX length	0-100%	0-255	0-100%	0	Fade
<b>Channel group B: RGB 25-pixel</b>						
10		Red	0-255	0-100%	255	Fade
11	RGB Pixel 1	Green	0-255	0-100%	255	Fade
12		Blue	0-255	0-100%	255	Fade
13		Red	0-255	0-100%	255	Fade
14	RGB Pixel 2	Green	0-255	0-100%	255	Fade
15		Blue	0-255	0-100%	255	Fade
16		Red	0-255	0-100%	255	Fade
17	RGB Pixel 3	Green	0-255	0-100%	255	Fade
18		Blue	0-255	0-100%	255	Fade
19		Red	0-255	0-100%	255	Fade
20	RGB Pixel 4	Green	0-255	0-100%	255	Fade
21		Blue	0-255	0-100%	255	Fade
22		Red	0-255	0-100%	255	Fade
23	RGB Pixel 5	Green	0-255	0-100%	255	Fade
24		Blue	0-255	0-100%	255	Fade
25		Red	0-255	0-100%	255	Fade
26	RGB Pixel 6	Green	0-255	0-100%	255	Fade
27		Blue	0-255	0-100%	255	Fade
28		Red	0-255	0-100%	255	Fade
29	RGB Pixel 7	Green	0-255	0-100%	255	Fade
30		Blue	0-255	0-100%	255	Fade
31		Red	0-255	0-100%	255	Fade
32	RGB Pixel 8	Green	0-255	0-100%	255	Fade
33		Blue	0-255	0-100%	255	Fade
34		Red	0-255	0-100%	255	Fade
35	RGB Pixel 9	Green	0-255	0-100%	255	Fade



36		Blue	0-255	0-100%	255	Fade
37		Red	0-255	0-100%	255	Fade
38	RGB Pixel 10	Green	0-255	0-100%	255	Fade
39		Blue	0-255	0-100%	255	Fade
40	RGB Pixel 11	Red	0-255	0-100%	255	Fade
41		Green	0-255	0-100%	255	Fade
42		Blue	0-255	0-100%	255	Fade
43	RGB Pixel 12	Red	0-255	0-100%	255	Fade
44		Green	0-255	0-100%	255	Fade
45		Blue	0-255	0-100%	255	Fade
46	RGB Pixel 13	Red	0-255	0-100%	255	Fade
47		Green	0-255	0-100%	255	Fade
48		Blue	0-255	0-100%	255	Fade
49	RGB Pixel 14	Red	0-255	0-100%	255	Fade
50		Green	0-255	0-100%	255	Fade
51		Blue	0-255	0-100%	255	Fade
52	RGB Pixel 15	Red	0-255	0-100%	255	Fade
53		Green	0-255	0-100%	255	Fade
54		Blue	0-255	0-100%	255	Fade
55	RGB Pixel 16	Red	0-255	0-100%	255	Fade
56		Green	0-255	0-100%	255	Fade
57		Blue	0-255	0-100%	255	Fade
58	RGB Pixel 17	Red	0-255	0-100%	255	Fade
59		Green	0-255	0-100%	255	Fade
60		Blue	0-255	0-100%	255	Fade
61	RGB Pixel 18	Red	0-255	0-100%	255	Fade
62		Green	0-255	0-100%	255	Fade
63		Blue	0-255	0-100%	255	Fade
64	RGB Pixel 19	Red	0-255	0-100%	255	Fade
65		Green	0-255	0-100%	255	Fade
66		Blue	0-255	0-100%	255	Fade
67	RGB Pixel 20	Red	0-255	0-100%	255	Fade
68		Green	0-255	0-100%	255	Fade
69		Blue	0-255	0-100%	255	Fade
70	RGB Pixel 21	Red	0-255	0-100%	255	Fade
71		Green	0-255	0-100%	255	Fade
72		Blue	0-255	0-100%	255	Fade
73	RGB Pixel 22	Red	0-255	0-100%	255	Fade
74		Green	0-255	0-100%	255	Fade
75		Blue	0-255	0-100%	255	Fade
76	RGB Pixel 23	Red	0-255	0-100%	255	Fade
77		Green	0-255	0-100%	255	Fade
78		Blue	0-255	0-100%	255	Fade
79	RGB Pixel 24	Red	0-255	0-100%	255	Fade
80		Green	0-255	0-100%	255	Fade
81		Blue	0-255	0-100%	255	Fade
82	RGB Pixel 25	Red	0-255	0-100%	255	Fade
83		Green	0-255	0-100%	255	Fade
84		Blue	0-255	0-100%	255	Fade
85	RGB LEDs shutter	Shutter closed	0-4	0-1.6%	255	Snap
		Sync ramp up slow > fast	5-39	2.0-15.3%		Fade
		Sync ramp down slow > fast	40-74	15.7-29.0%		Fade
		Sync ramp up-down slow > fast	75-109	29.4-42.7%		Fade
		Sync double flash slow > fast	110-144	43.1-56.5%		Fade

		Pixel flare effect slow > fast	145-179	56.9-70.2%		Fade
		Random strobe slow > fast	180-214	70.6-83.9%		Fade
		Sync strobe 0.289 > 16.67 Hz	215-249	84.3-97.6%		Fade
		Hyperspeed	250-252	98.0-98.8%		Snap
		Open	253-255	99.2-100%		Snap
<b>Control / Settings</b>						
86	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-68	21.2-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
		<b>No DMX = Blackout*</b>	105-107	41.2-42.0%		
		No DMX = Hold current scene*	108-110	42.4-43.1%		
		Test pattern On*	111-113	43.5-44.3%		
		<b>Test pattern Off*</b>	114-116	44.7-45.5%		
		<b>Rotation Off*</b>	117-119	45.9-46.7%		
		Rotate 90° *	120-122	47.1-47.8%		
		Rotate 180° *	123-125	48.2-49.0%		
		Rotate 270° *	126-128	49.4-50.2%		
		<b>Pixel mirror Off*</b>	129-131	50.6-51.4%		
		Pixel mirror On*	132-134	51.8-52.5%		
		<b>White output limitation Off*</b>	135-137	52.9-53.7%		
		White output limitation 80%*	138-140	54.1-54.9%		
		White output limitation 60%*	141-143	55.3-56.1%		
		White output limitation 40%*	144-146	56.5-57.3%		
		White output limitation 20%*	147-149	57.6-58.4%		
		White output limitation 10%*	150-152	55.8-59.6%		
		No function	153-158	60.0-62.0%		
		<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%		
		RGB output limitation 80%*	162-164	63.5-64.3%		
		RGB output limitation 60%*	165-167	64.7-65.5%		
		RGB output limitation 40%*	168-170	65.9-66.7%		
		RGB output limitation 20%*	171-173	67.1-67.8%		
		RGB output limitation 10%*	174-176	68.2-69.0%		
		No function	177-251	69.4-98.4%		
Reboot fixture*	252-255	98.8-100%				

## DMX Mode 5: Multi-layer RGBW with FX

### 35 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>Channel group A: Base layer RGBW (low priority)</b>						
1	<b>Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
2	<b>Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
3	<b>Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
4	<b>White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
<b>Channel group B: Layer 2 RGBW strobe with FX (medium priority, true color)</b>						
5	<b>Layer 2 transparency (16-bit)</b>	Layer 2 transparent (invisible)	0-1	0-0.4%	0	Snap
6		Layer 2 transparent → visible	2-65535	0.8-100%		Fade
7	<b>Layer 2 flash duration</b>	7-650 ms	0-255	0-100%	0	Fade
8	<b>Layer 2 flash rate (if FX not active)</b>	No flash	0-1	0-0.4%	0	Snap
		Single flash if Dimmer Flash = ON and value is changed on Ch 5				
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-252	98.4-98.8%		Snap
	Continuously on	253-255	99.2-100%	Snap		
	<b>Layer 2 FX speed (if FX active)</b>	FX speed = stop	0-1	0-0.4%	Snap	
FX speed = slow > fast		2-253	0.8-98.8%	Fade		
FX speed = stop		254-255	99.2-100%	Snap		
9	<b>Layer 2 Flare effect</b>	Off	0-9	0-3.5%	0	Snap
		Slow > fast	10-49	3.9-19.2%		Fade
		Off	50-59	19.6-23.1%		Snap
		Random slow > fast	60-109	23.5-42.7%		Fade
		Off	110-119	43.1-46.7%		Snap
		Random pixel slow > fast	120-169	47.1-66.3%		Fade
		Off	170-255	66.7-100%		Snap
10	<b>Layer 2 Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
11	<b>Layer 2 Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
12	<b>Layer 2 Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
13	<b>Layer 2 White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
14	<b>Layer 2 FX selection</b>	FX Off	0-2	0-0.8%	0	Snap
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
		Random strobe - 4 dot mask	18-20	7.1-7.8%		
		Random strobe - 1 dot mask	21-23	8.2-9.0%		
		Lite in/out - all	24-26	9.4-10.2%		
		Lite in/out - circle mask	27-29	10.6-11.4%		
		Lite in/out - 4 dot mask	30-32	11.8-12.6%		
		Lite in/out - 1 dot mask	33-35	12.9-13.7%		
		Snake	36-38	14.1-14.9%		
		Raindrops	39-41	15.3-16.1%		
		Random pixel	42-44	16.5-17.3%		
		Random fake x 2 (length = 13)	45-47	17.6-18.4%		
		Random fake x 4 (length = 7)	48-50	18.8-19.6%		
Line (length = 5)	51-53	20.0-20.8%				

		Double line (length = 3)	54-56	21.2-22.0%		
		Corner to corner line (length = 9)	57-59	22.4-23.1%		
		Tilted double lines (length = 3)	60-62	23.5-24.3%		
		Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%		
		Center line running dot (length = 5)	66-68	25.9-26.7%		
		Middle line running dot (length = 5)	69-71	27.1-27.8%		
		Outer line running dot (length = 5)	72-74	28.2-29.0%		
		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
		Wave (length = 8)	81-83	31.8-32.5%		
		Wheel (length = 8)	84-86	32.9-33.7%		
		Half wheel (length = 16)	87-89	34.1-34.9%		
		Circling dot (length = 8)	90-92	35.3-36.1%		
		Outer circle (length = 8)	93-95	36.5-37.3%		
		Inner circle (length = 4)	96-98	37.6-38.4%		
		Outer 4 dots (length = 4)	99-101	38.8-39.6%		
		Outer single dot (length = 16)	102-104	40.0-40.8%		
		Middle single dot (length = 8)	105-107	41.2-42.0%		
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%		
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%		
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%		
		Square (length = 3)	117-119	45.9-46.7%		
		Inside out (length = 6)	120-122	47.1-48.8%		
		Inside out 2 (length = 3)	123-125	48.2-49.0%		
		Abstract 1 (length = 3)	126-128	49.4-50.2%		
		Abstract 2 (length = 3)	129-131	50.6-51.4%		
		Abstract 3 (length = 3)	132-134	51.8-52.5%		
		Hash tag (length = 2)	135-137	52.9-53.7%		
		Flip flop (length = 2)	138-140	54.1-54.9%		
		Jumping slash (length = 13)	141-143	55.3-56.1%		
		Jumping 'L' (length = 12)	144-146	56.5-57.3%		
		Jumping pins (length = 12)	147-149	57.6-58.4%		
		Fat dot (length = 4)	150-152	58.8-59.6%		
		Bars (length = 2)	153-155	60.0-60.8%		
		3 x lines (length = 5)	156-158	61.2-62.0%		
		2 x lines (length = 5)	159-161	62.4-63.1%		
		Spiral (length = 28)	162-164	63.5-64.3%		
		Off - No Strobe or FX	165-255	64.7-100%		
15	Layer 2 FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
16	Layer 2 orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		

		Off	70-74	27.5-29.0%		
		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
		Rotate CCW at end	100-104	39.2-40.8%		
		Rotate CW at end	105-109	41.2-42.7%		
		Random rotate at end	110-114	43.1-44.7%		
		Off	115-134	45.1-52.5%		
		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random posn. **	185-189	72.5-74.1%		
		Fix 180° rotation & random posn. **	190-194	74.5-76.1%		
		Fix 270° rotation & random posn. **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
<b>17</b>	<b>Layer 2 FX offset</b>	0-100%	0-255	0-100%	0	Fade
<b>18</b>	<b>Layer 2 FX length</b>	0-100%	0-255	0-100%	0	Fade
<b>19</b>	<b>Layer 2 FX color generator</b>	Off	0-9	0-3.5%	0	Snap
		Random all pixels RGBCMY	10-19	3.9-7.5%		Snap
		Random single pixel RGBCMY	20-29	7.8-11.4%		Snap
		Random all pixels bright colors	30-39	11.8-15.3%		Snap
		Random single pixel bright colors	40-49	15.7-19.2%		Snap
		Red / Blue	50-59	19.6-23.1%		Snap
		Red / Green	60-69	23.5-27.1%		Snap
		Blue / Green	70-79	27.5-31.0%		Snap
		Yellow / Magenta	80-89	31.4-34.9%		Snap
		Yellow / Cyan	90-99	35.3-38.8%		Snap
		Cyan / Magenta	100-109	39.2-42.7%		Snap
		Yellow / Blue	110-119	43.1-46.7%		Snap
		Green / Magenta	120-129	47.1-50.6%		Snap
		Red / Green / Blue	130-139	51.0-54.5%		Snap
		Red / Yellow / Blue	140-149	54.9-58.4%		Snap
		Red / Green / Blue / Yellow / Magenta / Cyan	150-159	58.8%-62.4%		Snap
		Red / Green / Blue - Horizontal line	160-169	62.7-66.3%		Snap
		Red / Green / Blue - Vertical line	170-179	66.7-70.2%		Snap

		No function	180-219	70.6-85.9%		Snap	
		Color scroll, slow -> fast	220-229	86.3-89.8%		Fade	
		Lite in	230-239	90.2-93.7%		Snap	
		Lite out	240-249	94.1-97.6%		Snap	
		Off	250-255	98.0-100%		Snap	
<b>Channel group C: Layer 3 RGBW strobe with FX (high priority, true color)</b>							
20	<b>Layer 3 transparency (16-bit)</b>	Layer 3 transparent (invisible)	0-1	0-0.4%	0	Snap	
21		Layer 3 transparent → visible	2-65535	0.8-100%		Fade	
22	<b>Layer 3 flash duration</b>	7-650 ms	0-255	0-100%	0	Fade	
23	<b>Layer 3 flash rate (if FX are not active)</b>	No flash	0-1	0-0.4%	0	Snap	
		<i>Single flash if Dimmer Flash = ON and value is changed on Ch 20</i>					
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade	
		Hyperspeed	251-252	98.4-98.8%		Snap	
	Continuously on	253-255	99.2-100%	Snap			
	<b>Layer 3 FX speed (if FX are active)</b>	FX speed = stop	0-1	0-0.4%		Snap	
FX speed = slow > fast		2-253	0.8-98.8%	Fade			
FX speed = stop		254-255	99.2-100%	Snap			
24	<b>Layer 3 Flare effect</b>	Off	0-9	0-3.5%	0	Snap	
		Slow > fast	10-49	3.9-19.2%		Fade	
		Off	50-59	19.6-23.1%		Snap	
		Random slow > fast	60-109	23.5-42.7%		Fade	
		Off	110-119	43.1-46.7%		Snap	
		Random pixel slow > fast	120-169	47.1-66.3%		Fade	
		Off	170-255	66.7-100%		Snap	
25	<b>Layer 3 Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade	
26	<b>Layer 3 Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade	
27	<b>Layer 3 Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade	
28	<b>Layer 3 White</b>	Intensity 0-100%	0-255	0-100%	0	Fade	
29	<b>Layer 3 FX selection</b>	Sync strobe - all	0-2	0-0.8%	0	Snap	
		Sync strobe - circle mask	3-5	1.2-2.0%			
		Sync strobe - 4 dot mask	6-8	2.4-3.1%			
		Sync strobe - 1 dot mask	9-11	3.5-4.3%			
		Random strobe - all	12-14	4.7-5.5%			
		Random strobe - circle mask	15-17	5.9-6.7%			
		Random strobe - 4 dot mask	18-20	7.1-7.8%			
		Random strobe - 1 dot mask	21-23	8.2-9.0%			
		Lite in/out - all	24-26	9.4-10.2%			
		Lite in/out - circle mask	27-29	10.6-11.4%			
		Lite in/out - 4 dot mask	30-32	11.8-12.6%			
		Lite in/out - 1 dot mask	33-35	12.9-13.7%			
		Snake	36-38	14.1-14.9%			
		Raindrops	39-41	15.3-16.1%			
		Random pixel	42-44	16.5-17.3%			
		Random fake x 2 (length = 13)	45-47	17.6-18.4%			
		Random fake x 4 (length = 7)	48-50	18.8-19.6%			
		Line (length = 5)	51-53	20.0-20.8%			
		Double line (length = 3)	54-56	21.2-22.0%			
		Corner to corner line (length = 9)	57-59	22.4-23.1%			
		Tilted double lines (length = 3)	60-62	23.5-24.3%			
Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%					
Center line running dot (length = 5)	66-68	25.9-26.7%					
Middle line running dot (length = 5)	69-71	27.1-27.8%					
Outer line running dot (length = 5)	72-74	28.2-29.0%					

		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
		Wave (length = 8)	81-83	31.8-32.5%		
		Wheel (length = 8)	84-86	32.9-33.7%		
		Half wheel (length = 16)	87-89	34.1-34.9%		
		Circling dot (length = 8)	90-92	35.3-36.1%		
		Outer circle (length = 8)	93-95	36.5-37.3%		
		Inner circle (length = 4)	96-98	37.6-38.4%		
		Outer 4 dots (length = 4)	99-101	38.8-39.6%		
		Outer single dot (length = 16)	102-104	40.0-40.8%		
		Middle single dot (length = 8)	105-107	41.2-42.0%		
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%		
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%		
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%		
		Square (length = 3)	117-119	45.9-46.7%		
		Inside out (length = 6)	120-122	47.1-48.8%		
		Inside out 2 (length = 3)	123-125	48.2-49.0%		
		Abstract 1 (length = 3)	126-128	49.4-50.2%		
		Abstract 2 (length = 3)	129-131	50.6-51.4%		
		Abstract 3 (length = 3)	132-134	51.8-52.5%		
		Hash tag (length = 2)	135-137	52.9-53.7%		
		Flip flop (length = 2)	138-140	54.1-54.9%		
		Jumping slash (length = 13)	141-143	55.3-56.1%		
		Jumping 'L' (length = 12)	144-146	56.5-57.3%		
		Jumping pins (length = 12)	147-149	57.6-58.4%		
		Fat dot (length = 4)	150-152	58.8-59.6%		
		Bars (length = 2)	153-155	60.0-60.8%		
		3 x lines (length = 5)	156-158	61.2-62.0%		
		2 x lines (length = 5)	159-161	62.4-63.1%		
		Spiral (length = 28)	162-164	63.5-64.3%		
		Off - No Strobe or FX	165-255	64.7-100%		
30	Layer 3 FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
31	Layer 3 orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		
		Off	70-74	27.5-29.0%		
		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
		Rotate CCW at end	100-104	39.2-40.8%		

		Rotate CW at end	105-109	41.2-42.7%		
		Random rotate at end	110-114	43.1-44.7%		
		Off	115-134	45.1-52.5%		
		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random posn. **	185-189	72.5-74.1%		
		Fix 180° rotation & random posn. **	190-194	74.5-76.1%		
		Fix 270° rotation & random posn. **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
<b>32</b>	<b>Layer 3 FX offset</b>	0-100%	0-255	0-100%	0	Fade
<b>33</b>	<b>Layer 3 FX length</b>	0-100%	0-255	0-100%	0	Fade
<b>34</b>	<b>Layer 3 FX color generator</b>	Off	0-9	0-3.5%	0	Snap
		Random all pixels RGBCMY	10-19	3.9-7.5%		Snap
		Random single pixel RGBCMY	20-29	7.8-11.4%		Snap
		Random all pixels bright colors	30-39	11.8-15.3%		Snap
		Random single pixel bright colors	40-49	15.7-19.2%		Snap
		Red / Blue	50-59	19.6-23.1%		Snap
		Red / Green	60-69	23.5-27.1%		Snap
		Blue / Green	70-79	27.5-31.0%		Snap
		Yellow / Magenta	80-89	31.4-34.9%		Snap
		Yellow / Cyan	90-99	35.3-38.8%		Snap
		Cyan / Magenta	100-109	39.2-42.7%		Snap
		Yellow / Blue	110-119	43.1-46.7%		Snap
		Green / Magenta	120-129	47.1-50.6%		Snap
		Red / Green / Blue	130-139	51.0-54.5%		Snap
		Red / Yellow / Blue	140-149	54.9-58.4%		Snap
		Red / Green / Blue / Yellow / Magenta / Cyan	150-159	58.8%-62.4%		Snap
		Red / Green / Blue - Horizontal line	160-169	62.7-66.3%		Snap
		Red / Green / Blue - Vertical line	170-179	66.7-70.2%		Snap
		No function	180-219	70.6-85.9%		Snap
		Color scroll, slow -> fast	220-229	86.3-89.8%		Fade
		Lite in	230-239	90.2-93.7%		Snap
		Lite out	240-249	94.1-97.6%		Snap
		Off	250-255	98.0-100%		Snap



Control / Settings						
35	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-68	21.2-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
		<b>No DMX = Blackout*</b>	105-107	41.2-42.0%		
		No DMX = Hold current scene*	108-110	42.4-43.1%		
		Test pattern On*	111-113	43.5-44.3%		
		<b>Test pattern Off*</b>	114-116	44.7-45.5%		
		<b>Rotation Off*</b>	117-119	45.9-46.7%		
		Rotate 90° *	120-122	47.1-47.8%		
		Rotate 180° *	123-125	48.2-49.0%		
		Rotate 270° *	126-128	49.4-50.2%		
		<b>Pixel mirror Off*</b>	129-131	50.6-51.4%		
		Pixel mirror On*	132-134	51.8-52.5%		
		<b>White output limitation Off*</b>	135-137	52.9-53.7%		
		White output limitation 80%*	138-140	54.1-54.9%		
		White output limitation 60%*	141-143	55.3-56.1%		
		White output limitation 40%*	144-146	56.5-57.3%		
		White output limitation 20%*	147-149	57.6-58.4%		
		White output limitation 10%*	150-152	55.8-59.6%		
		No function	153-158	60.0-62.0%		
<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%				
RGB output limitation 80%*	162-164	63.5-64.3%				
RGB output limitation 60%*	165-167	64.7-65.5%				
RGB output limitation 40%*	168-170	65.9-66.7%				
RGB output limitation 20%*	171-173	67.1-67.8%				
RGB output limitation 10%*	174-176	68.2-69.0%				
No function	177-251	69.4-98.4%				
Reboot fixture*	252-255	98.8-100%				

## DMX Mode 6: RGBW 25-pixel 8-bit

### 102 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>RGBW 25-pixel 8-bit</b>						
1	Pixel 1 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
2		Green intensity 0-100%	0-255	0-100%	0	Fade
3		Blue intensity 0-100%	0-255	0-100%	0	Fade
4		White intensity 0-100%	0-255	0-100%	0	Fade
5	Pixel 2 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
6		Green intensity 0-100%	0-255	0-100%	0	Fade
7		Blue intensity 0-100%	0-255	0-100%	0	Fade
8		White intensity 0-100%	0-255	0-100%	0	Fade
9	Pixel 3 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
10		Green intensity 0-100%	0-255	0-100%	0	Fade
11		Blue intensity 0-100%	0-255	0-100%	0	Fade
12		White intensity 0-100%	0-255	0-100%	0	Fade
13	Pixel 4 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
14		Green intensity 0-100%	0-255	0-100%	0	Fade
15		Blue intensity 0-100%	0-255	0-100%	0	Fade
16		White intensity 0-100%	0-255	0-100%	0	Fade
17	Pixel 5 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
18		Green intensity 0-100%	0-255	0-100%	0	Fade
19		Blue intensity 0-100%	0-255	0-100%	0	Fade
20		White intensity 0-100%	0-255	0-100%	0	Fade
21	Pixel 6 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
22		Green intensity 0-100%	0-255	0-100%	0	Fade
23		Blue intensity 0-100%	0-255	0-100%	0	Fade
24		White intensity 0-100%	0-255	0-100%	0	Fade
25	Pixel 7 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
26		Green intensity 0-100%	0-255	0-100%	0	Fade
27		Blue intensity 0-100%	0-255	0-100%	0	Fade
28		White intensity 0-100%	0-255	0-100%	0	Fade
29	Pixel 8 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
30		Green intensity 0-100%	0-255	0-100%	0	Fade
31		Blue intensity 0-100%	0-255	0-100%	0	Fade
32		White intensity 0-100%	0-255	0-100%	0	Fade
33	Pixel 9 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
34		Green intensity 0-100%	0-255	0-100%	0	Fade
35		Blue intensity 0-100%	0-255	0-100%	0	Fade
36		White intensity 0-100%	0-255	0-100%	0	Fade
37	Pixel 10 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
38		Green intensity 0-100%	0-255	0-100%	0	Fade
39		Blue intensity 0-100%	0-255	0-100%	0	Fade
40		White intensity 0-100%	0-255	0-100%	0	Fade
41	Pixel 11 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
42		Green intensity 0-100%	0-255	0-100%	0	Fade
43		Blue intensity 0-100%	0-255	0-100%	0	Fade
44		White intensity 0-100%	0-255	0-100%	0	Fade
45	Pixel 12 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
46		Green intensity 0-100%	0-255	0-100%	0	Fade
47		Blue intensity 0-100%	0-255	0-100%	0	Fade
48		White intensity 0-100%	0-255	0-100%	0	Fade

49	Pixel 13 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
50		Green intensity 0-100%	0-255	0-100%	0	Fade
51		Blue intensity 0-100%	0-255	0-100%	0	Fade
52		White intensity 0-100%	0-255	0-100%	0	Fade
53	Pixel 14 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
54		Green intensity 0-100%	0-255	0-100%	0	Fade
55		Blue intensity 0-100%	0-255	0-100%	0	Fade
56		White intensity 0-100%	0-255	0-100%	0	Fade
57	Pixel 15 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
58		Green intensity 0-100%	0-255	0-100%	0	Fade
59		Blue intensity 0-100%	0-255	0-100%	0	Fade
60		White intensity 0-100%	0-255	0-100%	0	Fade
61	Pixel 16 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
62		Green intensity 0-100%	0-255	0-100%	0	Fade
63		Blue intensity 0-100%	0-255	0-100%	0	Fade
64		White intensity 0-100%	0-255	0-100%	0	Fade
65	Pixel 17 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
66		Green intensity 0-100%	0-255	0-100%	0	Fade
67		Blue intensity 0-100%	0-255	0-100%	0	Fade
68		White intensity 0-100%	0-255	0-100%	0	Fade
69	Pixel 18 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
70		Green intensity 0-100%	0-255	0-100%	0	Fade
71		Blue intensity 0-100%	0-255	0-100%	0	Fade
72		White intensity 0-100%	0-255	0-100%	0	Fade
73	Pixel 19 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
74		Green intensity 0-100%	0-255	0-100%	0	Fade
75		Blue intensity 0-100%	0-255	0-100%	0	Fade
76		White intensity 0-100%	0-255	0-100%	0	Fade
77	Pixel 20 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
78		Green intensity 0-100%	0-255	0-100%	0	Fade
79		Blue intensity 0-100%	0-255	0-100%	0	Fade
80		White intensity 0-100%	0-255	0-100%	0	Fade
81	Pixel 21 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
82		Green intensity 0-100%	0-255	0-100%	0	Fade
83		Blue intensity 0-100%	0-255	0-100%	0	Fade
84		White intensity 0-100%	0-255	0-100%	0	Fade
85	Pixel 22 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
86		Green intensity 0-100%	0-255	0-100%	0	Fade
87		Blue intensity 0-100%	0-255	0-100%	0	Fade
88		White intensity 0-100%	0-255	0-100%	0	Fade
89	Pixel 23 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
90		Green intensity 0-100%	0-255	0-100%	0	Fade
91		Blue intensity 0-100%	0-255	0-100%	0	Fade
92		White intensity 0-100%	0-255	0-100%	0	Fade
93	Pixel 24 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
94		Green intensity 0-100%	0-255	0-100%	0	Fade
95		Blue intensity 0-100%	0-255	0-100%	0	Fade
96		White intensity 0-100%	0-255	0-100%	0	Fade
97	Pixel 25 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
98		Green intensity 0-100%	0-255	0-100%	0	Fade
99		Blue intensity 0-100%	0-255	0-100%	0	Fade
100		White intensity 0-100%	0-255	0-100%	0	Fade
101	Shutter, all pixels	Shutter closed	0-4	0-1.6%	255	Snap
		Sync ramp up slow > fast	5-39	2.0-15.3%		Fade
		Sync ramp down slow > fast	40-74	15.7-29.0%		Fade
		Sync ramp up-down slow > fast	75-109	29.4-42.7%		Fade
		Sync double flash slow > fast	110-144	43.1-56.5%		Fade
		Pixel flare effect slow > fast	145-179	56.9-70.2%		Fade

		Random strobe slow > fast	180-214	70.6-83.9%		Fade
		Sync strobe 0.289 > 16.67 Hz	215-249	84.3-97.6%		Fade
		Hyperspeed	250-252	98.0-98.8%		Snap
		Open	253-255	99.2-100%		Snap
<b>Control / Settings</b>						
102	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-56	21.2-22.0%		
		<b>Extra Shutter RGBW*</b>	57-59	22.4-23.1%		
		Extra Shutter RGB only*	60-62	23.5-24.3%		
		Extra Shutter White only*	63-65	24.7-25.5%		
		No function	66-68	25.9-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
		<b>No DMX = Blackout*</b>	105-107	41.2-42.0%		
		No DMX = Hold current scene*	108-110	42.4-43.1%		
		Test pattern On*	111-113	43.5-44.3%		
		<b>Test pattern Off*</b>	114-116	44.7-45.5%		
		<b>Rotation Off*</b>	117-119	45.9-46.7%		
		Rotate 90° *	120-122	47.1-47.8%		
Rotate 180° *	123-125	48.2-49.0%				
Rotate 270° *	126-128	49.4-50.2%				
<b>Pixel mirror Off*</b>	129-131	50.6-51.4%				
Pixel mirror On*	132-134	51.8-52.5%				
<b>White output limitation Off*</b>	135-137	52.9-53.7%				
White output limitation 80%*	138-140	54.1-54.9%				
White output limitation 60%*	141-143	55.3-56.1%				
White output limitation 40%*	144-146	56.5-57.3%				
White output limitation 20%*	147-149	57.6-58.4%				
White output limitation 10%*	150-152	58.8-59.6%				
No function	153-158	60.0-62.0%				

	<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%		
	RGB output limitation 80%*	162-164	63.5-64.3%		
	RGB output limitation 60%*	165-167	64.7-65.5%		
	RGB output limitation 40%*	168-170	65.9-66.7%		
	RGB output limitation 20%*	171-173	67.1-67.8%		
	RGB output limitation 10%*	174-176	68.2-69.0%		
	No function	177-251	69.4-98.4%		
	Reboot fixture*	252-255	98.8-100%		

## DMX Mode 7: RGBW 25-pixel 16-bit

### 202 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>RGBW 25-pixel 16-bit</b>						
1	Pixel 1 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
2		Red intensity fine				
3		Green intensity coarse	0-65535	0-100%	0	Fade
4		Green intensity fine				
5		Blue intensity coarse	0-65535	0-100%	0	Fade
6		Blue intensity fine				
7		White intensity coarse	0-65535	0-100%	0	Fade
8		White intensity fine				
9	Pixel 2 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
10		Red intensity fine				
11		Green intensity coarse	0-65535	0-100%	0	Fade
12		Green intensity fine				
13		Blue intensity coarse	0-65535	0-100%	0	Fade
14		Blue intensity fine				
15		White intensity coarse	0-65535	0-100%	0	Fade
16		White intensity fine				
17	Pixel 3 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
18		Red intensity fine				
19		Green intensity coarse	0-65535	0-100%	0	Fade
20		Green intensity fine				
21		Blue intensity coarse	0-65535	0-100%	0	Fade
22		Blue intensity fine				
23		White intensity coarse	0-65535	0-100%	0	Fade
24		White intensity fine				
25	Pixel 4 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
26		Red intensity fine				
27		Green intensity coarse	0-65535	0-100%	0	Fade
28		Green intensity fine				
29		Blue intensity coarse	0-65535	0-100%	0	Fade
30		Blue intensity fine				
31		White intensity coarse	0-65535	0-100%	0	Fade
32		White intensity fine				
33	Pixel 5 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
34		Red intensity fine				
35		Green intensity coarse	0-65535	0-100%	0	Fade
36		Green intensity fine				
37		Blue intensity coarse	0-65535	0-100%	0	Fade
38		Blue intensity fine				
39		White intensity coarse	0-65535	0-100%	0	Fade
40		White intensity fine				
41	Pixel 6 RGBW (16-bit)	Red intensity coarse	0-65535	0-100%	0	Fade
42		Red intensity fine				
43		Green intensity coarse	0-65535	0-100%	0	Fade
44		Green intensity fine				
45		Blue intensity coarse	0-65535	0-100%	0	Fade
46		Blue intensity fine				
47		White intensity coarse	0-65535	0-100%	0	Fade
48		White intensity fine				

49	<b>Pixel 7 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
50		Red intensity fine				
51		Green intensity coarse	0-65535	0-100%	0	Fade
52		Green intensity fine				
53		Blue intensity coarse	0-65535	0-100%	0	Fade
54		Blue intensity fine				
55		White intensity coarse	0-65535	0-100%	0	Fade
56		White intensity fine				
57	<b>Pixel 8 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
58		Red intensity fine				
59		Green intensity coarse	0-65535	0-100%	0	Fade
60		Green intensity fine				
61		Blue intensity coarse	0-65535	0-100%	0	Fade
62		Blue intensity fine				
63		White intensity coarse	0-65535	0-100%	0	Fade
64		White intensity fine				
65	<b>Pixel 9 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
66		Red intensity fine				
67		Green intensity coarse	0-65535	0-100%	0	Fade
68		Green intensity fine				
69		Blue intensity coarse	0-65535	0-100%	0	Fade
70		Blue intensity fine				
71		White intensity coarse	0-65535	0-100%	0	Fade
72		White intensity fine				
73	<b>Pixel 10 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
74		Red intensity fine				
75		Green intensity coarse	0-65535	0-100%	0	Fade
76		Green intensity fine				
77		Blue intensity coarse	0-65535	0-100%	0	Fade
78		Blue intensity fine				
79		White intensity coarse	0-65535	0-100%	0	Fade
80		White intensity fine				
81	<b>Pixel 11 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
82		Red intensity fine				
83		Green intensity coarse	0-65535	0-100%	0	Fade
84		Green intensity fine				
85		Blue intensity coarse	0-65535	0-100%	0	Fade
86		Blue intensity fine				
87		White intensity coarse	0-65535	0-100%	0	Fade
88		White intensity fine				
89	<b>Pixel 12 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
90		Red intensity fine				
91		Green intensity coarse	0-65535	0-100%	0	Fade
92		Green intensity fine				
93		Blue intensity coarse	0-65535	0-100%	0	Fade
94		Blue intensity fine				
95		White intensity coarse	0-65535	0-100%	0	Fade
96		White intensity fine				
97	<b>Pixel 13 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
98		Red intensity fine				
99		Green intensity coarse	0-65535	0-100%	0	Fade
100		Green intensity fine				
101		Blue intensity coarse	0-65535	0-100%	0	Fade
102		Blue intensity fine				
103		White intensity coarse	0-65535	0-100%	0	Fade
104		White intensity fine				

105	<b>Pixel 14 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
106		Red intensity fine				
107		Green intensity coarse				
108		Green intensity fine				
109		Blue intensity coarse				
110		Blue intensity fine				
111		White intensity coarse				
112		White intensity fine				
113	<b>Pixel 15 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
114		Red intensity fine				
115		Green intensity coarse				
116		Green intensity fine				
117		Blue intensity coarse				
118		Blue intensity fine				
119		White intensity coarse				
120		White intensity fine				
121	<b>Pixel 16 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
122		Red intensity fine				
123		Green intensity coarse				
124		Green intensity fine				
125		Blue intensity coarse				
126		Blue intensity fine				
127		White intensity coarse				
128		White intensity fine				
129	<b>Pixel 17 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
130		Red intensity fine				
131		Green intensity coarse				
132		Green intensity fine				
133		Blue intensity coarse				
134		Blue intensity fine				
135		White intensity coarse				
136		White intensity fine				
137	<b>Pixel 18 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
138		Red intensity fine				
139		Green intensity coarse				
140		Green intensity fine				
141		Blue intensity coarse				
142		Blue intensity fine				
143		White intensity coarse				
144		White intensity fine				
145	<b>Pixel 19 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
146		Red intensity fine				
147		Green intensity coarse				
148		Green intensity fine				
149		Blue intensity coarse				
150		Blue intensity fine				
151		White intensity coarse				
152		White intensity fine				
153	<b>Pixel 20 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
154		Red intensity fine				
155		Green intensity coarse				
156		Green intensity fine				
157		Blue intensity coarse				
158		Blue intensity fine				
159		White intensity coarse				
160		White intensity fine				



161	<b>Pixel 21 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
162		Red intensity fine				
163		Green intensity coarse	0-65535	0-100%	0	Fade
164		Green intensity fine				
165		Blue intensity coarse	0-65535	0-100%	0	Fade
166		Blue intensity fine				
167		White intensity coarse	0-65535	0-100%	0	Fade
168		White intensity fine				
169	<b>Pixel 22 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
170		Red intensity fine				
171		Green intensity coarse	0-65535	0-100%	0	Fade
172		Green intensity fine				
173		Blue intensity coarse	0-65535	0-100%	0	Fade
174		Blue intensity fine				
175		White intensity coarse	0-65535	0-100%	0	Fade
176		White intensity fine				
177	<b>Pixel 23 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
178		Red intensity fine				
179		Green intensity coarse	0-65535	0-100%	0	Fade
180		Green intensity fine				
181		Blue intensity coarse	0-65535	0-100%	0	Fade
182		Blue intensity fine				
183		White intensity coarse	0-65535	0-100%	0	Fade
184		White intensity fine				
185	<b>Pixel 24 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
186		Red intensity fine				
187		Green intensity coarse	0-65535	0-100%	0	Fade
188		Green intensity fine				
189		Blue intensity coarse	0-65535	0-100%	0	Fade
190		Blue intensity fine				
191		White intensity coarse	0-65535	0-100%	0	Fade
192		White intensity fine				
193	<b>Pixel 25 RGBW (16-bit)</b>	Red intensity coarse	0-65535	0-100%	0	Fade
194		Red intensity fine				
195		Green intensity coarse	0-65535	0-100%	0	Fade
196		Green intensity fine				
197		Blue intensity coarse	0-65535	0-100%	0	Fade
198		Blue intensity fine				
199		White intensity coarse	0-65535	0-100%	0	Fade
200		White intensity fine				
<b>201</b>	<b>Shutter, all pixels</b>	Shutter closed	0-4	0-1.6%	255	Snap
		Sync ramp up slow > fast	5-39	2.0-15.3%		Fade
		Sync ramp down slow > fast	40-74	15.7-29.0%		Fade
		Sync ramp up-down slow > fast	75-109	29.4-42.7%		Fade
		Sync double flash slow > fast	110-144	43.1-56.5%		Fade
		Pixel flare effect slow > fast	145-179	56.9-70.2%		Fade
		Random strobe slow > fast	180-214	70.6-83.9%		Fade
		Sync strobe 0.289 > 16.67 Hz	215-249	84.3-97.6%		Fade
		Hyperspeed	250-252	98.0-98.8%		Snap
		Open	253-255	99.2-100%		Snap

Control / Settings						
202	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-56	21.2-22.0%		
		<b>Extra Shutter RGBW*</b>	57-59	22.4-23.1%		
		Extra Shutter RGB only*	60-62	23.5-24.3%		
		Extra Shutter White only*	63-65	24.7-25.5%		
		No function	66-68	25.9-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
		<b>No DMX = Blackout*</b>	105-107	41.2-42.0%		
		No DMX = Hold current scene*	108-110	42.4-43.1%		
		Test pattern On*	111-113	43.5-44.3%		
		<b>Test pattern Off*</b>	114-116	44.7-45.5%		
		<b>Rotation Off*</b>	117-119	45.9-46.7%		
		Rotate 90° *	120-122	47.1-47.8%		
		Rotate 180° *	123-125	48.2-49.0%		
		Rotate 270° *	126-128	49.4-50.2%		
		<b>Pixel mirror Off*</b>	129-131	50.6-51.4%		
		Pixel mirror On*	132-134	51.8-52.5%		
		<b>White output limitation Off*</b>	135-137	52.9-53.7%		
		White output limitation 80%*	138-140	54.1-54.9%		
		White output limitation 60%*	141-143	55.3-56.1%		
		White output limitation 40%*	144-146	56.5-57.3%		
		White output limitation 20%*	147-149	57.6-58.4%		
		White output limitation 10%*	150-152	58.8-59.6%		
		No function	153-158	60.0-62.0%		
		<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%		
		RGB output limitation 80%*	162-164	63.5-64.3%		
		RGB output limitation 60%*	165-167	64.7-65.5%		
		RGB output limitation 40%*	168-170	65.9-66.7%		
		RGB output limitation 20%*	171-173	67.1-67.8%		
		RGB output limitation 10%*	174-176	68.2-69.0%		
No function	177-251	69.4-98.4%				
Reboot fixture*	252-255	98.8-100%				

### DMX Mode 8: RGBW 25 pixel 8-bit, strobe with FX

#### 116 DMX Channels

Channel	Command	DMX range	Percent	Default DMX	Fade	
<b>Channel group A: (Layer 2: FX, high priority)</b>						
1	<b>Layer 2 transparency (16-bit)</b>	Layer 2 = transparent (invisible)	0-1	0-0.4%	0	Snap
		Layer 2 transparent → visible	2-65535	0.8-100%		Fade
3	<b>Layer 2 flash duration</b>	7-650 ms	0-255	0-100%	0	Fade
4	<b>Layer 2 flash rate (if FX not active)</b>	No flash	0-1	0-0.4%	0	Snap
		Single flash if Dimmer Flash = ON and value is changed on Ch 1				
		Flash rate 0.289-16.67 Hz	2-250	0.8-98%		Fade
		Hyperspeed	251-252	98.4-98.8%		Snap
	<b>Layer 2 FX speed (If FX active)</b>	Continuously on	253-255	99.2-100%		Snap
		FX speed = stop	0-1	0-0.4%		Snap
		FX speed = slow > fast	2-253	0.8-98.8%		Fade
	FX speed = stop	254-255	99.2-100%	Snap		
5	<b>Flare effect</b>	Off	0-9	0-3.5%	0	Snap
		Slow > fast	10-49	3.9-19.2%		Fade
		Off	50-59	19.6-23.1%		Snap
		Random slow > fast	60-109	23.5-42.7%		Fade
		Off	110-119	43.1-46.7%		Snap
		Random pixel slow > fast	120-169	47.1-66.3%		Fade
		Off	170-255	66.7-100%		Snap
6	<b>Layer 2 Red</b>	Intensity 0-100%	0-255	0-100%	0	Fade
7	<b>Layer 2 Green</b>	Intensity 0-100%	0-255	0-100%	0	Fade
8	<b>Layer 2 Blue</b>	Intensity 0-100%	0-255	0-100%	0	Fade
9	<b>Layer 2 White</b>	Intensity 0-100%	0-255	0-100%	0	Fade
10	<b>Layer 2 FX selection</b>	Sync strobe - all	0-2	0-0.8%	0	Snap
		Sync strobe - circle mask	3-5	1.2-2.0%		
		Sync strobe - 4 dot mask	6-8	2.4-3.1%		
		Sync strobe - 1 dot mask	9-11	3.5-4.3%		
		Random strobe - all	12-14	4.7-5.5%		
		Random strobe - circle mask	15-17	5.9-6.7%		
		Random strobe - 4 dot mask	18-20	7.1-7.8%		
		Random strobe - 1 dot mask	21-23	8.2-9.0%		
		Lite in/out - all	24-26	9.4-10.2%		
		Lite in/out - circle mask	27-29	10.6-11.4%		
		Lite in/out - 4 dot mask	30-32	11.8-12.6%		
		Lite in/out - 1 dot mask	33-35	12.9-13.7%		
		Snake	36-38	14.1-14.9%		
		Raindrops	39-41	15.3-16.1%		
		Random pixel	42-44	16.5-17.3%		
		Random fake x 2 (length = 13)	45-47	17.6-18.4%		
		Random fake x 4 (length = 7)	48-50	18.8-19.6%		
		Line (length = 5)	51-53	20.0-20.8%		
		Double line (length = 3)	54-56	21.2-22.0%		
		Corner to corner line (length = 9)	57-59	22.4-23.1%		
Tilted double lines (length = 3)	60-62	23.5-24.3%				
Tilted double lines in to out (lth. = 5)	63-65	24.7-25.5%				
Center line running dot (length = 5)	66-68	25.9-26.7%				

		Middle line running dot (length = 5)	69-71	27.1-27.8%		
		Outer line running dot (length = 5)	72-74	28.2-29.0%		
		Corner to corner (length = 5)	75-77	29.4-30.2%		
		Arrow (length = 7)	78-80	30.6-31.4%		
		Wave (length = 8)	81-83	31.8-32.5%		
		Wheel (length = 8)	84-86	32.9-33.7%		
		Half wheel (length = 16)	87-89	34.1-34.9%		
		Circling dot (length = 8)	90-92	35.3-36.1%		
		Outer circle (length = 8)	93-95	36.5-37.3%		
		Inner circle (length = 4)	96-98	37.6-38.4%		
		Outer 4 dots (length = 4)	99-101	38.8-39.6%		
		Outer single dot (length = 16)	102-104	40.0-40.8%		
		Middle single dot (length = 8)	105-107	41.2-42.0%		
		Spinning 2x1 dots (length = 8)	108-110	42.4-43.1%		
		Asymmetrical 4 dots (length = 8)	111-113	43.5-44.3%		
		Symmetrical 4 dots (length = 8)	114-116	44.7-45.5%		
		Square (length = 3)	117-119	45.9-46.7%		
		Inside out (length = 6)	120-122	47.1-48.8%		
		Inside out 2 (length = 3)	123-125	48.2-49.0%		
		Abstract 1 (length = 3)	126-128	49.4-50.2%		
		Abstract 2 (length = 3)	129-131	50.6-51.4%		
		Abstract 3 (length = 3)	132-134	51.8-52.5%		
		Hash tag (length = 2)	135-137	52.9-53.7%		
		Flip flop (length = 2)	138-140	54.1-54.9%		
		Jumping slash (length = 13)	141-143	55.3-56.1%		
		Jumping 'L' (length = 12)	144-146	56.5-57.3%		
		Jumping pins (length = 12)	147-149	57.6-58.4%		
		Fat dot (length = 4)	150-152	58.8-59.6%		
		Bars (length = 2)	153-155	60.0-60.8%		
		3 x lines (length = 5)	156-158	61.2-62.0%		
		2 x lines (length = 5)	159-161	62.4-63.1%		
		Spiral (length = 28)	162-164	63.5-64.3%		
		Off - No Strobe or FX	165-255	64.7-100%		
11	Layer 2 FX crossfade time	Off	0-1	0-0.4%	0	Snap
		Crossfade fast > slow	2-127	0.8-49.8%		Fade
		Crossfade and tail slow > fast	128-255	50.2-100%		Fade
12	Layer 2 FX orientation	Off	0-4	0-1.6%	0	Snap
		Rotate 90°	5-9	2.0-3.5%		
		Rotate 180°	10-14	3.9-5.5%		
		Rotate 270°	15-19	5.9-7.5%		
		Horizontal flip	20-24	7.8-9.4%		
		Rotate 90° & vertical flip	25-29	9.8-11.4%		
		Rotate 180° & horizontal flip	30-34	11.8-13.3%		
		Rotate 270° & vertical flip	35-39	13.7-15.3%		
		Off	40-44	15.7-17.3%		
		Random rotate & flip	45-49	17.7-19.2%		
		Random position	50-54	19.6-21.2%		
		Fix 90° rotation & random position	55-59	21.6-23.1%		
		Fix 180° rotation & random position	60-64	23.5-25.1%		
		Fix 270° rotation & random position	65-69	25.5-27.1%		
Off	70-74	27.5-29.0%				

		Bounce	75-79	29.4-31.0%		
		Bounce & rotate 90°	80-84	31.4-32.9%		
		Bounce & rotate 180°	85-89	33.3-34.9%		
		Bounce & rotate 270°	90-94	35.3-36.9%		
		Off	95-99	37.3-38.8%		
		Rotate CCW at end	100-104	39.2-40.8%		
		Rotate CW at end	105-109	41.2-42.7%		
		Random rotate at end	110-114	43.1-44.7%		
		Off	115-134	45.1-52.5%		
		Rotate 90° **	135-139	52.9-54.5%		
		Rotate 180° **	140-144	54.9-56.5%		
		Rotate 270° **	145-149	56.9-58.4%		
		Horizontal flip **	150-154	58.8-60.4%		
		Rotate 90° & vertical flip **	155-159	60.8-62.4%		
		Rotate 180° & horizontal flip **	160-164	62.7-64.3%		
		Rotate 270° & vertical flip **	165-169	64.7-66.3%		
		Off	170-174	66.7-68.2%		
		Random Rotate & flip **	175-179	68.6-70.2%		
		Random position **	180-184	70.6-72.2%		
		Fix 90° rotation & random posn. **	185-189	72.5-74.1%		
		Fix 180° rotation & random posn. **	190-194	74.5-76.1%		
		Fix 270° rotation & random posn. **	195-199	76.5-78.0%		
		Off	200-204	78.4-80.0%		
		Bounce **	205-209	80.4-82.0%		
		Bounce & rotate 90° **	210-214	82.4-83.9%		
		Bounce & rotate 180° **	215-219	84.3-85.9%		
		Bounce & rotate 270° **	220-224	86.3-87.8%		
		Off	225-229	88.2-89.8%		
		Rotate CCW at end **	230-234	90.2-91.8%		
		Rotate CW at end **	235-239	92.2-93.7%		
		Random rotate at end **	240-244	94.1-95.7%		
		Off	245-255	96.1-100%		
<b>13</b>	<b>Layer 2 FX offset</b>	0-100%	0-255	0-100%	0	Fade
<b>14</b>	<b>Layer 2 FX length</b>	0-100%	0-255	0-100%	0	Fade
<b>15</b>	<b>Layer 2 FX color generator</b>	Off	0-9	0-3.5%	0	Snap
		Random all pixels RGBCMY	10-19	3.9-7.5%		Snap
		Random single pixel RGBCMY	20-29	7.8-11.4%		Snap
		Random all pixels bright colors	30-39	11.8-15.3%		Snap
		Random single pixel bright colors	40-49	15.7-19.2%		Snap
		Red / Blue	50-59	19.6-23.1%		Snap
		Red / Green	60-69	23.5-27.1%		Snap
		Blue / Green	70-79	27.5-31.0%		Snap
		Yellow / Magenta	80-89	31.4-34.9%		Snap
		Yellow / Cyan	90-99	35.3-38.8%		Snap
		Cyan / Magenta	100-109	39.2-42.7%		Snap
		Yellow / Blue	110-119	43.1-46.7%		Snap
		Green / Magenta	120-129	47.1-50.6%		Snap
		Red / Green / Blue	130-139	51.0-54.5%		Snap
		Red / Yellow / Blue	140-149	54.9-58.4%		Snap
		No function	150-159	58.8%-62.4%		Snap
		Red / Green / Blue - Horizontal line	160-169	62.7-66.3%		Snap
		Red / Green / Blue - Vertical line	170-179	66.7-70.2%		Snap
		No function	180-219	70.6-85.9%		Snap

		Color scroll, slow -> fast	220-229	86.3-89.8%		Fade
		Lite in	230-239	90.2-93.7%		Snap
		Lite out	240-249	94.1-97.6%		Snap
		Off	250-255	98.0-100%		Snap
<b>Channel group B: Layer 1 RGBW 25-pixel 8-bit (low priority)</b>						
16	Pixel 1 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
17		Green intensity 0-100%	0-255	0-100%	0	Fade
18		Blue intensity 0-100%	0-255	0-100%	0	Fade
19		White intensity 0-100%	0-255	0-100%	0	Fade
20	Pixel 2 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
21		Green intensity 0-100%	0-255	0-100%	0	Fade
22		Blue intensity 0-100%	0-255	0-100%	0	Fade
23		White intensity 0-100%	0-255	0-100%	0	Fade
24	Pixel 3 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
25		Green intensity 0-100%	0-255	0-100%	0	Fade
26		Blue intensity 0-100%	0-255	0-100%	0	Fade
27		White intensity 0-100%	0-255	0-100%	0	Fade
28	Pixel 4 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
29		Green intensity 0-100%	0-255	0-100%	0	Fade
30		Blue intensity 0-100%	0-255	0-100%	0	Fade
31		White intensity 0-100%	0-255	0-100%	0	Fade
32	Pixel 5 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
33		Green intensity 0-100%	0-255	0-100%	0	Fade
34		Blue intensity 0-100%	0-255	0-100%	0	Fade
35		White intensity 0-100%	0-255	0-100%	0	Fade
36	Pixel 6 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
37		Green intensity 0-100%	0-255	0-100%	0	Fade
38		Blue intensity 0-100%	0-255	0-100%	0	Fade
39		White intensity 0-100%	0-255	0-100%	0	Fade
40	Pixel 7 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
41		Green intensity 0-100%	0-255	0-100%	0	Fade
42		Blue intensity 0-100%	0-255	0-100%	0	Fade
43		White intensity 0-100%	0-255	0-100%	0	Fade
44	Pixel 8 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
45		Green intensity 0-100%	0-255	0-100%	0	Fade
46		Blue intensity 0-100%	0-255	0-100%	0	Fade
47		White intensity 0-100%	0-255	0-100%	0	Fade
48	Pixel 9 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
49		Green intensity 0-100%	0-255	0-100%	0	Fade
50		Blue intensity 0-100%	0-255	0-100%	0	Fade
51		White intensity 0-100%	0-255	0-100%	0	Fade
52	Pixel 10 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
53		Green intensity 0-100%	0-255	0-100%	0	Fade
54		Blue intensity 0-100%	0-255	0-100%	0	Fade
55		White intensity 0-100%	0-255	0-100%	0	Fade
56	Pixel 11 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
57		Green intensity 0-100%	0-255	0-100%	0	Fade
58		Blue intensity 0-100%	0-255	0-100%	0	Fade
59		White intensity 0-100%	0-255	0-100%	0	Fade
60	Pixel 12 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
61		Green intensity 0-100%	0-255	0-100%	0	Fade
62		Blue intensity 0-100%	0-255	0-100%	0	Fade
63		White intensity 0-100%	0-255	0-100%	0	Fade

64	Pixel 13 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
65		Green intensity 0-100%	0-255	0-100%	0	Fade
66		Blue intensity 0-100%	0-255	0-100%	0	Fade
67		White intensity 0-100%	0-255	0-100%	0	Fade
68	Pixel 14 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
69		Green intensity 0-100%	0-255	0-100%	0	Fade
70		Blue intensity 0-100%	0-255	0-100%	0	Fade
71		White intensity 0-100%	0-255	0-100%	0	Fade
72	Pixel 15 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
73		Green intensity 0-100%	0-255	0-100%	0	Fade
74		Blue intensity 0-100%	0-255	0-100%	0	Fade
75		White intensity 0-100%	0-255	0-100%	0	Fade
76	Pixel 16 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
77		Green intensity 0-100%	0-255	0-100%	0	Fade
78		Blue intensity 0-100%	0-255	0-100%	0	Fade
79		White intensity 0-100%	0-255	0-100%	0	Fade
80	Pixel 17 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
81		Green intensity 0-100%	0-255	0-100%	0	Fade
82		Blue intensity 0-100%	0-255	0-100%	0	Fade
83		White intensity 0-100%	0-255	0-100%	0	Fade
84	Pixel 18 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
85		Green intensity 0-100%	0-255	0-100%	0	Fade
86		Blue intensity 0-100%	0-255	0-100%	0	Fade
87		White intensity 0-100%	0-255	0-100%	0	Fade
88	Pixel 19 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
89		Green intensity 0-100%	0-255	0-100%	0	Fade
90		Blue intensity 0-100%	0-255	0-100%	0	Fade
91		White intensity 0-100%	0-255	0-100%	0	Fade
92	Pixel 20 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
93		Green intensity 0-100%	0-255	0-100%	0	Fade
94		Blue intensity 0-100%	0-255	0-100%	0	Fade
95		White intensity 0-100%	0-255	0-100%	0	Fade
96	Pixel 21 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
97		Green intensity 0-100%	0-255	0-100%	0	Fade
98		Blue intensity 0-100%	0-255	0-100%	0	Fade
99		White intensity 0-100%	0-255	0-100%	0	Fade
100	Pixel 22 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
101		Green intensity 0-100%	0-255	0-100%	0	Fade
102		Blue intensity 0-100%	0-255	0-100%	0	Fade
103		White intensity 0-100%	0-255	0-100%	0	Fade
104	Pixel 23 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
105		Green intensity 0-100%	0-255	0-100%	0	Fade
106		Blue intensity 0-100%	0-255	0-100%	0	Fade
107		White intensity 0-100%	0-255	0-100%	0	Fade
108	Pixel 24 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
109		Green intensity 0-100%	0-255	0-100%	0	Fade
110		Blue intensity 0-100%	0-255	0-100%	0	Fade
111		White intensity 0-100%	0-255	0-100%	0	Fade
112	Pixel 25 RGBW	Red intensity 0-100%	0-255	0-100%	0	Fade
113		Green intensity 0-100%	0-255	0-100%	0	Fade
114		Blue intensity 0-100%	0-255	0-100%	0	Fade
115		White intensity 0-100%	0-255	0-100%	0	Fade

Control / Settings						
116	Control / Settings	Idle	0-11	0-4.3%	0	Snap
		Sync FX immediate* (hold 0.5 sec.)	12-15	4.7-5.9%		
		<b>Sync FX Internal</b>	16-29	6.3-11.4%		
		Sync FX Power Line	30-32	11.8-12.5%		
		No function	33-38	12.9-14.9%		
		<b>Dimmer flash Off*</b>	39-41	15.3-16.1%		
		Dimmer flash On*	42-44	16.5-17.3%		
		No function	45-47	17.6-18.4%		
		<b>Dimming curve Soft*</b>	48-50	18.8-19.6%		
		Dimming curve Linear*	51-53	20.0-20.8%		
		No function	54-68	21.2-26.7%		
		<b>Fan mode regulated*</b>	69-71	27.1-27.8%		
		Fan mode high speed*	72-74	28.2-29.0%		
		Fan mode medium speed*	75-77	29.4-30.2%		
		Fan mode low speed*	78-80	30.6-31.4%		
		No function	81-83	31.8-32.5%		
		Display On*	84-86	32.9-33.7%		
		Display Off*	87-89	34.1-34.9%		
		<b>Display Auto*</b>	90-92	35.3-36.1%		
		<b>Display invert Off*</b>	93-95	36.5-37.3%		
		Display invert On*	96-98	37.6-38.4%		
		Capture scene*	99-101	38.8-39.6%		
		No DMX = Play captured scene*	102-104	40.0-40.8%		
		<b>No DMX = Blackout*</b>	105-107	41.2-42.0%		
		No DMX = Hold current scene*	108-110	42.4-43.1%		
		Test pattern On*	111-113	43.5-44.3%		
		<b>Test pattern Off*</b>	114-116	44.7-45.5%		
		<b>Rotation Off*</b>	117-119	45.9-46.7%		
		Rotate 90° *	120-122	47.1-47.8%		
		Rotate 180° *	123-125	48.2-49.0%		
		Rotate 270° *	126-128	49.4-50.2%		
		<b>Pixel mirror Off*</b>	129-131	50.6-51.4%		
		Pixel mirror On*	132-134	51.8-52.5%		
		<b>White output limitation Off*</b>	135-137	52.9-53.7%		
		White output limitation 80%*	138-140	54.1-54.9%		
		White output limitation 60%*	141-143	55.3-56.1%		
		White output limitation 40%*	144-146	56.5-57.3%		
		White output limitation 20%*	147-149	57.6-58.4%		
		White output limitation 10%*	150-152	55.8-59.6%		
		No function	153-158	60.0-62.0%		
		<b>RGB output limitation Off%*</b>	159-161	62.4-63.1%		
		RGB output limitation 80%*	162-164	63.5-64.3%		
		RGB output limitation 60%*	165-167	64.7-65.5%		
		RGB output limitation 40%*	168-170	65.9-66.7%		
		RGB output limitation 20%*	171-173	67.1-67.8%		
		RGB output limitation 10%*	174-176	68.2-69.0%		
		No function	177-251	69.4-98.4%		
		Reboot fixture*	252-255	98.8-100%		



