WELCOME
Welcome to the Flex Tube Pixel from Acclaim Lighting. Like all Flex Tubes, these flexible LED powered strips produce a greatly homogenized light output along their full length. The difference with the Pixel variant is that it is internally split into 80 separate segments. Each segment is individually addressable so that you can apply different mixes of red, green and blue colors to each segment. The segments closely abut each other and, combined with the homogenizing effect of the tube optics, produce smooth color transitions between the segments. Designed from the outset for external applications, Flex Tube Pixels are rated to IP68 and can be submersed up to 3 feet (1m) in depth.

Each Flex Tube Pixel strip is controlled by its own dedicated Pixel Driver 1 module. Each Pixel Driver 1 module takes a standard DMX control input, plus a 24VDC power feed, at one end and supplies a specialized data signal, together with 24VDC power to the Flex Tube Pixel strip at the other. The data signal allows the 80 segments in each strip to be uniquely addressed and controlled. If a strip is cut and the new section is connected to a Pixel Driver 1 module, the first segment in the new strip will automatically be addressed as the first segment (rather than retaining whatever its original address designation was), with all the other segments following on sequentially.

The Acclaim Lighting APS-300-24-IP (IP67-rated) power supply is ideal for providing power for up to two Pixel Driver 1 modules and their respective full length Flex Tube Pixel strips. See the section “Control and power” on page 7 and also www.acclaimlighting.com for further details.

SAFETY
- Ensure that the power input is supplied from a correctly fused and environmentally protected location.
CONTROL AND POWER
Flex Tube Pixel strips are run at 24VDC and consume 3.65W per foot (or 12W per meter) - 120W for a full length 32.8'/10m strip.
A 9.84’ (3m) feed cable is supplied, injection molded to the strip. This 3-core cable has bare tails. Further connection cables (not supplied) used to link Flex Tube Pixel strips to the Pixel Driver 1 unit should follow these guidelines:
- Up to 32 feet (10m) 14 AWG (2.081mm²)
Ensure that the voltage drop at the fixture end of the link cable is no greater than 8% (1.92V) of the original 24VDC supply.

PIXEL DRIVER 1 INPUT CONNECTIONS

PIXEL DRIVER 1 OUTPUT CONNECTIONS
PIXEL DRIVER 1 POWER SUPPLY
This IP67-rated APS-300-24-IP power supply can power two Pixel Driver 1 units and their 32.8’ (10m) Flex Tube Pixel strips.
OPERATION

The Pixel Driver 1 controller can drive up to 32.8’ (10m) of Flex Tube Pixel tape. The behavior of the connected Flex Tube Pixel is determined using the control menu.

MENU NAVIGATION

Use the three control buttons to navigate around the menu and alter settings as necessary. Press and hold the MENU button for two seconds to enter and exit edit mode within a menu option.

Note: You must exit from edit mode within one menu option before you can move to a different menu option.

MENU OPTIONS SUMMARY

(see page 18 and page 19 for details)

- **A001** - DMX base address
- **9r01** - Segment grouping (determines pixel size)
- **P080** - Defines total pixels under control
- **Sh01** - Self test (see page 19)
- **CH03** - Do not change
- **IC01** - Do not change
SETUP SHORTCUTS

If you’re in a hurry, apply these settings to achieve common configurations:

<table>
<thead>
<tr>
<th>32.8’ (10m) length</th>
<th>16.4’ (5m) length</th>
<th>32.8’ (10m) length</th>
<th>32.8’ (10m) length</th>
</tr>
</thead>
<tbody>
<tr>
<td>with 80 small pixels</td>
<td>with 40 small pixels</td>
<td>with 40 medium pixels</td>
<td>with 10 large pixels</td>
</tr>
<tr>
<td>(DMX addr: 001)</td>
<td>(DMX addr: 001)</td>
<td>(DMX addr: 001)</td>
<td>(DMX addr: 001)</td>
</tr>
<tr>
<td>A001</td>
<td>A001</td>
<td>A001</td>
<td>A001</td>
</tr>
<tr>
<td>9r01</td>
<td>9r01</td>
<td>9r02</td>
<td>9r08</td>
</tr>
<tr>
<td>P080</td>
<td>P040</td>
<td>P040</td>
<td>P010</td>
</tr>
<tr>
<td>CH03</td>
<td>CH03</td>
<td>CH03</td>
<td>CH03</td>
</tr>
<tr>
<td>IC01</td>
<td>IC01</td>
<td>IC01</td>
<td>IC01</td>
</tr>
</tbody>
</table>

MENU OPTIONS

During configuration, three options determine how the Flex Tube Pixel will operate:

- **A001** - The DMX base address,
- **9r01** - The segment grouping (pixel size),
- **P080** - The total number of pixels.

Two of the remaining three options (**IC01** and **CH03**) must remain in their default settings and the **Shxx** option is used for performing self tests (see page 19).

DMX BASE ADDRESS (**Axxx**)  
Configures the base DMX address for the first color (red) of the first segment, or group of segments* of the Flex Tube Pixel. Successive DMX channels control the remaining colors within the various segments. When setting the base address, ensure sufficient channels remain at the upper end to control all of the pixels. For instance, a 10 meter Flex Tube Pixel strip with 80 pixels requires 240 DMX channels, so the base address in such a case cannot be greater than 273.

* As determined by the **9rxx** setting.

SEGMENT GROUPING (**9rxx**)  
Determines how the various segments of the Flex Tube Pixel are matched to the incoming group(s) of three (RGB) DMX channels to form the controllable pixels (i.e. pixel resolution). The options range from the assignment of a set of RGB channels for each individual segment (i.e. a pixel size of 1 segment: **9r01**); up to assigning one set of RGB channels to control the whole strip (i.e. up to 80 segments as one pixel, controlled by just 3 channels: **9rAL**).

The diagram above shows how the eight segments within each meter section are affected by the **9rxx** option; these settings would be repeated across the remaining length of the Flex Tube Pixel strip.
PIXEL RANGE (Pxxx)
Defines the total number of pixels under control. This option is interdependent with the 9rxx segment grouping setting, which determines how many segments form each pixel, and how many DMX channels are required to control them.

<table>
<thead>
<tr>
<th>9rxx</th>
<th>Pxxx</th>
<th>Number of DMX channels required for 32’ (10 meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>080</td>
<td>240</td>
</tr>
<tr>
<td>02</td>
<td>040</td>
<td>120</td>
</tr>
<tr>
<td>04</td>
<td>020</td>
<td>60</td>
</tr>
<tr>
<td>08</td>
<td>010</td>
<td>30</td>
</tr>
<tr>
<td>AL</td>
<td>010</td>
<td>3</td>
</tr>
</tbody>
</table>

This option has a minimum setting of 010. There are no major issues with setting the Pxxx value too high for a given number of pixels*; however, if set too low, the pixels which lie beyond the stated limit will most likely illuminate beyond control.

* The only minor issue caused by setting the Pxxx value higher than the actual number of pixels becomes apparent when the self tests Sh03 and Sh04 are performed. In Sh03, the scrolling pixel will disappear at the upper end (while it visits non-existant segments) before running back down the length of the strip. In Sh04, the halfway split in the strip will move toward the upper end.

SELF TEST MODE (Shxx)
This menu option provides self test routines designed to help check for stuck or failed emitters within an installation. No DMX input is required to run these tests.

TO RUN A SELF TEST
1. Configure the required segment grouping and pixel range settings for the installed Flex Tube Pixel strip.
2. Use the DOWN button repeatedly until the display shows Shxx (where xx is a value between 01 and 04).
3. Press and hold the MENU button for roughly two seconds until the bar and dot on the left side of the display start flashing.
4. Use the UP/DOWN buttons to choose any of the four test sequences:
   - Sh01 - Shows a rapid sequential strobing through all red, green and blue emitters,
   - Sh02 - Slowly fades between all red, green and blue emitters,
   - Sh03 - Shows a band of pixels which scroll from end to end and back again, alternately using the red, green and blue emitters*,
   - Sh04 - Shows two separate slow fades in each half of the strip, alternately using the red, green and blue emitters*.
   * The exact manner in which the Flex Tube Pixel strip responds to these tests is determined by the 9rxx and Pxxx menu settings, see page 19.
5. Press and hold the MENU button for roughly two seconds until the bar and dot on the left side of the display stop flashing.

Note: The last state of the test pattern will remain until either a DMX input is applied or the power input is cycled.
CHANNEL MODE (CH03)
Determines the type of strip being controlled and the type of LED emitters contained within each segment: 01 for single color, 02 for dynamic white, 03 for RGB and 04 for RGBW. Flex Tube Pixel strips are currently available only in RGB, so this option should remain at CH03.

INTEGRATED CIRCUIT (IC01)
Determines the type of addressable driver ICs used within the connected Flex Tube Pixel. Currently the only valid option is IC01 and this setting should not be changed.