



Pixelite Ltd
2 Church Farm Cottages
Hellington Hill
Hellington
Norfolk
NR14 7BS
07740 859480
www.pixelite.co.uk

NOTES FOR ABERYSTWYTH UNIVERSITY PIXEL TAPE KIT

Contents:

- Controllers and Power Supply
- Adaptors and Cables
- Advatek Assistant
- Notes on Mapping
- Troubleshooting

Controllers and Power Supply

- The kit comprises of 2x powered pixel controllers, 1x power supply, 20x2.5M lengths of PT60 (60 pixels/M) GS8208 12v pixel tape, power/data cables and connectors.
- The controllers use Advatek Pixlite 4 Mk2 control cards capable of controlling 4x1020 pixels (4080 in total) or 17M of tape per output (68M in total).
These can be used at full capacity only when additional power supplies are used. Without the additional power supply and with the outputs limited to 60% (recommended), each powered controller can run 8x2.5M lengths- 5M of tape per output.

Adaptors and Cables

All cables and connectors are fully wired and can be used in any configuration.

- Avoid using a second controller to add power as it can create spurious data. Always use the additional power supply to boost power.
- The following connectors are supplied:
 - 1. Male XLR to Female JST**
These adaptors supply power and data to the strip from the controller with or without the extension cables.
 - 2. Male JST to Female JST with DC input**
Use these adaptors to inject power between strips, or when creating a zig zag matrix.
 - 3. Male XLR to DC plug**
These adaptors allow you to inject power in conjunction with the adaptors above (2.)
 - 4. Male JST to Female XLR**
When you need to physically separate strips that are running on one output, use one of these adaptors on the end of the first strip. Add an extension cable and then a Male XLR to Female JST (1.) to power and data the next strip.
 - 5. Extension cables**
The kit includes 15x5M and 15x10M XLR to XLR power/data cables. They can be used to supply power only as well as power/data.

Advatek Assistant

- Use the Advatek Assistant software to configure the settings of the controllers.
 - The software is used to:
 - Network-** Set the IP address, Subnet mask, toggle between sACN and Art-Net and select static or dynamic. Ensure that the settings match your console or media server. An ethernet switch will ensure that the controller can be discovered if it's IP settings are incompatible with your network
 - Control-** Use this tab to configure the output. We always recommend using the Advanced settings. This tab allows you to set the number of LEDs per output and patch them to a DMX start address. You can patch up to 1020 pixels per output and the controller will skip any "unpatchable" channels at the end of each universe. You can reverse the direction of an individual output and can also set a Zig Zag which can help with mapping matrices.
 - LEDs-** This tab allows you to configure the IC type for the LEDs you are using. The strips in the kit are GS8208 and the colour order is GBR.
 - Test-** This tab allows you to test the connected LEDs. Make sure you switch back to Art-Net or sACN control afterwards!
 - Misc-** Shows the software version and allows firmware upgrades. You can customise the controller name here too, which is can be useful when changing settings on the fly. We use names like "main stage" or "rostra."
- The Misc tab also shows the temperature of the controller PCB.
- It's well worth keeping the software and firmware up to date. Both can be downloaded from <https://www.advateklights.com/downloads> Make sure that the controller is not switched off during the firmware transfer.
- Depending on the firmware update, IP settings may revert to their defaults. **Always connect a network switch for updates, which will ensure that the software can still detect the controllers after the update!**

Notes on Mapping

All media servers and consoles use a slightly different form of mapping. Here are a few pointers to help avoid confusion:

- Only a few applications allow you to patch more than one DMX universe (i.e. 170 RGB pixels) at a time, so it's easier to think of your pixels in universes instead of as a complete length.

If you're mapping a single run of 800 pixels for instance, you will need to break it down into groups of 170 pixels and then patch the remaining pixels as a custom length-

Universe 1 170 pixels,

Universe 2 170 pixels,

Universe 3 170 pixels,

Universe 4 170 pixels,

This comes to 680 pixels, so you need to add the remaining pixels as-

Universe 5 120 pixels.

Total 800 pixels.

The output of the Advatek controller can be patched as 800 pixels as it skips the 2 unusable DMX channels at the end of each universe.

- When mapping matrices, especially those where the tape Zig Zags, remember that you can change the controller settings to set that up if you're control system is limited. Zig Zag matrices are more complicated to map as universes have to be broken up manually with some media servers and consoles. Make sure you don't set up a Zig Zag on the controller and another one on the console- really confusing! The same applies to the reverse output setting in the Advatek app.

Troubleshooting

We've been using the Advatek control cards in our controllers for 10 years and have made every mistake possible when rigging them! The controllers have been 100% reliable and if you need to troubleshoot a rig, here is a list of everything we've messed up in the past.

If you aren't able to control the LEDs or connect to the controllers, check the following in this order:

- 1. Network Settings of console/media server**
Are these correct and compatible with the controller IP settings?
- 2. Are you using an ethernet switch?**
Always connect via a switch as it allows the software to find controllers that are out of range.
- 3. Check power, connectors and cables**
- 4. Check patch matches output settings and physical LEDs connected**
Pay extra attention if your outputs are reversed. You may be trying to control pixels that aren't physically connected. For example, if you have set a reversed output of 1000 pixels on the Pixlite controller, have patched 100 pixels to the console and connected 100 LEDs to the controller, the pixels you're trying to control with the console don't exist!
- 5. sACN or Art-Net**
Check that the console/server are both set to the same protocol
- 6. Run Test Pattern**
Run a test pattern to check that the connected LEDs are working. Make sure you switch back to "Live Art-Net/sACN" afterwards and click on OK. The controller will reset and allow live control.
- 7. Perform Hard Reset on Controller**
This will clear any test patterns that are running and allow live control again.