

MadLED protocol specifications

MadLED is a very basic protocol for transmitting data to LED, actually supported by MadRouter and MadMapper through serial port. For instance using an arduino compatible device (like Teensy 3.1), you can control one or multiple LED strips with video.

Actually MadMapper has an option in DMX Output preferences: "Route ArtNet to LED devices". This options allows you to convert ArtNet data (generated by DMX fixtures in MadMapper) and send it to BlinkyTile / BlinkyTape or to a MadLED compatible device.

We provide the code to support MadLED in an arduino compatible device. We strongly recommend using Teensy 3.1 at the moment, because we need to send a lot of data at high frame rate if you control many pixels. Also the RAM in the arduino devices is very limited. Teensy offers 64 kB, which is more than enough.

This is a protocol under development so this is the version included in MadMapper 2.1. We should keep compatibility but we don't guarantee.

Message Formatting

Each message start with `MAD_LED_PACKET_HEADER = 0xFF`

followed by the packet type:

```
#define MAD_LED_DATA 0xBE
```

MadMapper actually sends only `MAD_LED_DATA` packet. But we might add new ones in the future, to detect protocol version etc.

Packet `MAD_LED_DATA`

MadMapper sends that to the device each time a frame is ready.

Packet Composition:

Byte 0: `MAD_LED_PACKET_HEADER`

Byte 1: `MAD_LED_DATA`

Byte 2: LED Line Number, if multiple LED strips are connected to different pins, you can address them separately

Byte 3: Channel Count LOW BYTE, the number of channels in this frame

Byte 4: Channel Count HIGH BYTE, the number of channels in this frame

Byte 5-...: Data bytes. Data bytes must be between `0x00` & `0xFE`. `0xFF` is reserved for packet header. If Channel Count is 100, there must be 100 data bytes.