



## PIXELATOR MINI

(PN 70066)



### Box Contents

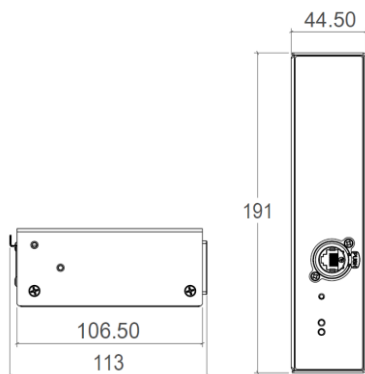
- Pixelator Mini (pn: 70066)
- Straight connect Ethernet lead (pn:79102)
- 1RU Mounting kit (pn: 79105)
- Country specific IEC Power lead.

- TM1812 – use WS2812B
- UCS2903 and UCS2904 – use WS2812B
- TLC5973-8bit and TLC5973-16bit

### Notes:

- We cannot claim to support other led protocols similar to the ones supported by Pixelator Mini. If you happen to find one that works, and is not listed, please let us know, so we can update our documentation

### Physical Dimensions



### Note:

All dimensions are in millimetres unless specified otherwise

### LED Protocols Supported

- 9PDOT-8bit and 9PDOT-16bit
- WS2811, WS2812, WS2813, WS2812B
- APA-104 LEDs
- SK6812 – use WS2812B
- TM1804 – use WS2812B

### Features

- 8 Pixel Link (RJ-45) data output ports
- 16 Universe Ethernet to Plink
- Easy to setup & update through any web browser
- Supports following DMX over Ethernet protocols:
  - Art-Net 1/2/3
  - Streaming ACN (sACN)
  - Kling-net
  - ESP
- 1 RJ45 Ethercon connector (10/100 Mbps)
- Static or Dynamic (DHCP) IP configuration (DHCP by default)
- Compatible with ENTTEC Plink Injectors
- Pixel Grouping is configurable for each Pixel Link port. (1 to 340) for RGB and (1 to 256) for RGBW
- Each Pixel Link output can be assigned up to 2 Ethernet Universes. Pixel Ordering is configurable for each Pixel Link port. RGB modes allow 3 slot mapping, and RGBW modes allows 4 slot mapping.



## Safety

- Do not expose the unit to rain or moisture, doing this will void the warranty
- Do not remove the cover, there are no serviceable parts inside
- This unit is intended for indoor use only

## Basic Setup

Right out of the box, the Pixelator Mini is factory configured to be a standard Art-Net node, listening to the first 16 Art-Net Universes (0 to 15). It is also set as a DHCP node, so you can plug it into your existing router, and it's good to go.

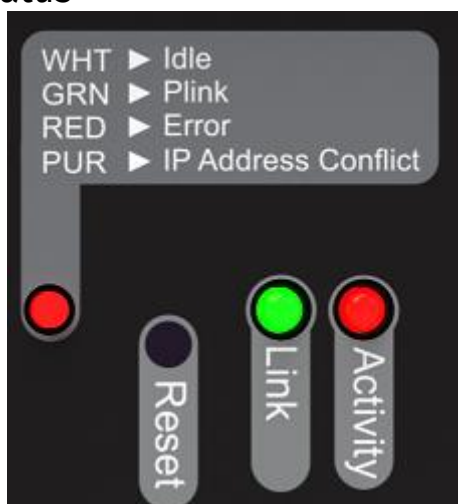
To make any changes to the configuration, you will need the IP address of the unit. ENTTEC provides a free App (available for Windows and Mac) called NMU, which will find the Pixelator Mini on your network and display its IP address.

Using the IP address one can access the built-in web-interface inside the Pixelator Mini via any modern web-browser. The web-interface allows the settings of the unit to be changed.

Pixel Tape/Dots are to be connected to the Pixel Link port using a PLink Injector (sold separately). The injector takes external DC power and has appropriate terminals to connect the tape.

Once setup, any Art-Net/sACN/ Kling-net/ESP enabled software/app or a lighting control desk can be used to drive the Pixel Link outputs on the Pixelator Mini. For a list of recommended apps, please check the website [www.enttec.com/mini](http://www.enttec.com/mini)

## LED Status



The Pixelator Mini comes with one RGB status LED and two green network LED indicators located on the right side of the front panel

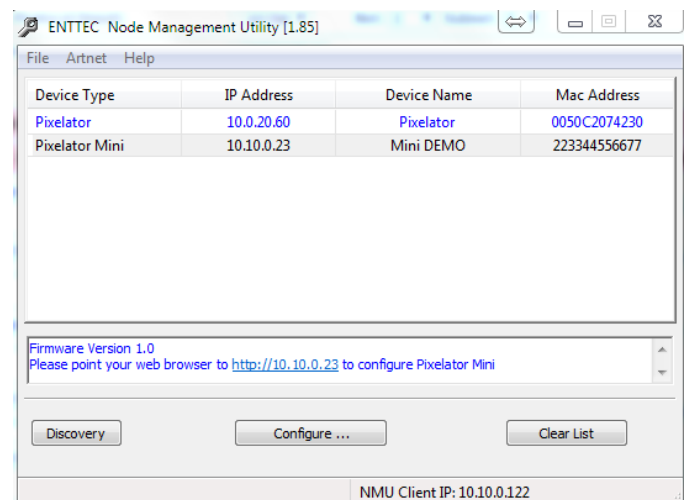
### RGB Status LED:

- **WHITE:** idle, signifies that Pixelator Mini is operating normally.
- **GREEN:** Pixel Link Data is being output. The led will fade from white to green.
- **RED: (Blinking)** Error State. Requires a firmware update or needs to be rebooted. A reset might be required, if it stays in error-mode on reboot.
- **PURPLE: (Blinking)** IP Address Conflict. Please change the IP address manually or enable DHCP.

Ethernet Link Speed: is ON when there is an active Ethernet Link @ 100 mbps. It will stay OFF @ 10 mbps.

Ethernet Activity: This LED blinks when there is activity on the Ethernet network.

## NMU



NMU (Node Management Utility) is a free Windows and Mac application that is used to manage compatible ENTTEC DMX over Ethernet nodes.

NMU will help you find your unit's IP address and then open a browser window to access the web-interface.

Please follow these steps:

1. Download NMU from [www.enttec.com/nmu](http://www.enttec.com/nmu)
2. Ensure that Pixelator Mini is hooked up physically by an Ethernet cable.



3. And connected to the same physical network (or router) as the computer on which you will run NMU.
4. Open NMU. If prompted with multiple networks, select the correct network. (identified by the IP address of your computer on that network)
5. Press the Discovery button, and wait till NMU finds all supported ENTTEC devices on your network.
6. Once found, select Pixelator Mini and use the IP address to access the web-interface via your web browser.

To change any of the displayed settings, you must use the Settings page.

## Settings

Node name is used to identify the unit on the network. Any meaningful name can be used.

DHCP is enabled by default. When enabled, the router on your network is expected to automatically provide the IP address to the unit. If no DHCP router/server is present on the network, the manual IP address will be used.

If for some reason, your unit does not get an IP address via DHCP, please restart the unit with the Ethernet cable connected. It will listen for DHCP on start-up and wait for a few seconds, before giving up.

IP Address and Netmask are only used if DHCP is disabled or is unavailable on your network. Pixelator Mini web-page will warn you, if non-standard IP address or netmask is used.

If ever you manage to use an IP Address that can't be connected to later, please perform the reset procedure (as described later). The reset will re-enable DHCP on Pixelator Mini.

**DMX Protocol:** allows you to pick the input DMX over Ethernet protocol that the Pixelator Mini will act on. Available options are Art-Net, SACN, Kling-net and ESP.

**Art-Net Address:** Net and Subnet can be selected here, and comply with Art-Net 3 protocol. Universe can be selected from the PLink Port Settings.

**LED Protocol:** allows you to pick the PLink Output protocol that the pixel tape conforms to. Available options are 9PDOT-8bit, 9PDOT-16bit, WS2812B (option applies to WS2811, WS2812, and WS2812b) APA-104, TLC5973-8bit and TLC5973-16bit.

## Web Configuration

The Pixelator Mini can be configured and controlled through a web browser, running on a computer system, located on the same Local Area Network. Any modern web browser, such as Chrome, Firefox, Internet Explorer, Safari or Opera, running under any operating system, including Windows XP/7/8/10, Mac OS X or Linux can be used.

Either click on the underlined URL displayed in NMU, or type the IP address (as detected by NMU) into your web browser to access the Web Interface. The left side menu allows all the Pixelator Mini web pages to be accessed.

Home page provides the following information:

**System Information:** Name, Firmware Version and Serial No. of the unit. The Serial No. is unique to this unit and can be used to identify this unit.

**Current Network Settings:** Configured IP address and Link speed for the unit.



**PIXELATOR-MINI - SETTINGS**

**Network Settings**

Node Name:

DHCP: ☒ DHCP Enable This will override the IP setting below

IP Address:     Used if DHCP is disabled or unavailable

NetMask:     Used if DHCP is disabled or unavailable

DMX Protocol (Input):  Net:  Subnet:

LED Protocol (Output):

**PLink Outputs**

Options	Out 1	Out 2	Out 3	Out 4	Out 5	Out 6	Out 7	Out 8
Universe/Output: (0 - 2)	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>	<input type="text" value="2"/>
First Universe: <small>Art-Net Universe (0 - 15)</small>	<input type="text" value="0"/> 272	<input type="text" value="2"/> 274	<input type="text" value="4"/> 276	<input type="text" value="6"/> 278	<input type="text" value="8"/> 280	<input type="text" value="10"/> 282	<input type="text" value="12"/> 284	<input type="text" value="14"/> 286
Second Universe: <small>Art-Net Universe (0 - 15)</small>	<input type="text" value="1"/> 273	<input type="text" value="3"/> 275	<input type="text" value="5"/> 277	<input type="text" value="7"/> 279	<input type="text" value="9"/> 281	<input type="text" value="11"/> 283	<input type="text" value="13"/> 285	<input type="text" value="15"/> 287
Pixel Order: <small>correct color order</small>	<input type="text" value="RGBW"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>	<input type="text" value="RGB"/>
Pixel Group: (1 - 340)	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
DMX Start Add: (0 - 511)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

**Updates**

Save

Factory Default

Reboot/Restart

## Second Universe

Allows selections of the Second universe that the output will be mapped to. Drives pixels 171-340 in RGB modes, or the pixels 129-256 in RGBW modes.

For Art-net universe, please change Net/Subnet to increase combined universe beyond 15. Combined universe is shown under the selection.

## Pixel Order

Ordering controls, how the DMX slots are mapped to the LED pixel color on each LED pixel. The ordering selected here should match the ordering on the Pixel Tape or Dots being used. The Pixel ordering selected, will also determine the number of Pixels being driven on the output.

RGB options: uses 3 DMX channels per pixel.

RGBW options: uses 4 DMX channels per pixel.

## Pixel Group

Pixel Grouping allows one DMX pixel to drive multiple physical LED pixels. This option is only available when One Universe/Output is selected. Defaults to 1.

The max. Group will depend on the Pixel order selected.

## DMX Start Add

Selects DMX slot number for the first pixel to output. This option is only available when One Universe/Output is selected. Defaults to 0.

## Plink Settings

The Plink Outputs table allows all settings to be individually changed for each Plink Port. The options available for each Port are as follows:

### Universe / Output

Select the number of universe to drive the outputs. Available options are:

- None: No output.
- 1: Maps to One universe, and drives first 170 pixels in RGB modes, or First 128 Pixels in RGBW modes.
- 2: Maps the output to two universes, and drives first 340 pixels in RGB modes, or First 256 Pixels in RGBW modes.

### First Universe

Allows selections of the First universe that the output will be mapped to. Drives the first 170 Pixels in RGB modes, or the first 128 Pixels in RGBW modes.

For Art-net universe, please change Net/Subnet to increase combined universe beyond 15. (Combined universe is shown under the selection).



## Update Firmware

PIXELATOR-MINI - UPDATE FIRMWARE

Current System Information	
Boot Version:	ENTTEC Pixelator Mini Boot V1.1
Firmware Version:	ENTTEC Pixelator Mini Firmware V1.0
Mac Address:	22:33:44:55:66:77
Serial No:	44556677
Link Speed:	100 Mbps

Current Network Settings	
DHCP:	enabled
IP Address:	10.10.0.23

Update Firmware

Select firmware file:	<input type="button" value="Choose File"/> No file chosen <input type="button" value="Update Firmware"/>
Update progress:	<div style="font-size: small; color: blue;">Please do not interrupt while the firmware is being updated. Unit will restart once firmware update is complete.</div>

From this page you can update Pixelator Mini to the latest firmware. Latest firmware file is available at [enttec.com/mini](http://enttec.com/mini).

Choose or browse the firmware file (as per your browser) and click on Update firmware to start the process. The update progress is shown in real-time, and will take a few seconds for the update to complete

Update Firmware

Select firmware file:	<input type="button" value="Choose File"/> firmware.bin <input type="button" value="Update Firmware"/>
Update progress:	<div style="background-color: green; width: 33%; height: 10px; margin: 5px;"></div> <div style="text-align: center; color: white; font-weight: bold;">33%</div>

When the update is complete, the page will refresh and you will be taken to the home page – where you can verify the firmware version. If the update fails for any reason, please try the same process again.

Pixelator Mini will reboot after a firmware update, please allow a few seconds for it to be refreshed in the browser. Please wait until the update process is complete.

## Reset button

The reset button restores the configuration of the Pixelator Mini to factory defaults:

- DHCP is set to enabled
- Static IP address is mapped to the Serial number of the unit (used if DHCP is unavailable).
- Netmask is set to 255.0.0.0
- DMX Protocol is set to Art-Net (0-15)
- Each Plink output is set to 2 Universe with RGB ordering.

To successfully reset to factory defaults the Pixelator Mini, the following procedure must be performed:

- Power off the unit
- Press and hold the Reset button.
- While holding the Reset button, power up the unit, and keep holding the button for 3 seconds.
- Release the Reset button once the status led starts blinking red.
- Wait 3 seconds and cycle power

## Connector pin out

### Pixel Link pinout (RJ-45):

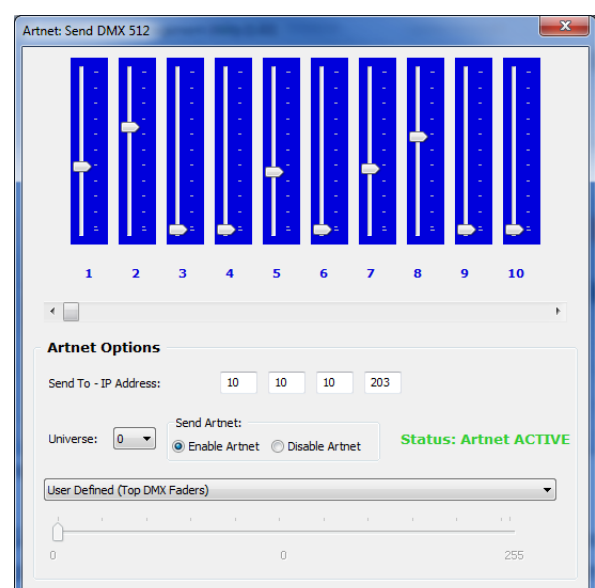
- Pin 1: Data +
- Pin 2: Data -
- Pin 7: Ground

## Art-Net Send Test

NMU can also be used to troubleshoot the Plink output on the Pixelator Mini. Art-Net Test can be accessed from the top menu: Art-net → **Art-net Test**

When first opened, the Art-Net is set to Disabled, please set it to Enabled, and then you can use either the DMX faders to test one or more DMX channels, or use the test-patterns from the options available.

Please set the Pixelator Mini to be Art-Net output and on the same universe as being used to send Art-Net from NMU.





## PLink system



- Each PLink port can drive up to 340 RGB individual pixels (2 DMX universes) - PLink 2U module must be used in Pixelator Profile
- PLink Injector sold separately (73546 / 73544)
- 1 PLink Injector needs to be used per PLink port on the Pixelator Mini
- External DC power supply
- Maximum distance between PLink Injector and Tape/dots should not exceed 3m
- Data extensions can be up to 300m over Cat6 cable
- Small, light and easy to hide design
- High power screw terminal connectors
- Easy wiring using straight Cat5/Cat6 standard connections

### Notes:

- PLink system only works with CAT5/6 straight-through cables, do not use crossover cables.

## Pixelator Mini Specifications

Item	Value
PSU Input Voltage	85 – 264V AC
PSU Input Frequency	47 - 63 Hz
Weight	1.65 lbs. / 0.8 Kg
Shipped weight	3.19 lbs. / 1.153 Kg
Length	7.52" / 191mm
Width	4.19" / 106.5mm
Height	1.75" / 44.5mm
Output Protocol	9PDOT-8bit 9PDOT-16bit WS2812B APA-104 TLC5973-8bit TLC5973-16bit
Input Protocol	Art-Net, sACN, Kling-net or ESP
Op Environment	0°-50° C
Relative Humidity	5%-95% non-condensing environment
Connectors	8x RJ45 PLink output 1x IEC power connector 1x RJ45 Ethercon connector

Due to continuous improvements and innovations of all ENTTEC products, specifications and features are subject to change without notice.

## Ordering Information

The ENTTEC Pixelator Mini and compatible products can be ordered from our website or through your ENTTEC dealer.

PN	Description
70066	Pixelator Mini
73546	PLink Injector 5V
73544	PLink Injector 12V - 24V





## Accessories and Recommended Products

Part Number	Description
<b>70581-ARC</b>	ENTTEC LED Mapper Software (ELM) Architectural (512 Universes)
<b>70581-PRO</b>	ENTTEC LED Mapper Software (ELM) Professional (96 Universes)
<b>70581-STU</b>	ENTTEC LED Mapper Software (ELM) Standard (16 Universes)
<b>9PDOT (1-8)</b>	HI-RES SMART RGB PIXEL DOTS
<b>8PL60-F-12</b>	RGB PIXEL TAPE 60 LEDS/METER 12V - 5M Roll
<b>8PL30-F</b>	RGB PIXEL TAPE 30 LEDS/METER 5V - 5M Roll
<b>8PL60-F</b>	RGB PIXEL TAPE 60 LEDS/METER 5V - 5M Roll
<b>8PL144-2</b>	RGB PIXEL TAPE 144 LEDS/METER 5V - 2M Roll
<b>8PX60-4</b>	RGBW PIXEL TAPE 60 LEDS/METER 5V - 4M Roll
<b>8PXW60-4-B</b>	RGBW PIXEL TAPE 60 LEDS/METER 5V - 4M Roll Black No Coating
<b>8PX30-F</b>	RGBW PIXEL TAPE 30 LEDS/METER 5V - 5M Roll
<b>8PW60-F</b>	WWA (CTA+AMBER) PIXEL TAPE 60 LEDS/METER 5V - 5M Roll
<b>8PW30-F</b>	WWA (CTA+AMBER) PIXEL TAPE 30 LEDS/METER 5V - 5M Roll
<b>8P60-5-B</b>	Pixel tape 60 LEDS/METER 5V - 5M Roll Black No Coating

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