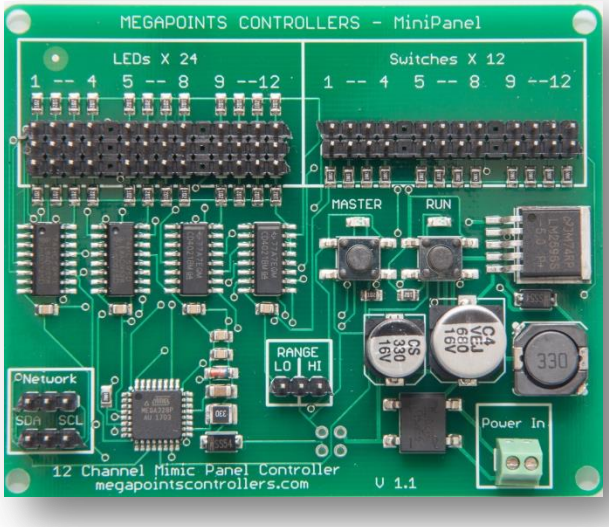
MegaPoints Controllers
MiniPanel Module

Simplified mimic panel display and control module for analogue and digital model railways.

User guide



Features include

- No soldering – truly plug and play
- Support for push buttons, lever frames and toggle switches
- All features work with analogue or digital layout control

Revision 1 December 2017

Email: info@megapointscontrollers.com
Web: www.megapointscontrollers.com

Contents

Introduction

This board is designed to sit inside your mimic panel and control up to 12 channels of servos, solenoids, Tortoise or Kato motors for turnouts or bouncing semaphore signals. Connection to your layout is via a single cable as its no longer necessary to run individual wires from each turnout motor to switch. This cleans up your layout wiring and dramatically reduces cabling.

Everything is plug and play with no soldering required, right down to the LEDs and pushbuttons required to operate the unit.

This product has accompanying instructional videos detailing basic usage, installation and expansion. Please see the video section of our web site or the product page located in the shop for all associated resources..

What's included

The following items are included with each MiniPanel module:

1 x MiniPanel processor board
1 x Network cable

The following items are included with each MiniPanel Starter Kit:

1 x MiniPanel processor board
12 x Panel buttons and cables
12 x Panel LED pairs and cables
1 or 2 driver boards (depending on type)
Network cable(s)

No soldering

All connections are via plug and socket and require no soldering. If using our pre made LED and switch cable packs an entire mimic panel can be hooked up and plugged in. It's all plug and play and allows simple reconfiguration as your needs change by moving cable positions.

Accessible connectors

We've used commonly available connectors so you have the choice to use ready made and pre wired cable packs or make your own. We use 2.54 mm pin pitch spacing making roll your own cables easy and well within the reach of modellers.

Buttons or switches

The MiniPanel can be configured to accept button (*non latching*) or switch (*latching*) input. If you wish to hook up an array of lever frame switches to the MultiPanel you can. Using latching switches will disable some of the multi user features to prevent inconsistent operation.

MegaPoints Controllers use electronic components that should be handled with care.

Avoid touching any components or the circuit printed on the bottom of the board.

Avoid placing the board on any metallic surfaces including track.

Flexible indication

You are free to hook up a single LED or pair of LEDs to each of the outputs depending on your needs. If a pair is used, one will always be on while the other is off, reversing when a button is pressed. This allows for route indication on turnouts etc. Our LED cable is available with a pair of LEDs attached.

If you choose to roll your own LED cable we've already installed the resistors for you. Just connect the LEDs to your cables.

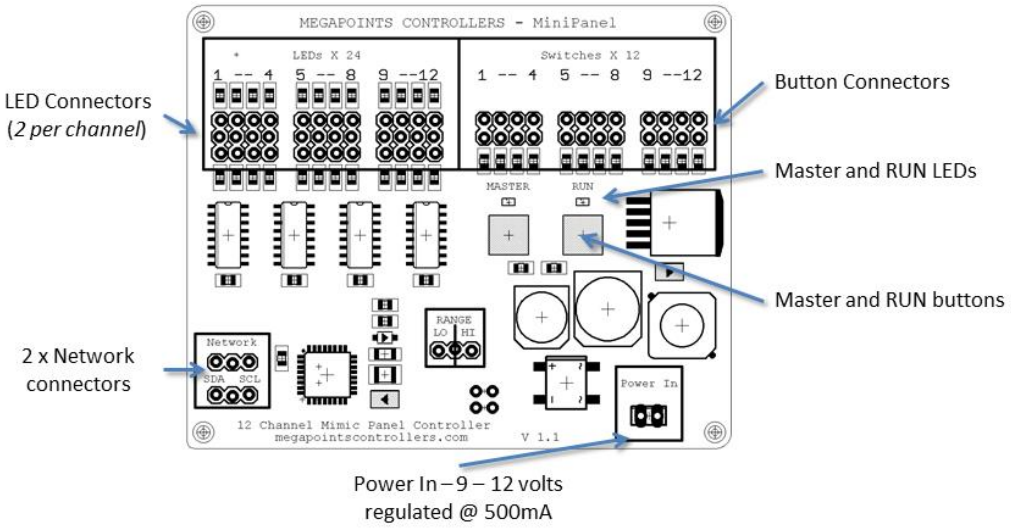
DCC Integration

If DCC integration is required you only need to add a DCC module. This will communicate directly with the MiniPanel module and provide DCC accessory addresses for all 12 channels. As DCC commands are received the display for the mimic panel is automatically updated to correctly indicate the changes commanded. At all times, the user is able to operate any of the buttons to directly control the layout.

Hooking up

The following picture shows the various connectors on the MiniPanel module. The board contains connectors for 24 LEDs (*top left*) and 12 buttons (*top right*). Power is supplied to the screw terminals on the lower right of the board. Power the board with 9 to 12 volts (*500mA minimum*) from a regulated power supply.

MiniPanel connections



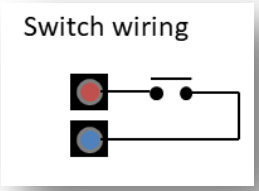
First time use

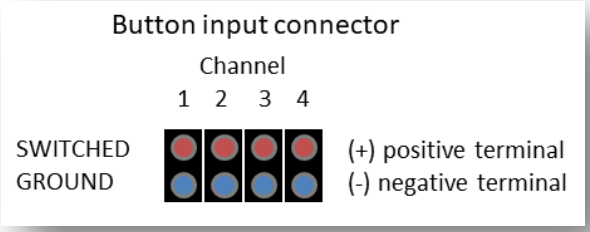
Follow these steps to quickly get started with your first MultiPanel:

- Plug in an LED pair to output 1 (black lead to outer edge).
- Plug in a button to input 1 (black lead to outer edge).
- Connect 12 volt regulated power to screw terminals and turn on (any polarity).
- Check MASTER LED is ON and RUN LED is flashing.
- Press button attached to switch input 1 and observe LEDs connected to output 1 change.
- Watch the instructional videos for more.

Connecting buttons

Connect buttons or switches to the lower connectors. The outer connector connects to the common ground and the upper connector (*innermost*) is switched.

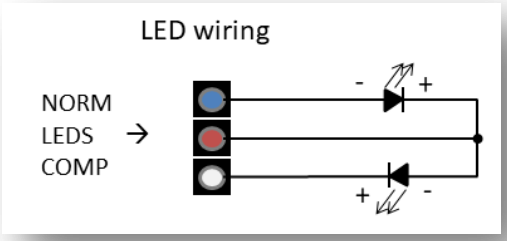


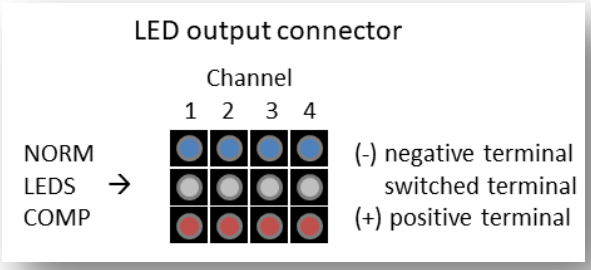


Connecting LEDs

If you are using our LED cables, plug in the connector with the black cable at the top. Refer to the LED output connector diagram on the lower right for details.

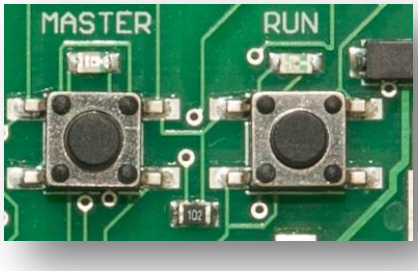
If using your own LEDs and cables we've already installed 1K resistors for you. Each LED channel has three pins, with negative on the top and positive on the bottom. The middle pin floats between positive and negative depending on whether the output is reversed or not.





Switches and status indicators

The MiniPanel module contains two LED indicators and two buttons. As shipped the MASTER LED will be ON and the RUN led will flash about once per second. This indicates the MiniPanel is configured for non latching push to make switches and is operating in the default mode.



The MASTER button toggles between two possible states. To change configuration press and hold the MASTER button for approx. 3 seconds.

MASTER LED	RUN LED	STATE
ON	Flashing	Non latching push to make button mode (default).
OFF	ON	Input via latching switches or levers. Network listening is disabled.

Specifications

Power requirements	9 – 13.8 Volts DC regulated 0.5 Amp – any polarity.
On-board LED connectors	24 (*two per channel*)
On board switch connectors	12
Maximum control channels	12
Network	2 x I^2C connectors, bi directional

Contacting us

Web: www.megapointscontrollers.com
Email: info@megapointscontrollers.com
Phone: 07846 409320

If you have any product improvement suggestions we'd be very pleased to hear from you.

NOTE: We operate a policy of continuous improvement. Colours, specifications and the placement of components may vary from time to time.