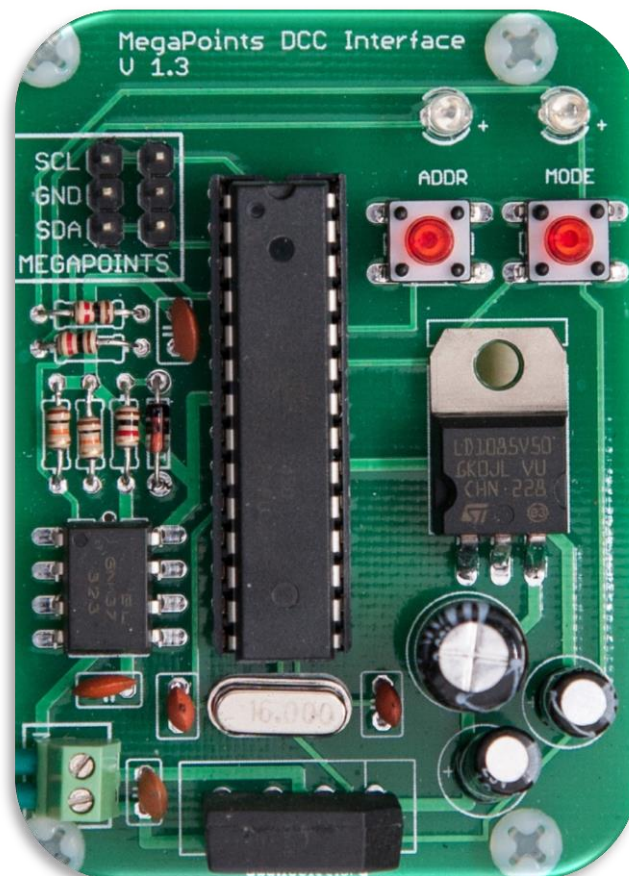


MegaPoints DCC Module

User guide for Software Version 1.3

Covers board versions 1.2 & 1.3

A flexible solution and modular component for controlling model railway points and accessories using inexpensive servos.



Revision 6 May 2015

© MegaPoints Controllers 2015

Email: mp@loolee.org

Contents

Introduction	3
What's included	3
Hooking up	4
Changing DCC address	5
Example: Setting the DCC base address to 1	5
Example: Setting the DCC base address to 150	5
DCC address ranges	5
Changing the mode	5
Gateway mode	6
Diagnostic mode	6
Further information	6
Contacting us	6

Introduction

This guide covers MegaPoints DCC module software version 1.3 shipped from 15-DEC-2014.

Identification: Software version 1.3 has a sticker with the version on the main chip. If you don't see one, or bought your DCC module before 15-DEC-2014 contact us for a software upgrade.

The MegaPoints DCC Interface provides easy access to any NMRA compliant DCC signal for MegaPoints controllers. Using a single servo connector and cable it's easy to hook up and get going.

The DCC interface has two modes of operation. In basic mode (*interface mode*) it connects directly to a MegaPoints Controller network connection via the three pin connector or screw terminals and provides 12 DCC addresses for accessory control.

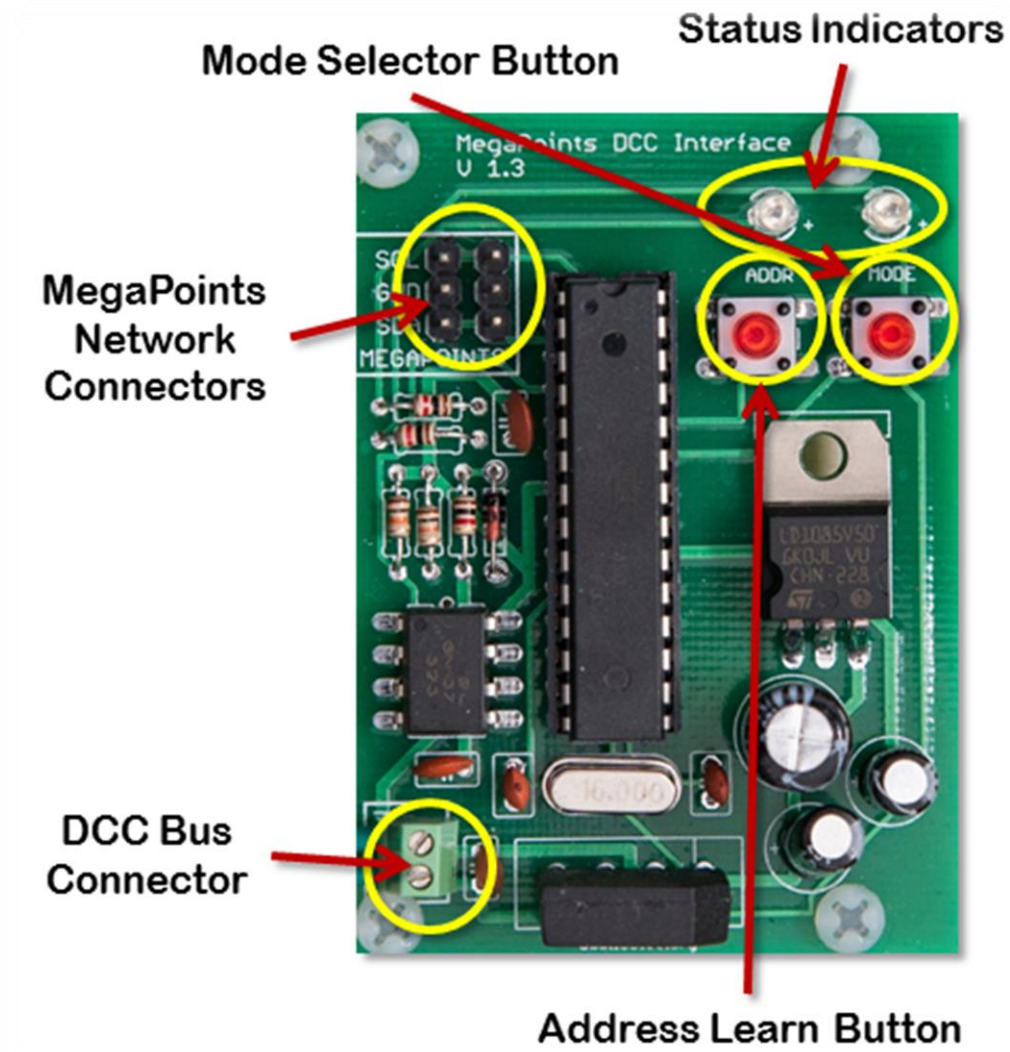
In advanced mode (*gateway mode*) the DCC board connects to the MegaPoints mimic panel driver and provides 192 DCC addresses for the entire network. In this mode only a single DCC gateway is required for up to 192 sets of points or accessories.

What's included

This component ships with:

- 1 x DCC interface processor board
- 1 x Servo cable (*for hook-up to a MegaPoints Controller or MultiPanel*)

Hooking up



Connect the two screw terminals to your DCC signal. When power is applied the unit will begin to flash. The board will draw about 20ma from the DCC bus.

Connect the supplied cable to the three pin connector at the top left of the DCC module. The other end will plug directly into the MegaPoints Controller or MultiPanel. Observe the orientation of the plug. Ensure SDA connects to SDA and SCL connects to SCL. If these are reversed no damage will occur, but the MegaPoints Controller won't get the signal.

Some earlier MegaPoints Controllers have a four way screw terminal block (two are for power). Cut the plug off one end of the connection lead between the DCC module and MegaPoints controller and screw the appropriate cable to the matching screw terminal. If you have the four-way screw terminal connector fitted, the GND will be shared between the power and DCC interface.

NOTE: If connecting directly to a MegaPoints Controller you must set slave mode on the MegaPoints Controller. See the respective user guide for details.

Changing DCC address

Any valid DCC accessory address can be used in the range 1 – 2000. The DCC module address is configured by entering monitor mode and watching for a DCC accessory packet. The unit will then configure itself to the first address it sees. This address becomes the base address for the module. All remaining addresses (*total 12 for interface mode*) use the base address plus 11 next DCC addresses.

Example: Setting the DCC base address to 1

- Press and hold the left (*or top* on earlier boards) button for about one second until the red light illuminates.
- From your DCC controller send an accessory packet to DCC address 1.
- The red light will extinguish as soon as the DCC module has discovered an accessory packet.

The DCC module is now configured to use addresses 1-12 for the MegaPoints outputs 1-12.

Send an accessory packet to any address in the 1-12 range and observe the servo move as each DCC command is received.

Example: Setting the DCC base address to 150

- Press and hold the left (*or top on earlier boards*) button for about one second until the red light illuminates.
- From your DCC controller send an accessory packet to DCC address 150.

The red light will extinguish as soon as the DCC module has discovered an accessory packet. The DCC module is now configured to use addresses 150-162 for the MegaPoints outputs 1-12.

Send an accessory packet to any address in the 150-162 range and observe the servo move as each DCC command is received.

DCC address ranges

Remember, in monitor mode, the first DCC accessory packet that is seen becomes the base address for the unit.

In Interface mode the module has 12 DCC addresses starting from the base address and incrementing upwards. For example, address range 1 – 12.

In Gateway mode the module has 192 DCC addresses starting from the base address and incrementing upwards. For example, address range 1 – 192.

Changing the mode

NOTE: The default mode is Interface mode and will connect directly to a MegaPoints Controller without adjustment.

Checking the mode is easy:

- If the left LED flashes then the unit is set for MegaPoints Controller board and is in *interface* mode.
- If the right LED flashes then the unit is in *gateway* mode and will only talk to a mimic panel processor.

To toggle the mode, follow this procedure:

- Press and hold the right (*lower on older boards*) button for 1 second until the light flashes three times.

Settings are remembered until changed.

Gateway mode

Further details of gateway mode will be available from the MegaPoints Mimic Panel documentation.

Diagnostic mode

The DCC module is equipped with a diagnostic mode to check communications between the DCC module and a MegaPoints Controller. This mode will toggle each of the 12 MegaPoints Controller outputs approx. once every 12 seconds in sequence.

To enter diagnostic mode, press and hold down both buttons while applying DCC bus power. When the LEDs illuminate, release the buttons. After about 12 seconds one LED will extinguish indicating the direction of the MegaPoints Controller output. This will reverse every 12 seconds with an accompanying LED change.

To leave diagnostic mode, recycle the power to the DCC bus or temporarily disconnect the DCC module from the DCC bus.

Further information

See the web site (www.loolee.org) for more information and links to instructional videos.

Contacting us

Web: www.loolee.org

Email: mp@loolee.org

Phone: 07846 409320

All parts ©MegaPoints Controllers 2014

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