

JTElectronics

Product Catalogue

We have a range of electronics and model railroad locomotive and layout related items available which are briefly listed in the following catalogue pages. Most products have PDF datasheets available for download that contain detailed usage and wiring information so please download and read the latest datasheet. If you are still unsure, I am happy to answer questions and update the datasheet information if required.

Our expertise is in electronics design and repair. We don't construct model railroad layouts or repair locomotives, so our technical knowledge of these systems is very limited. We recommend you discuss your requirements with a local train group who can give you correct advice and information based on their experience in model railroad systems.

For more details of products, including PDF datasheets for most products, please visit the products page on my website:

<http://www.JTElectronics.co.nz/products>

Currently, sales are done via TradeMe which greatly simplifies the processes of ordering, payment, and shipping of items to you. You can easily find the products by searching TradeMe for their product names, add the required items and quantity to your TradeMe cart and finally selecting the appropriate shipping option and check out/pay via TradeMe's "Ping" payment system, or bank transfer. TradeMe will automatically send emails with payment instructions, and package tracking information. I don't manually send these messages so if you haven't received these emails, please check your email "spam" folder.

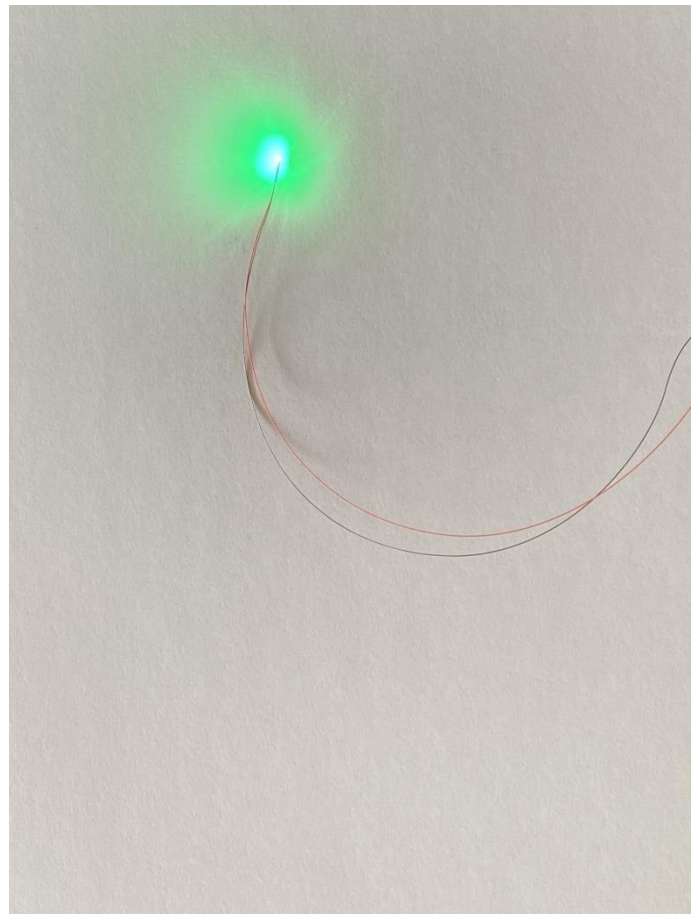
Click on the link below to browse my TradeMe product listings:

https://www.trademe.co.nz/a/search?member_listing=246224

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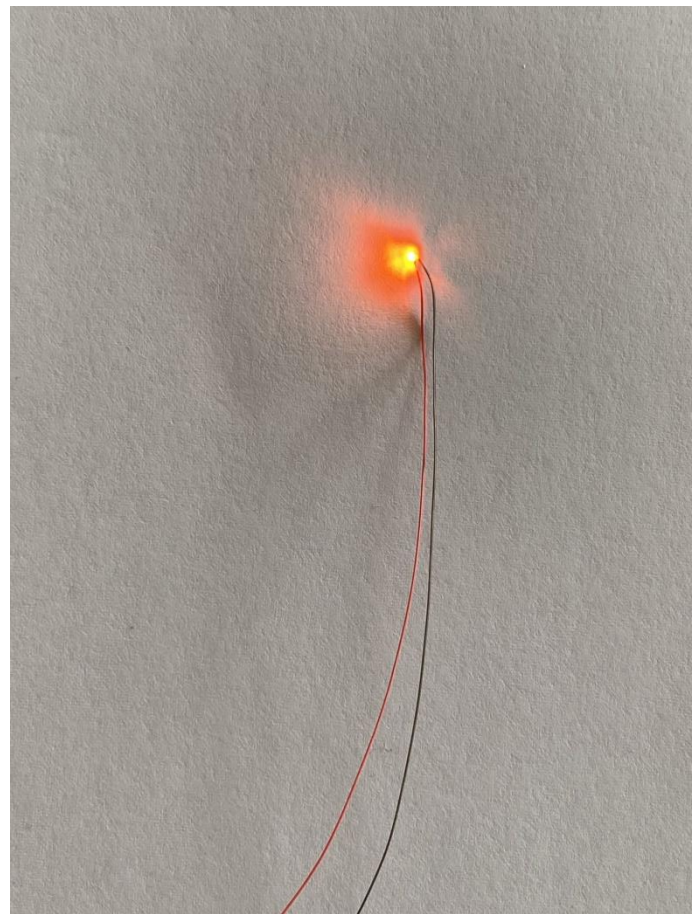
JTE0402GRN - 5x Pre-Wired 0402 Green LED's With 2k2 Resistors



Consists of five green 0402 LED's pre-wired so you could install them in models etc. with 2k2 resistors in the package to limit the current to about 5 milliamps from a 10 to 15 volt supply. Wires are about 250mm length with red wire positive and black (or blue) wire negative. These 0402 LEDs are available in warm white, red, green, and orange.

0402 size LEDs are VERY small approx. 1mm x 0.5mm and therefore very fragile so you need to be careful not to pull the wires hard, or something will break...

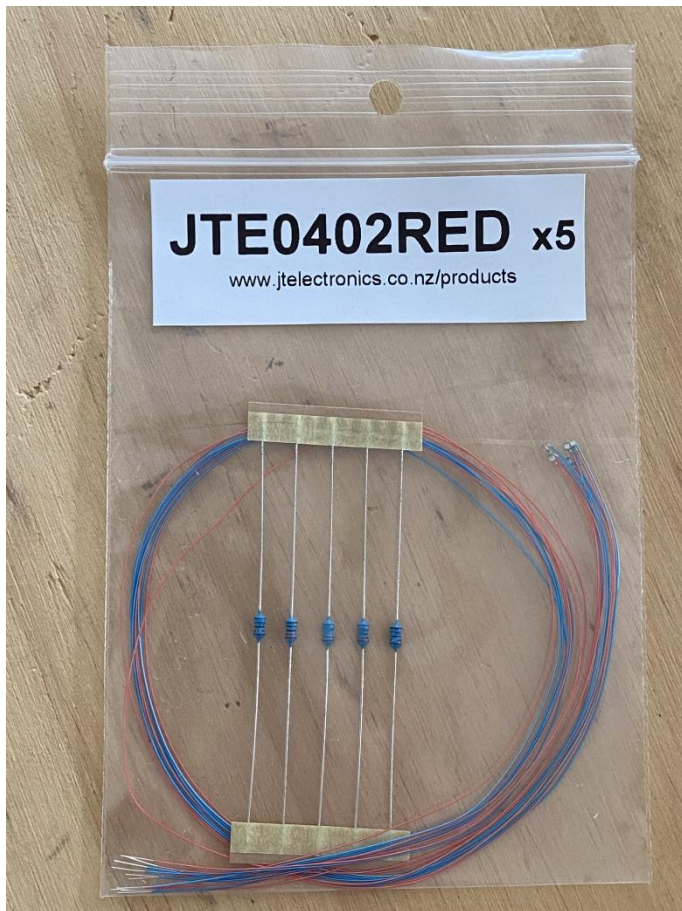
JTE0402ORA – 5x Pre-Wired 0402 Orange LED's With 2k2 Resistors



Consists of five orange 0402 LED's pre-wired so you could install them in models etc. with 2k2 resistors in the package to limit the current to about 5 milliamps from a 10 to 15 volt supply. Wires are about 250mm length with red wire positive and black (or blue) wire negative. These 0402 LEDs are available in warm white, red, green, and orange.

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JTE0402RED – 5x Pre-Wired 0402 Red LED's With 2k2 Resistors



Consists of five red 0402 LED's pre-wired so you could install them in models etc. with 2k2 resistors in the package to limit the current to about 5 milliamps from a 10 to 15 volt supply. Wires are about 250mm length with red wire positive and black (or blue) wire negative. These 0402 LEDs are available in warm white, red, green, and orange.

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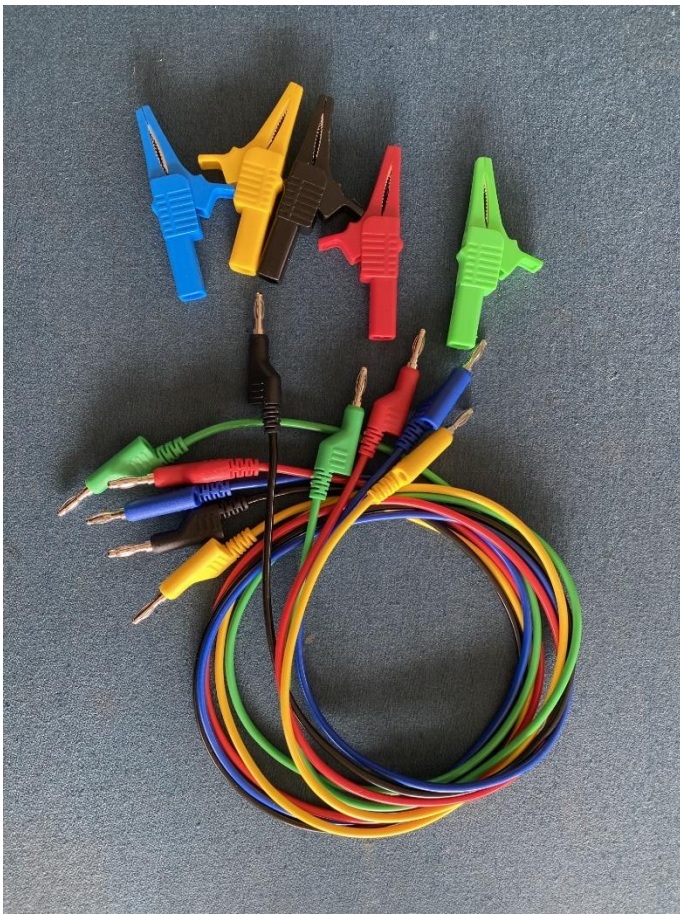
JTE0402WW – 5x Pre-Wired 0402 Warm White LED's With 2k2 Resistors



Consists of five warm white 0402 LED's pre-wired so you could install them in models etc. with 2k2 resistors in the package to limit the current to about 5 milliamps from a 10 to 15 volt supply. Wires are about 250mm length with red wire positive and black (or blue) wire negative. These 0402 LEDs are available in warm white, red, green, and orange.

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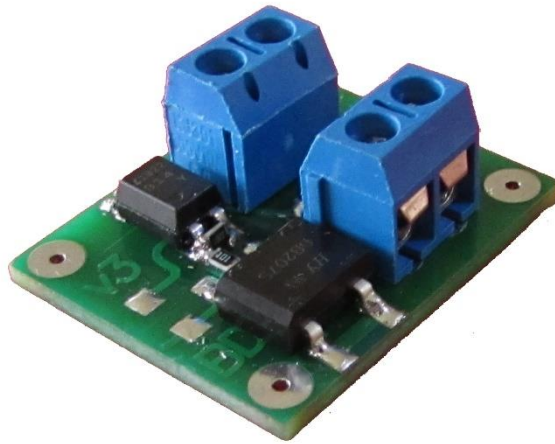
JTEBAN1- 5x 15A Coloured Banana Leads With Large Alligator Clips



Five 15A Coloured Banana Leads with Large Alligator Clips as in the photos. The leads are quite flexible and are 1mtr in length with 4mm banana plugs on each end. The banana plugs have a socket on the back so you can plug in a second "piggyback" lead if needed. The alligator clips are unpluggable from the leads, with jaws that open to about 30mm and have a fairly strong spring in the jaws.

These leads are great for plugging into your multimeter, or data logger, for automotive fault diagnosis etc.

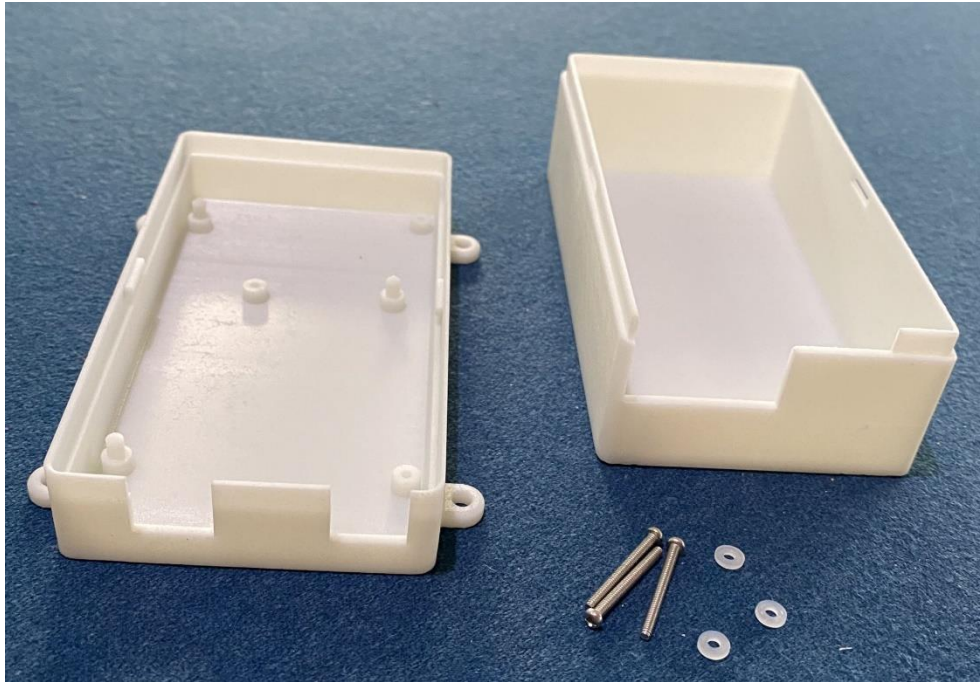
JTEBD1 - Block Occupancy Detector



A track block occupancy detector which is compatible with the JTEDCC-MEGA DCC controllers. By following and improving on well published designs of bridge rectifier-based block occupancy detectors, we bring you the JTEBD1 – a cheap and easy to use block occupancy detector. The JTEBD1 is wired in series with ONE track feeder wire to the block of track. It does not matter which feeder wire you use, and the JTEBD1 will detect the presence of a locomotive or rolling stock on that block of track due to the small increase in current drawn from your track controller.

You could also connect it to the JTECFx crossing flasher modules for grade crossing signals. They will even work with DC track controllers!

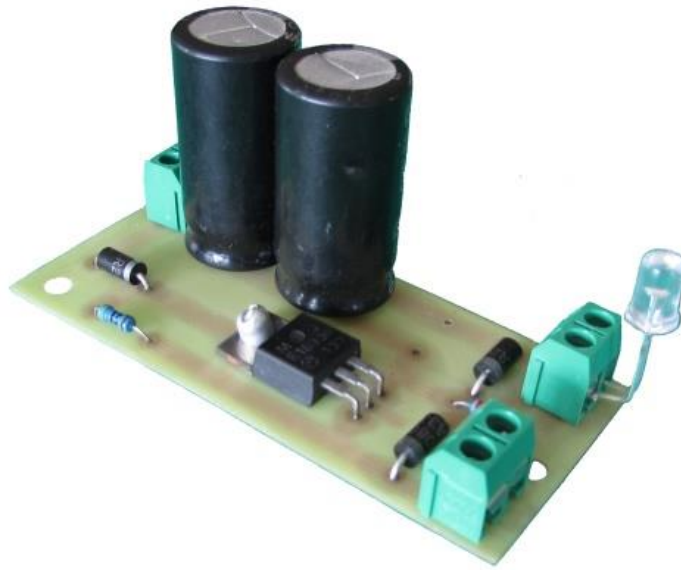
JTECASE1 - Arduino UNO or Arduino MEGA2560 Compatible Case for up to 3 shields



The JTECASE1 is a plastic case for your Arduino projects to keep them securely mounted and protected from contact with other objects. Unlike other available cases, the JTECASE1 has room for up to two additional shields stacked on top of the microcontroller shield. Once your shields are mounted inside the case, the two halves of the case system simply snap together and can be separated if needed by squeezing the sides of the top half to release the catches. There are cutouts on one end for easy access to your microcontroller shield USB and power connectors. If you need access to other areas of the shields you can easily cut, drill, or file out areas of the plastic case as required.

The JTECASE1 is an Ideal case for housing the JTEDCC-MEGA systems or other projects using Arduino UNO or MEGA2560 compatible shields.

JTECDU - Capacitor Discharge Unit CDU for model railway

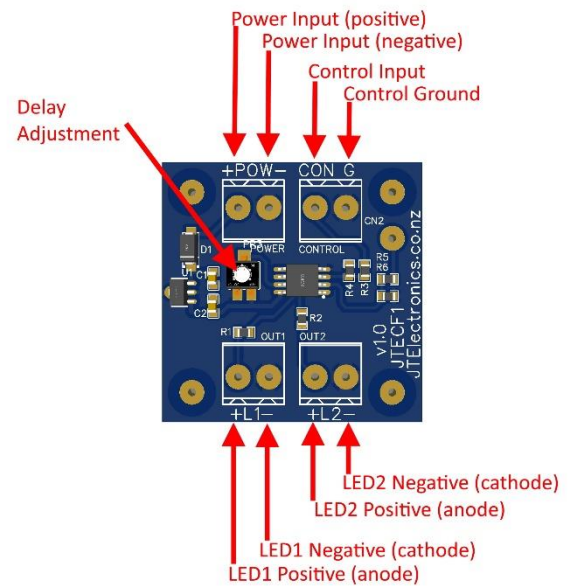
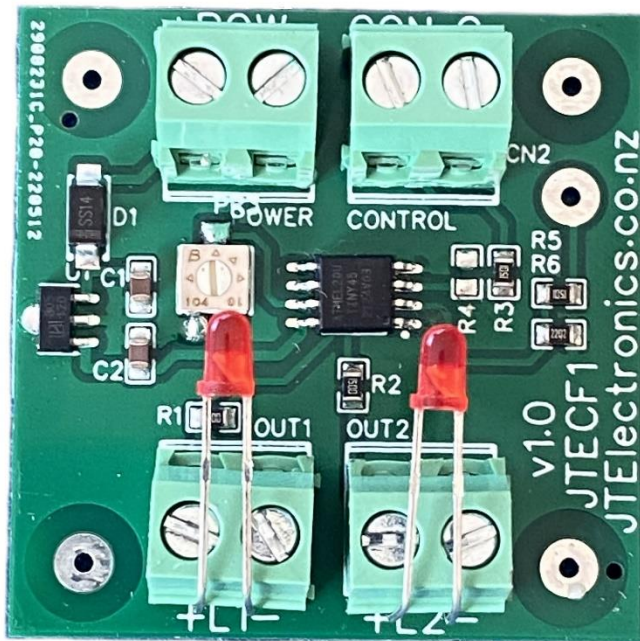


This CDU will allow switching a Point/Turnout motor without fear of burning out the motor coils if a control switch gets stuck in the “ON” position – most commonly when the switch contacts get welded together.

The CDU will send a large but short pulse of power to the point motor which will operate it normally, and if the control switch is kept operated the current to the point motor is then limited to a very small safe level of around 50mA. Once the control switch is released, the CDU charges again and is ready for operation in less than 1 second.

An orange LED is “ON” when the capacitors are charged and ready to switch the point motor, and “OFF” when there is a problem (like output is shorted or a control switch is stuck in the ON position).

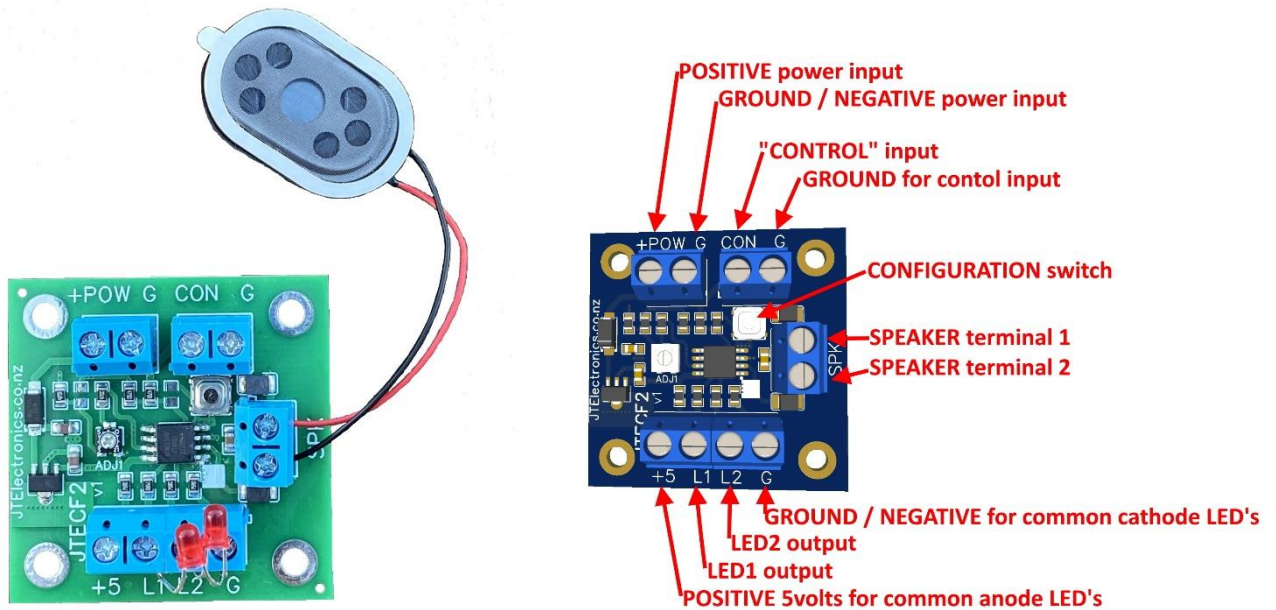
JTECF1 - Grade Crossing LED Flasher



A low cost Grade Crossing LED Flasher module which is compatible with the JTEBD1 block detector, the JTEILD infrared locomotive detector, or reed switches to "activate" it. The JTECF1 comes with an "Output Delay" adjustment which keeps the LED's flashing for a time after the input "Control" signal has been removed and can be adjusted from about 1 to 30 seconds. This helps to ensure smooth operation even with dirty tracks, or insulfrog's etc. where the control signal may disappear for a short time. Flash rate is not dependent on supply voltage, unlike some cheaper flasher units available.

Don't forget to check out the JTECF2 - Grade Crossing LED Flasher WITH SOUNDS - just search TradeMe for "JTECF2".

JTECF2 - Grade Crossing LED Flasher WITH SOUND



A low cost Grade Crossing Flasher module WITH SOUND, as shown in the listing photos, which is compatible with the JTEBD1 block detector, the JTEILD infrared locomotive detector, or reed switches etc. to "activate" it. There are 3 selectable sounds - mechanical bell, or electronic bell, as well as 1000Hz tone... Bell sounds can be heard in videos at: <http://www.jtelectronics.co.nz/products/videos/>. It is supplied with a speaker and two red LED's so you can quickly see (and hear!) it is working just by connecting power and joining the CON and G terminals. LED's can be connected in either "common anode" or "common cathode" configuration to suit a variety of existing wiring configurations. Please see the datasheet for more information on this. It comes with an "Output Delay" adjustment which keeps the LED's flashing for a time after the input "Control" signal has been removed and can be adjusted from about 1 to 30 seconds. This helps to ensure smooth operation even with dirty tracks, or insulfrog's etc. where the control signal may disappear for a short time.

Flash rate is not dependent on supply voltage, unlike cheap flasher units.

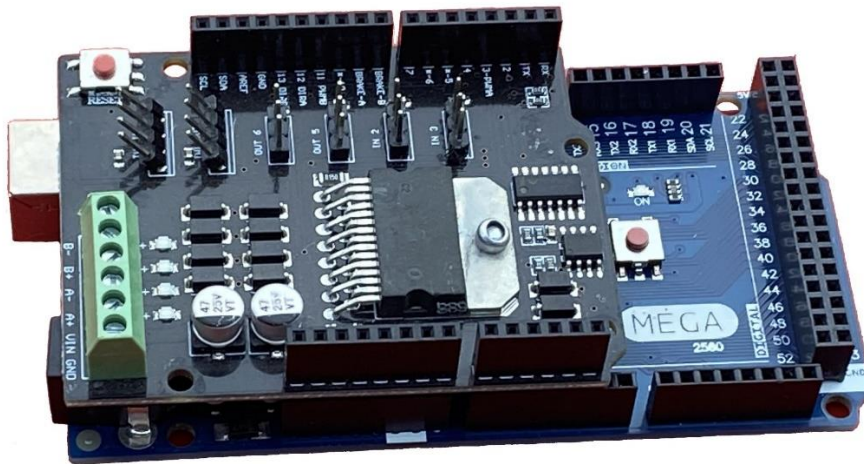
JTEDCC9WIRE - DCC Wire - 9 Colours - 30 AWG PVC Hookup Wire



Nine lengths of 30AWG 7x0.1mm conductor flexible tinned copper wire with each wire length approx. 1100mm, PVC coated in 9 colours - Orange, Yellow, Green, Black, Gray, White, Blue, Red, and Purple. Suitable for locomotive DCC conversion, or rewiring a DCC decoder, or other electronic uses... Outer diameter is 0.8mm very similar to what's wired to what is used on those 8-pin and 9-pin DCC decoders.

You get about 10 meters of wire in total.

JTEDCC-MEGA - DCC Controller Running DCC-EX Commandstation

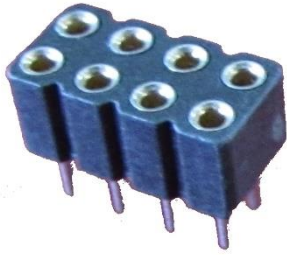


The JTEDCC-MEGA DCC-EX Controller Module is a DCC controller system suitable for "Tinkerer/Engineer Level" use (see DCC-EX.COM website for explanation). Also comes with a 300mm USB-A to USB-B cable. Don't forget to check out my JTECASE1 listing for a suitable enclosure / case. The JTEDCC-MEGA - a complete DCC track & accessory controller for a fraction of the price of commercial units. The JTEDCC-MEGA module comprises of an Arduino based microcontroller shield and a motor controller shield to power your tracks. It connects to your computer via a USB cable and connects to two tracks – your mainline, and a separate programming track. You can control your DCC enabled locos and layout using the free "JMRI" software. The JTEDCC-MEGA module is supplied fully programmed with the DCC-EX firmware and tested so you don't have to worry about hardware selection, component modifications, Arduino bootloaders and programming – it has all been done for you! All documentation and software for both the DCC-EX controller and the JMRI software is available online for free.

The motor driver shield is supplied to me direct from the manufacturer - it's not a quality control reject purchased from other online websites... They have enhanced thermal performance and have thick and strong header pins for a very reliable connection to the lower shield.

Don't forget to check out the JTEWIFI1 to operate this controller over WiFi, and the JTECASE1 as an ideal enclosure to house it all in.

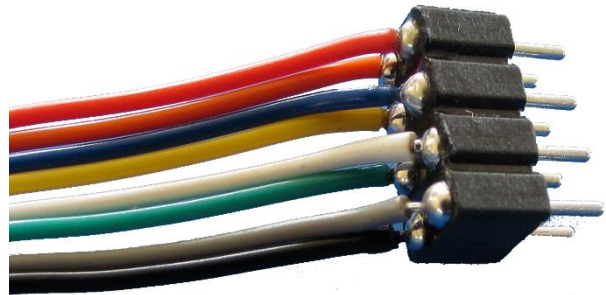
JTEDCCPS8 - 8-pin DCC Plug/Socket



**8-PIN
BLANK PLUG**



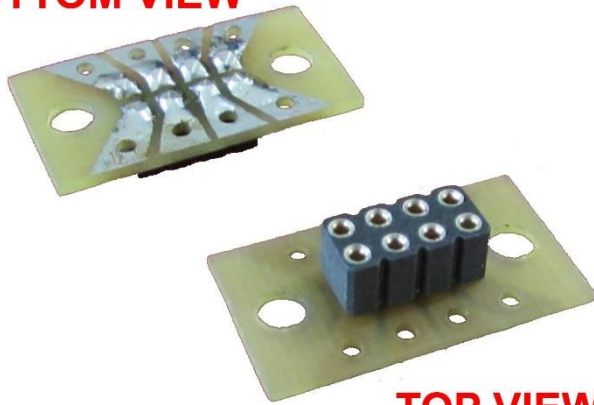
You could wire it like this:



An 8-pin plug / socket that can be used as either a plug or a socket compatible with 8-pin DCC decoders or locomotives. You can use it in DCC conversions, replacing a decoder plug, or as a "DCC blanking plug" when an 8-pin decoder is removed to convert the locomotive back to DC use.

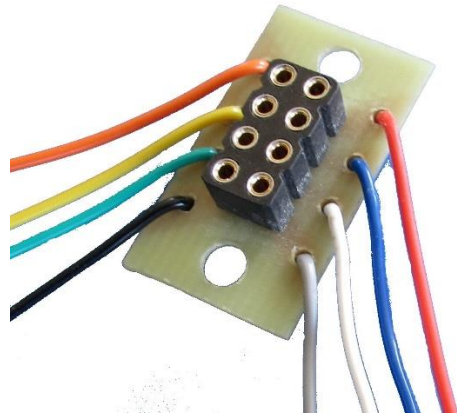
JTEDCCS1 - DCC Socket Adapter Board

BOTTOM VIEW



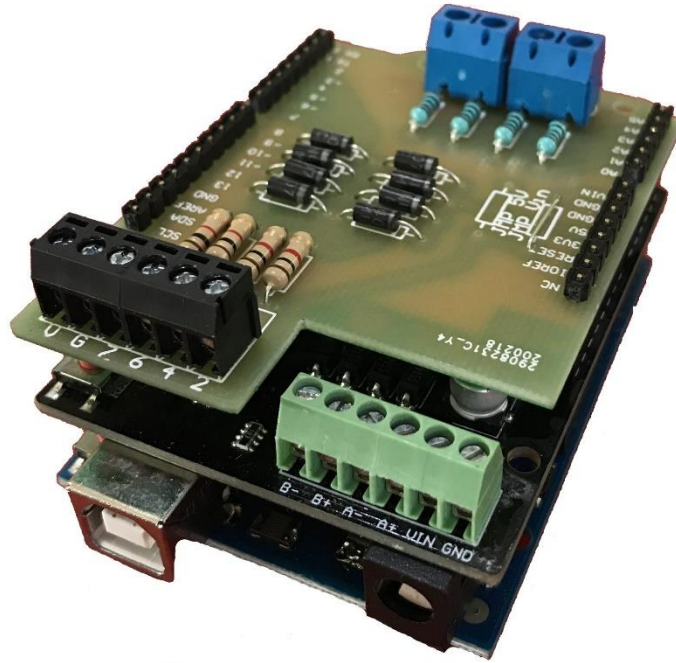
TOP VIEW

You could wire it like this:



A DCC Socket Adapter Board that will allow you to wire a locomotive to be "DCC Ready" where you can then plug in a standard 8-pin DCC Decoder into this DCC Socket Adapter Board.

JTEDCS1 - DC Locomotive Back & Forth (shuttle) Controller



The JTEDCS1 gives automatic back and forth (shuttle) control for a DC locomotive. Once the JTEDCS1 module is connected to your mainline track and you attach a sensor near each end of the track, the DC enabled locomotive will travel back and forth automatically under DC control. Sensors are not included; you will need to purchase these separately depending on your needs.

The JTEDCS1 is a simple DC locomotive back and forth shuttle controller and requires an additional DC power supply and two sensors to operate. It has many configurable options such as Minimum Speed, Maximum Speed, Acceleration and Deceleration times, as well as fixed and random wait delays at either end of the track. The sensors could be JETILD IR sensors, JTEBD1 block detectors, reed switches and magnets, or any other sensor that puts out a ground signal when activated.

If you need a **DCC** shuttle system, use the JTEDCC-MEGA controller and configure it with the DCC-EX "EX-RAIL" automation. You will also probably need the JTESEN1 sensor connection shield to make connection the sensors easy.

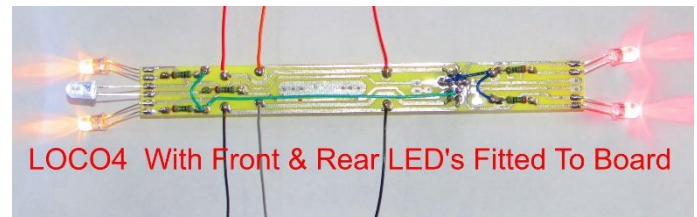
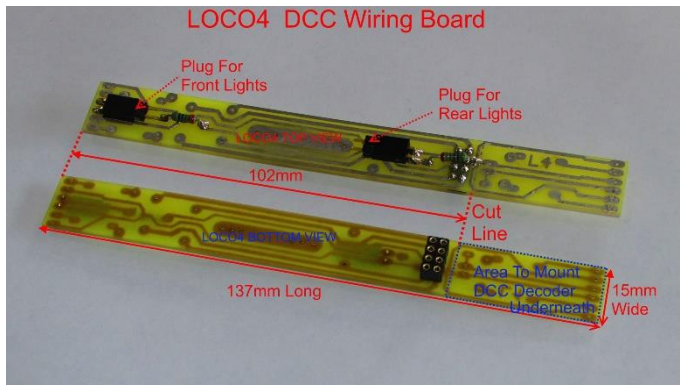
JTEILD - Infra-Red Locomotive Detector



The Infrared Locomotive Detector (JTEILD) device uses an infrared beam sent out and reflected to detect the presence of a passing locomotive, or other nearby object. You can use this detection signal to possibly operate crossing lights, turnouts, track power, auto-reverse loops etc. Or you can connect it to the JTECF1 or JTECF2 crossing flasher modules for grade crossing signals. In the past you may have used reed switches, but the locomotive would need modification by adding a magnet to the bottom of it. This attracts unwanted metal or dirt build-up and can get caught on the track causing a derail.

Using this JTEILD module for train detection requires no modification to the locomotive or railcars!

JTELOCO4 - Locomotive DCC Wiring Board



The JTELOCO4 board has versatile solder pads and solder tracks at both ends for possibly mounting LED's directly on the board, for front lights, rear lights, ditch lights etc. You can use these solder pads for whatever other wiring may require e.g. extension of DCC sound speaker wires... but check your wiring carefully!! This will save you heaps of time and make installation easy and tidy by running short wires from the pads on the board to the track pickups and to the motor. Sockets and plugs are provided to connect the front and rear lights to the board. There's also 1k ohm resistors fitted on the board so you can directly connect LED's - remove the resistors and replace with jumper wire if you want to use 12V lamps/globes.

The JTELOCO4 board has approx. 35mm blank area adjacent to the DCC socket for mounting the DCC decoder underneath. You can cut this blank area off along the "Cut Line" if you don't want it.

JTELR1 - Latching Relay Board – Expandable

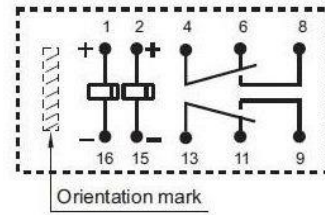
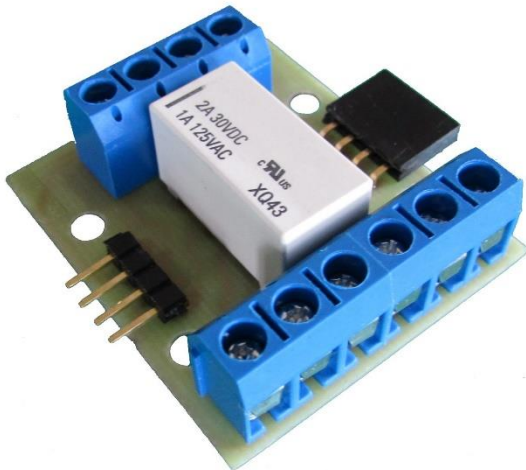


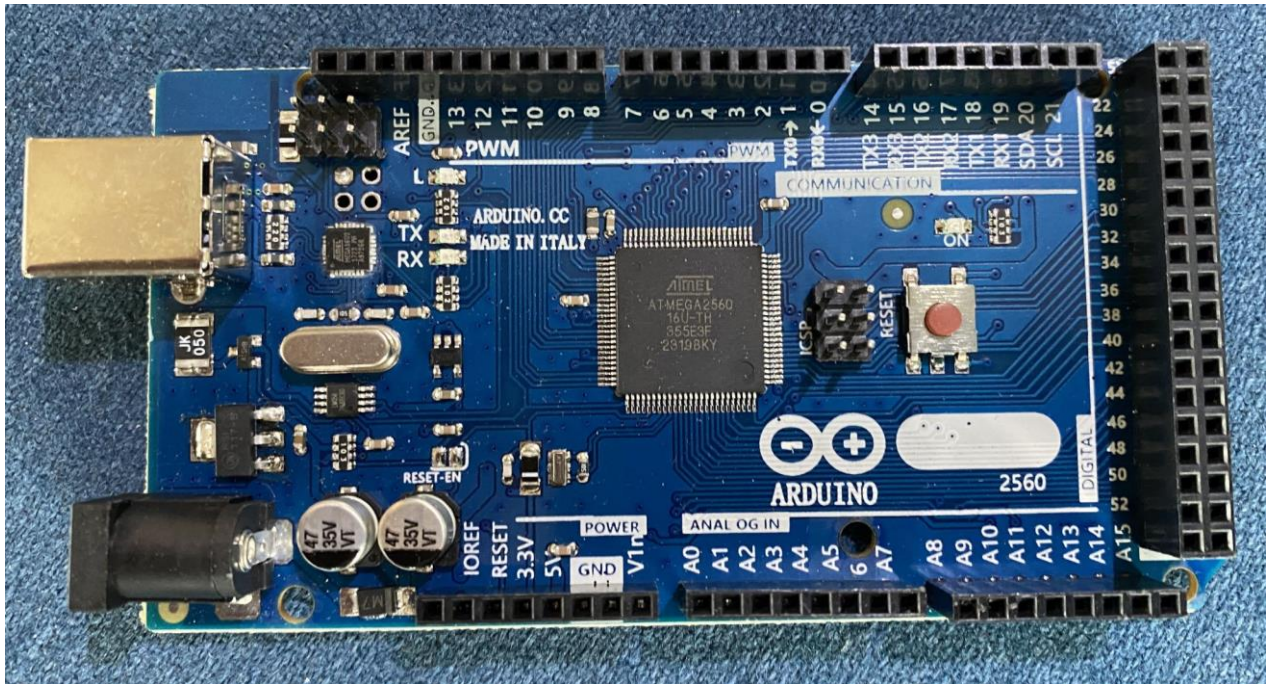
Diagram shows the "reset" position
Energize terminals 1 and 16 to "set"
Energize terminals 2 and 15 to "reset"

LATCHING RELAY DIAGRAM

The JTELR1 is a "Latching Relay Board" which has a latching relay with two control coils to "Set" or "Reset" the two sets of output contacts. The latching relay will stay in its current state after power is removed from either control coil, so it has a "memory" of the last state it was in. Use on model railway layouts to control power to tracks, particularly around turnout/points and can be controlled from the same signals as the dual coil type turnout/point motor. The control coils are very sensitive and will operate either from a short pulse (e.g. push-button or reed switch below track) or a steady voltage. Screw terminals provided for connections to both "Set" and "Reset" relay coils, as well as the 6 (DPDT) relay contacts. Board is easily expandable to have more output contacts by simply plugging another board into the first one. The relay control signals are passed through to the second board and operate in the same way, now with extra output contacts...

Many other uses e.g. control of signalling lights, auto-reverse loops, back & forth lines etc.

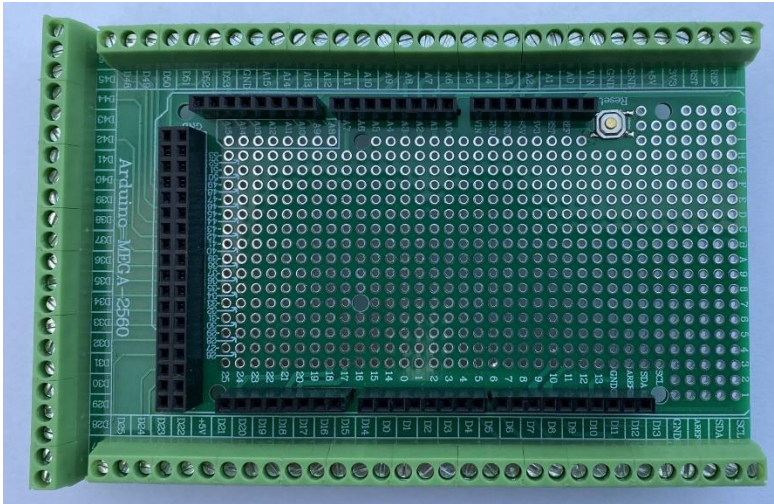
JTEMEGA2560 Arduino Mega2560 Shield - used in JTEDCC-MEGA modules



An Arduino MEGA2560 microcontroller shield with 5V regulator installed as specified in the designer's schematic diagram, NOT the lower spec'd AMS1117 type, and with an Atmel USB-Serial chip, NOT the CH340 USB-Serial device. Reliable!

This is the microcontroller shield we use in the JTEDCC-MEGA DCC Controller.

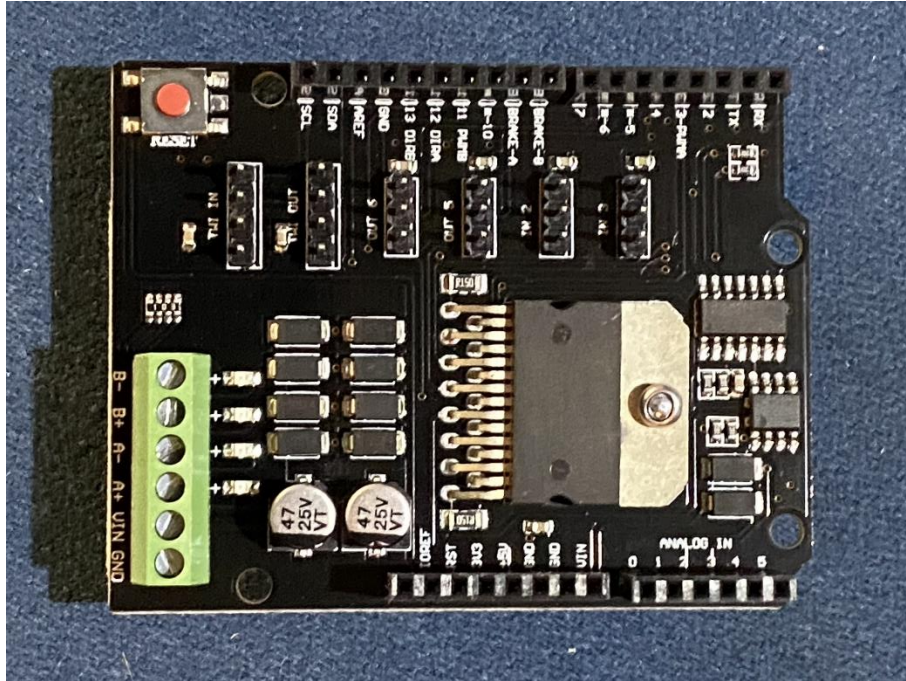
JTEMEGATERM - Arduino Mega2560 Screw Terminal Shield



A Screw Terminal Shield that can be plugged into an Arduino Mega2560 shield to allow attachment of wires using the screw terminals. You can still plug other Arduino compatible shields (like a motor controller) into the top of the Screw Terminal Shield. Great for connecting many sensors for DCC track automation using DCC-EX firmware. When plugged into a Mega2560 shield, the screw terminals are connected DIRECTLY to the microcontroller pins so do not apply more than 5 volts DC to any pin or you will damage the Mega2560 microcontroller.

If you are connecting sensors, I would recommend a 2200 ohm resistor is connected to the screw terminal and therefore in series with each sensor input, to help reduce damage to the microcontroller... This may help but will not prevent damage!

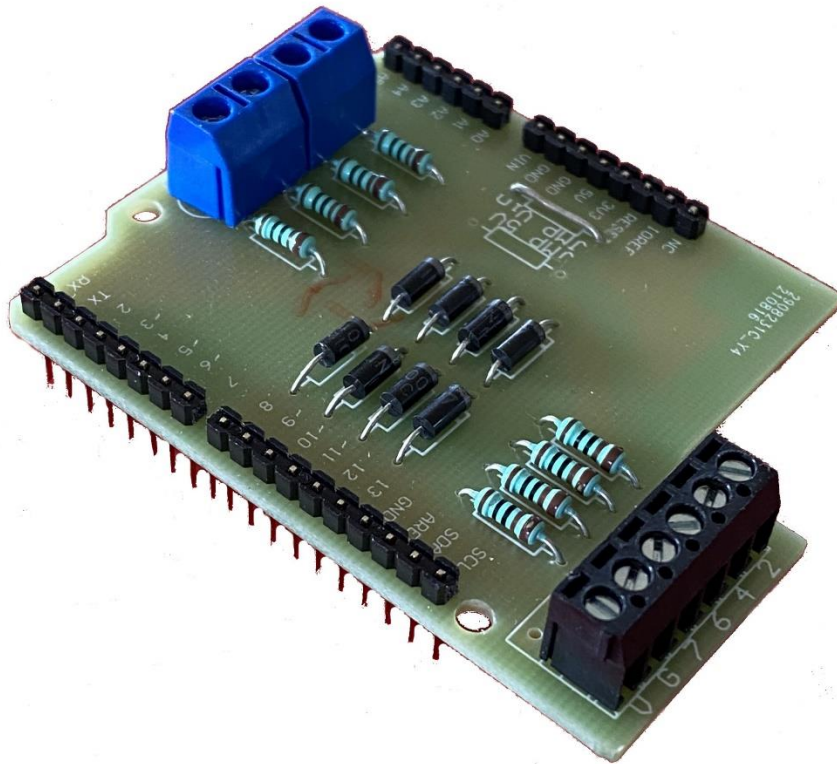
JTEMOT1 - Arduino Motor Shield L298HN - used in JTEDCC-MEGA modules



Replacement standard Arduino motor driver shield for the JTEDCC-MEGA, or JTEDCS1 modules, or can be used for other Arduino power/motor control projects that require a standard Arduino motor shield. These motor driver shields are supplied to me direct from the manufacturer - they are not quality control rejects purchased from other auction websites... and have thick and strong header pins for a very reliable connection to the lower shield and better thermal performance than other modules.

Please note that we don't remove the Vin jumper as the Arduino based DCC controllers I sell have the proper spec'd 5volt regulator fitted and can handle up to 20V into the Arduino Uno (powered via this motor driver shield)

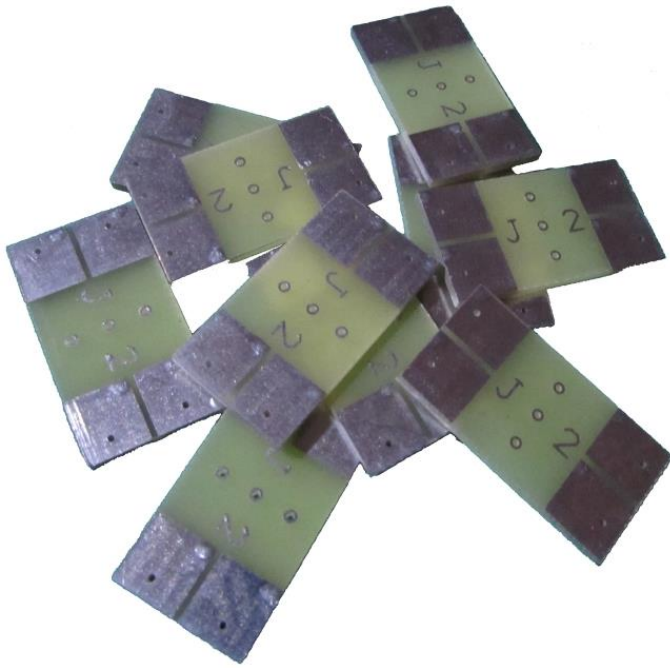
JTESEN1 - Sensor Connection Shield to connect sensors for track automation



A "Sensor Connection Shield" to connect sensors to a DCC-EX CommandStation DCC controller like the JTEDCC-MEGA for track automation. Track automation commands are run using the DCC-EX CommandStation EX-RAIL system. More info on the EX-RAIL system is available at: <https://dcc-ex.com/ex-rail/index.html>

Sensor terminal connections are D2, D4, D6, D7 and A2, A3, A4, A5.

JTETJ2 - Track Rail Joiner HO Scale



The JTETJ2 track rail joiner can be used to join HO scale flextrack simply and reliably by soldering the JTETJ2 track joiner to the track rails. You just remove a few plastic “sleepers” from the ends of the flextracks to be joined, slide the JTEJ2 board under the tracks and solder the outside of the track rails to the JTETJ2 track joiner. IDEAL when you need to cut the track for block detection as the cut track will stay perfectly aligned!! Board Dimensions Approx. 30mm width x 16.5mm length x 1.6mm thick

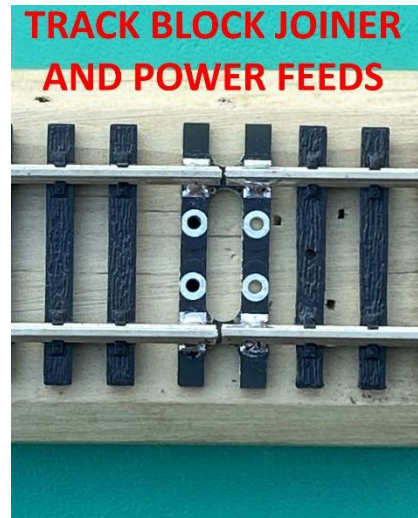
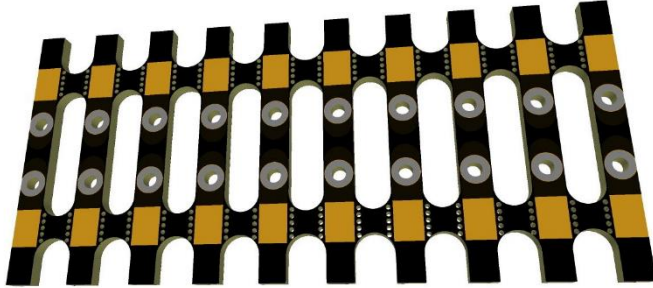
FEATURES:

- Three holes near the centre of the JTETJ2 board to allow fixing to the roadbed with small nails etc.
- Holes in the four corners of the JTETJ2 board to allow soldered connections to your track wiring. You can even hide the wiring by enlarging these holes and feeding the track wiring up through the roadbed.
- Gap to allow electrical isolation of two pieces of track.

ALSO - Check out our JTETT1 track ties- these can also be used to physically join and electrically isolated blocks of track while looking like normal plastic track ties.

JTETT1-HO - Track Tie / Power Feeder Boards

3-D RENDERING

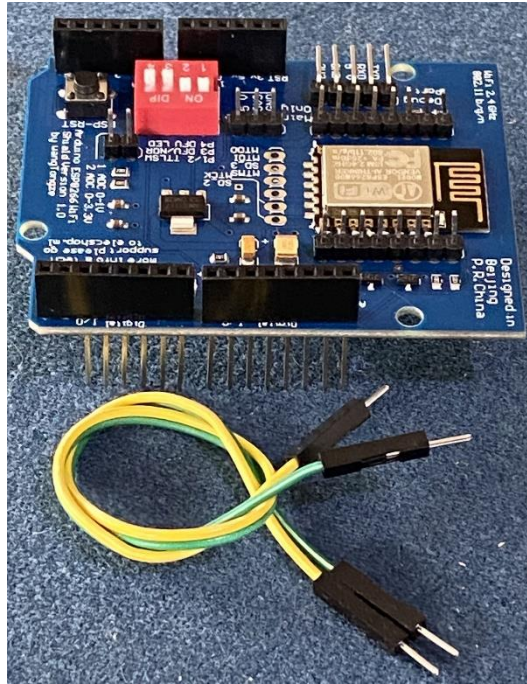


A strip of 10 JTETT1-HO track tie / power feeders which can be used to connect power feeder wires simply and reliably to HO scale track. Since the JTETT1-HO is soldered to the track rails, it will also keep the track rails at the correct spacing. You could also snap off two adjacent ties to join (and power) two track blocks while keeping the rails perfectly aligned.

FEATURES:

- Comes in a strip of 10 track ties
- Individual track ties, or pairs, can be “snapped” off and sanded/filed
- They are black so look very similar to plastic track ties
- Can be used to feed power to DC or DCC track systems
- Perforated holes so you can easily “snap” off individual track tie boards

JTEWIFI1 - DCC-EX EX-CommandStation Compatible WiFi Shield



A DCC-EX EX-CommandStation Compatible WiFi board, with required software installed and tested. Also supplied with the required jumper wires. Add WiFi connection capability to the JTEDCC-MEGA DCC-EX EX-CommandStation system and run your DCC system from your phone or tablet over WiFi.

We recommend the “Train Driver” app as it allows you to control track power, and turns on track power when it connects to the WiFi shield.