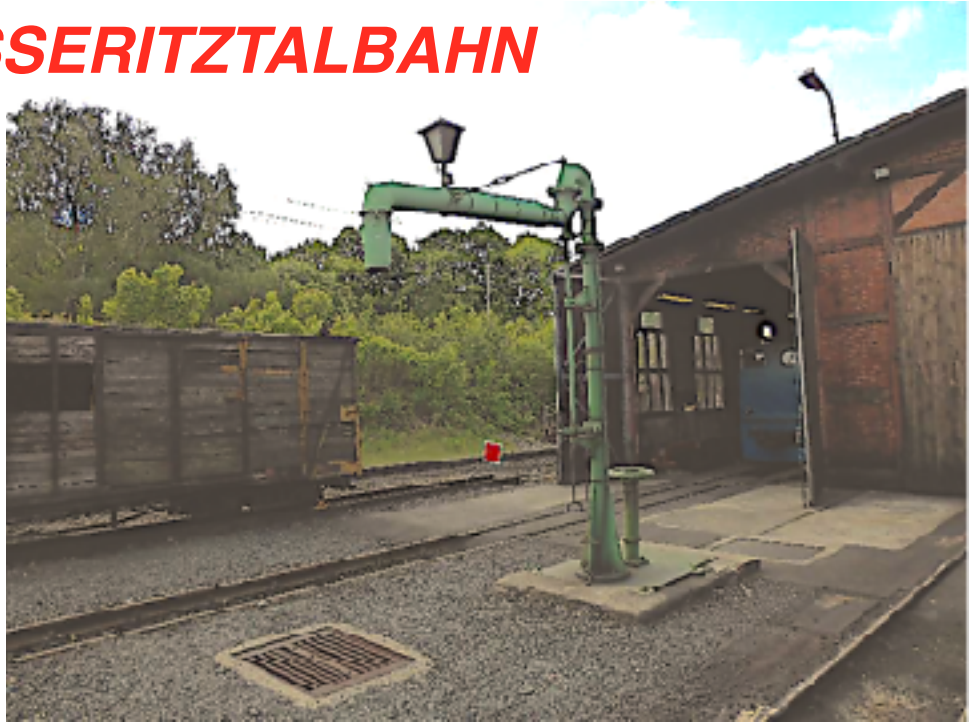


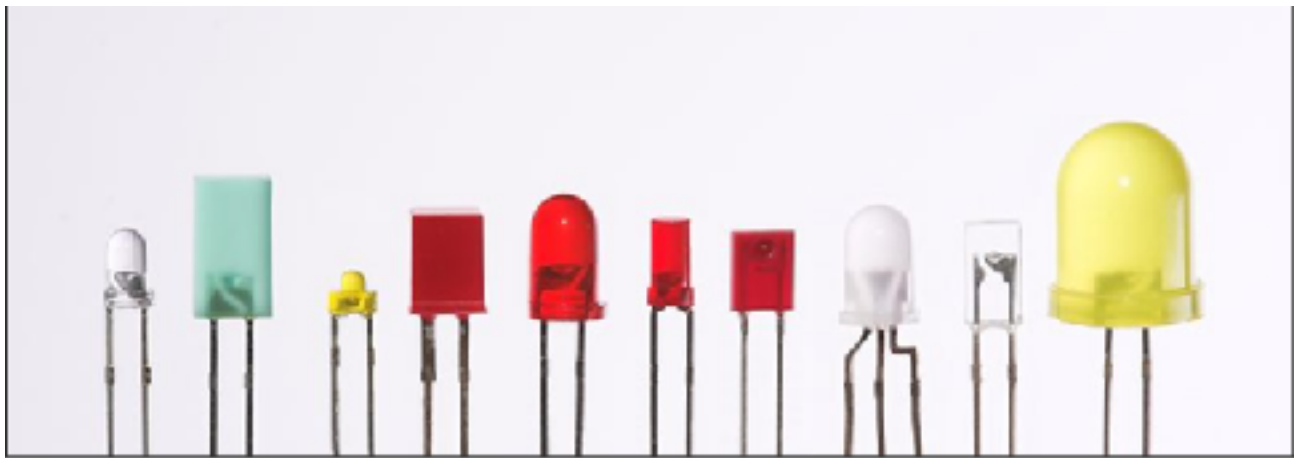
THE WEISSERITZTALBAHN

*A 750mm
gauge line
near
Dresden,
Germany.*

See page 4



KEEPING YOU INFORMED



Shine a light! - see page 8



"A nose by any other name"

See page 7

JULY 2017
ISSUE 48

CONTENTS

REGULAR FEATURES

Editorial	3
Club Contacts and Web Addresses	12
The Last Word	12

FEATURE ARTICLES

The Weisseritztalbahn (a German narrow gauge railway)	4
LEDs for Railway Modelling - part 1	8

GENERAL ITEMS

What a Picture	7
Snakes or Trains?	7
Winning by a Nose?	7
.....And if Your Layout Has Sharp Curves....	11

ACKNOWLEDGEMENTS

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IT'S UP TO YOU

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You can help to maintain that integrity by 'keeping in touch' let us know what you think, what you are doing with your hobby. If you have any ideas about how this Newsletter could be improved, what you like or don't like about it, then please contact the Newsletter either through "Over to You" or to the Editor direct at.....

"MMRG-NewsLetter@hotmail.com"

THE NEWSLETTER

YOUR TEAM (so far)

Editor	Mike Hebblethwaite
Research (internet trawling!)	Mike Hebblethwaite
The fun bits	Mike Hebblethwaite
	Alek Adamski

If you would like to join the team and set up a regular (or even occasional!) feature, please contact the Editor. At the moment this Newsletter is too much a "one man band"! All contributions are welcome.

CONTACT THE NEWSLETTER

The Newsletter now has its own e-mail contact address, which is :-

"MMRG-NewsLetter@hotmail.com"

We hope we will have a very full 'in-tray' each month!

Any ideas about what we should include, any contributions you may wish to make about yourself and your interests, any news, recommended hobby outlets or just a general "Hi" to fellow readers would be very welcome.

It's your Newsletter! Use it.

NEWSLETTER POLICY

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COMMERCIAL ADVERTISING

Our policy, at present, is that this publication will carry no commercial advertising. It is a Newsletter! However, should you wish to place an "advertising article" concerning a new product, an up-grade to an existing product or a more general "of benefit/interest to railway modellers" article, please contact "The Editor" via e-mail initially. It is understood that such features do not carry the endorsement of MMRG unless specified.

AND FINALLY

This Newsletter is produced for and on behalf of Macclesfield Model Railway Group as part of their 'constitutional' obligation to promote and support the hobby of railway modelling. MMRG, under it's own rules, is obliged to pursue 'educational' opportunities within the hobby and this Newsletter is proud to play its part.

No price can be placed on the value of 'education', which is why this Newsletter is, and always will be, free.

EDITORIAL

Every once in a while there drops into my 'in-tray' an article that is the answer to my prayers.

Not that every single article isn't very much appreciated and highly valued but, just sometimes, there is one that hits 'the right spot' at the right time.

This month's article by Ian Sheldon, "LEDs for Railway Modelling", is just such an article.

I have no fear of modelling rolling stock, buildings and scenery but when it comes to 'electrics' I seem to suffer from 'Utterly Gormless Syndrome' (UGS). I consider it a great success if I install a doorbell and it actually rings or chimes!

UGS can manifest itself in many ways, so far as I am concerned. Someone mentions relays, resistors, potentiometers, diodes and the like and there descends a kind of barely see through fog throughout what passes for a brain and the subsequent conversation takes on an 'other worldly' air. The first symptom of UGS is usually a completely blank facial expression closely followed by farcical 'knowledgeable' nods of agreement and feigned understanding at singularly inappropriate points in the conversation. I have seen fellow sufferers display exactly the same symptoms on many occasions and with a multitude of subjects and I strongly suspect that UGS is endemic within the population! It (UGS) suffers from little medical understanding (I 'Googled' it on several medical websites to no avail) and, unfortunately for mankind, can be triggered by any and every subject under the sun! UGS can, of course, have serious consequences and explains many of the

problems we, as a world, suffer - albeit on an international if not global scale! At a more mundane level, as with 'electrics', it causes little more than embarrassment that such a gormless state can be reached so readily!

You can imagine my initial dread, then, when Ian's article first arrived. It even mentioned LEDs in the title heading!

It was with some trepidation that I prepared it for inclusion in this Newsletter. This involved reading it and not just once and, to my surprise (and not inconsiderable relief!), found that I could actually understand it.

I not only understood it, but as each question about the subject occurred to me, Ian seemed to provide the answer.

He has done much to allay my fears about installing more ambitious lighting rather than just a few, standard, 12v bulbs.

And it couldn't have come at a better time for me as I am about to embark on the second part of the 'jetty project' which requires the construction of the building it serves. This building will look so much better (I hope) with interior lighting. The only problem now is that I am going to have to build an interior that can be lit up

.....Oh, dear! I can feel another bout of UGS coming on.

The point is that UGS is curable! All that is needed is the right help and support. If you suffer from UGS with any model railway subject, please let me know and I will do my best to find articles that may be of help to you.

TOGETHER WE CAN BEAT UGS!

Macclesfield Model Railway Group

supports the development of

“MegaPoint Controllers”

through the On3o Group

THE WEISSERITZTALBAHN

Dominic Emery

Ascension Day (Father's Day) is a public holiday in Germany and many firms close on the following Friday. As my girlfriend unfortunately had to work, I had a free day. I decided to visit a narrow gauge railway in Saxony that I hadn't been to for a long time. It was not until I found my old article that I had written for the MMRG Newsletter ("Home and Distant" in 1990!) that I realised how long ago. I still had the original Deutsche Reichsbahn ticket!!



The Weisseritztalbahn route shown in yellow

The Railway is 750mm (2ft 5.5in) gauge and starts in Freital-Hainsberg, which is south-west from Dresden on the standard gauge line between Dresden and Werdau. The first part of the Weisseritztalbahn was opened on



The station building at Dippoldiswalde



The Weisseritztalbahn route shown in black with the newly rebuilt section shown in grey.

the 1st November 1882 between Freital and Schmiedeberg, the rest into Kurort Kipsdorf nearly a year later on the 3rd September 1883. After the opening out of the only tunnel on the line in 1905 it enabled transporter wagons to be used. Between 1907 and 1912 part of the line had to be rerouted around a newly built dam in Malter. It was built to stop flooding of the line and valley. The next major development was between 1932 and 1934 when the station at Kipsdorf had to rebuilt and enlarged because of increasing traffic. The line became part of the Deutsche Bahn (DB) but with the increasing availability of more and better lorries, goods traffic ceased on the 31/12/1994.

The railway suffered a severe setback on the 12/08/2002 when extreme flooding caused so much damage that traffic on the line ceased. On

Christmas Day of the same year, the first part of the line was reopened from Dippoldiswalde to Seifersdorf.

The DB did not have any interest in spending millions rebuilding the line, so on the 06/10/2004 the BVO Bahn GmbH took over the operation of the line and began with planning the rebuilding of the damaged infrastructure. The actual rebuilding work started on the 01/11/2007 with the reopening of the first part from Freital-Hainsberg up the valley to Dippoldiswalde on the 13/12/2008.

At long last, the rest of the line from Dippoldiswalde to Kurort Kipsdorf will officially be reopened on the weekend of the 17th and 18th June this year having been closed for the last 15 years.

I travelled the 15km between Freital and Dippoldiswalde with its 7 stations and 25 bridges. There are 6 coal fired steam hauled return trains everyday and I bought a day rover ticket which allowed me to do two complete trips before I had to head back to Berlin. I did arrive early for my planned first trip and was busy taking photos of the rolling stock parked up in the sidings including 99 1790-7 VII K that had not been in use for years. There was also a small standard gauge industrial shunter that looked very much like a Piko



Standard gauge shunter at Freital-Hainsberg

model I had bought years and years ago. I spoke to a member of staff who said I could have a look around the engine shed which was good because there were some interesting engines hidden inside. There were 2 VII K steam engines, one in reserve (99 1777-4) and one being worked on (99



VII K 99 1793-1 receives some attention whilst VII K 99 1777-4 waits at the front of the loco shed as a reserve locomotive

1793-1). A small diesel shunter and a Bo-Bo Class L45H number 084 diesel built in Romania with (approx) 450 hp. were also in the shed along with a rail mounted digger.

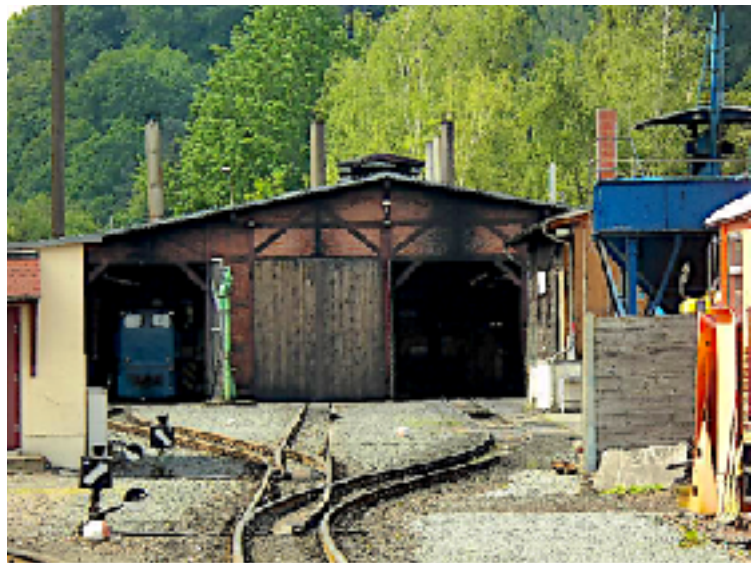
You cannot buy any food at the station or on the trains so I walked to the nearby bakery to buy some lunch. Drinks and souvenirs can be bought in a ticket office situated just inside the entrance to the main line station. You just need to walk through

the station building to get to the narrow gauge line. For the main line trains you have to take the lift or walk up the stairs.



99 1734-5 takes on water in preparation for her journey down the line to Dippoldiswalde

Our train engine was 99 1734-5 a VII K -Einheitslok and was built by the Saehsische Maschinenfabrik Chemnitz in 1928. Our train was made up of 8 vehicles, 6 closed coaches, an open coach and guards/luggage van.



The loco shed at Freital-Hainsberg



The journey itself was extremely enjoyable. The train leaves the station past the MPD and passes the remains of 2 abandoned Romanian diesels before going under the main line then climbing to the same height to cross over a



The train snakes its way towards Freital-Crossmannsdorf following the course of the River Weisseritz.

road. It then curves away following the course of the Weisseritz through Freital until it gets to the first station at Freital-Crossmannsdorf. We are still in the town and here is a Recreation Centre and a shopping centre. From here the train starts to climb up the Weisseritz Valley. We are in a very small and



One of the veranda carriages that made up the train

deep heavy wooded valley clinging to the valley side. I thought that the engine would have had to work harder climbing up the valley than it did. The speeds are quite slow with the engine not in a rush to get anywhere! This is not a problem as it gives the passengers more time to enjoy the countryside. The open coach near the middle of the train was very popular. However, I enjoyed having my coach balcony to myself and being able to film the train as it criss-crossed the many bridges on our way up to Rabenau. After that we didn't cross the river that often. After leaving Seifersdorf, where the original wooden station building and goods shed are Grade II listed, we were still climbing slightly up the opened out valley. Before we reach Malter we start to follow the side of the reservoir. We then follow the lake around till we get to the main intermediate station on the line at Dippoldiswalde. At

present it is the line's terminus and our engine took water before running round and taking the train back.

One thing I did notice was that a cleaner got on the train when it arrived at Freital and patrolled the coaches for any left rubbish. I will be going back again when the complete line is reopened. Perhaps my girlfriend will come with me next time?



An interesting feature. A double ended self propelled snow plough!



A sizeable water tanker for such a relatively small chassis.

If anyone is visiting Germany and staying near Dresden, then do try and get to Freital. It is well worth the trip!



Coming or going? A narrow gauge carriage sits on a standard gauge wagon waiting for attention.

WHAT A PICTURE!

Alek Adamski



WINNING BY A NOSE??

Alek Adamski



SNAKES OR TRAINS?

Alek Adamski





HOW DO THEY DO THAT?

LEDs FOR RAILWAY MODELLING

Part 1

Ian Sheldon

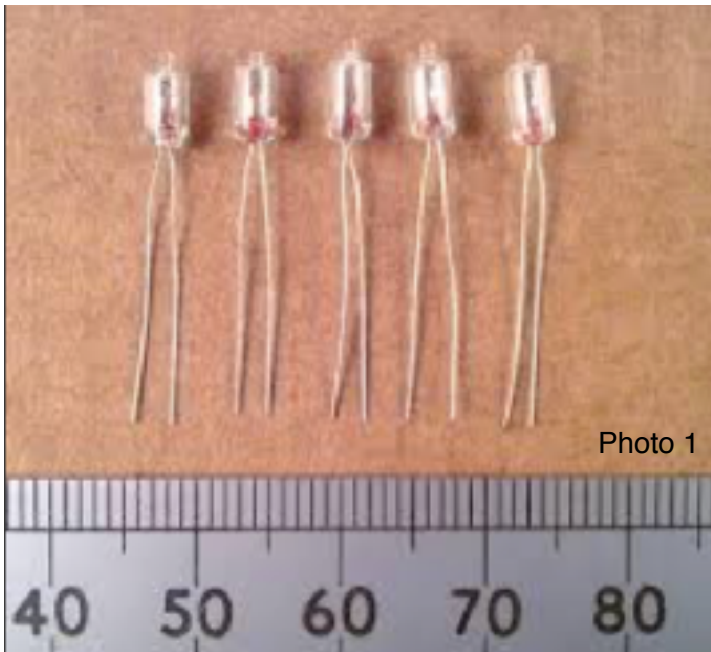
Background

There are many situations in railway modelling where we want to use some kind of miniature illuminated lamp. It may be a simple "Power On" indication, or to give illuminated head or tail lights on a locomotive, or to indicate on a control panel which way a turnout is set. Or we may want to illuminate the interior of our model buildings. There are two types of lighting commonly used for these purposes - incandescent bulbs and LEDs. This article attempts to shed some light (sorry!) on the choices available and how they might be used.

Incandescent bulbs

These are miniature versions of the lightbulbs which we use in our homes – or, at least, did until recently. A very fine filament of tungsten wire is heated by the electrical current flowing so that it glows white hot. The filament is enclosed in a glass bulb filled with inert gas. Until recently, these were the commonest type of lighting used for modelling.

Small bulbs used for model railways are generally sold as "grain-of-wheat"



bulbs (sometimes called "grain-of-rice"). (Photo1) They are available with various voltage ratings, though 12 volt types are common. To simplify installation, they can be bought with connection wires already attached. Their brightness can be controlled very simply by connecting to a variable voltage supply, such as a train controller, being sure to keep the voltage within the specification for the bulb. If the voltage is increased too much it will cause rapid failure of the bulb. They will operate happily on either AC or DC voltage, and they are not polarized - i.e. they can be connected either way round.

Although easy to use, this type of lamp has several disadvantages.

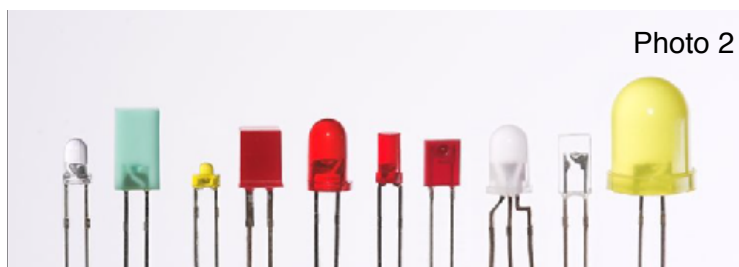
As you might expect from the way they work, these lamps get quite hot – in fact most of the power consumed is turned into heat, not light. As well as the risk of burnt fingers, this means that they are not ideal for installing in buildings. They can melt plastic, and will cause cardboard to become brittle. However, they can be very suitable as model street lights, where they are not in contact with buildings. This type of bulb does not have a long life; although suppliers do not quote figures, 1000 hours may be a typical figure. Physical shock and vibration, especially when illuminated, can cause the bulbs to fail quickly. Using a lower voltage than that recommended (eg. 9 volts for a 12 volt bulb) will much improve the lifespan of the bulb, and will also change the colour to a more yellowish tint, which can look more realistic.

LEDs

LEDs - Light Emitting Diodes - use a completely different mechanism to create light. They are a special kind of semiconductor, where electrons combine with holes to release energy in the form of photons – "packets of light". The wavelength (colour) of the light depends on the semiconductor material, so LEDs normally produce a single colour of light. Early types were red, green or yellow, but more recently blue and "white" ones have become available.

LEDs are much more efficient than an incandescent bulb; most of the energy is released as light. Although high power LEDs as used in torches and domestic light bulbs can become hot, the typical small LED used by modellers produces no noticeable heat.

Their other major advantage is their long life, which can be more than 10000 hours, provided they are used correctly (more later!). They are cheap, costing just a few pence if bought in quantity, and available in a very wide

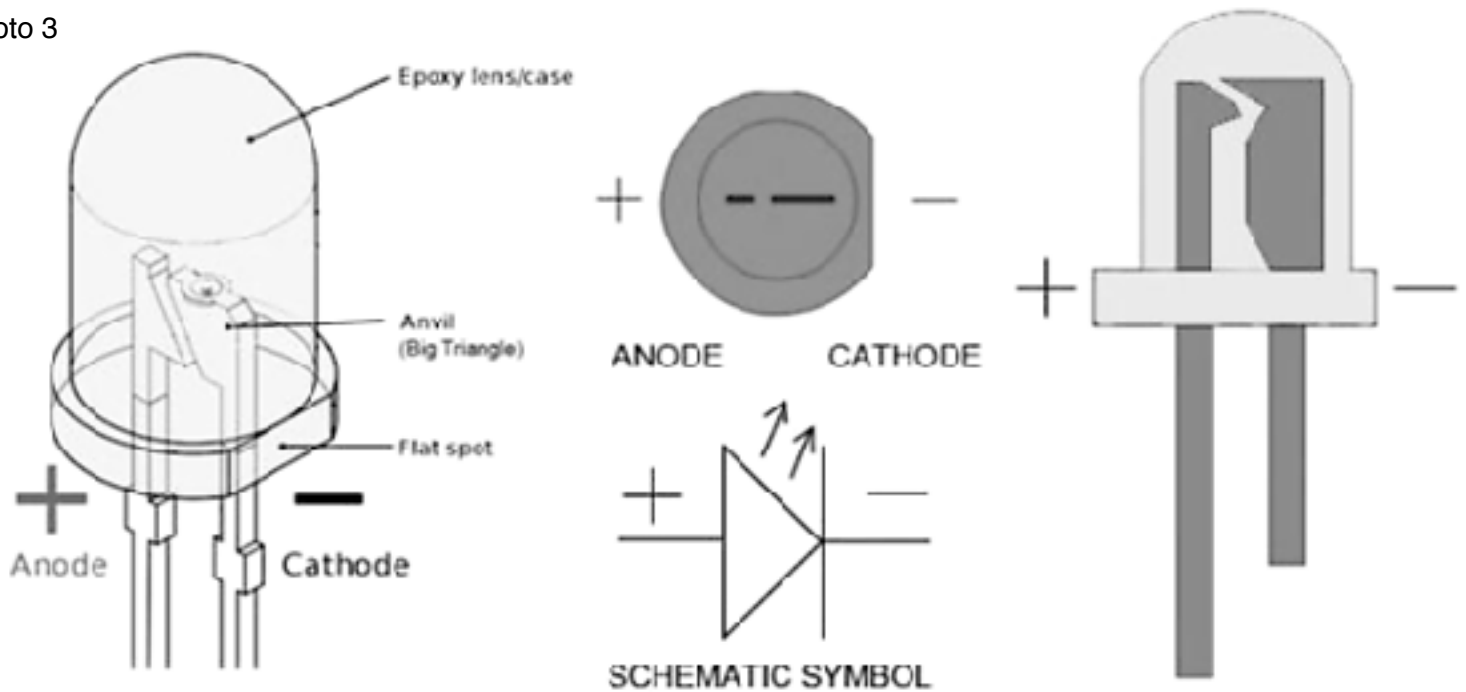


range of colours, sizes and shapes (photo2) The traditional style of LED package is a small cylinder with a domed end, with the wires emerging from the opposite end. These are very widely available in three sizes - 3mm , 5mm, and 10mm diameter - while other sizes are sometimes available from specialist suppliers.

Using an LED is slightly more complicated than an incandescent bulb, so this is where the technical stuff begins, but I will try to make it simple.

A diode is a component which only conducts electricity in one direction, and not the other. Therefore the most important point is that LEDs must be connected the correct way round.

Photo 3



Unfortunately, they are not clearly marked with polarity! Fortunately, there are three methods which can be used to determine which way round to connect them. (Photo3).

1. The positive side ("anode") usually has a longer lead
2. Some LEDs have a flat side on the head. If so, this is the negative side of the LED.
3. If you look closely into the LED, if necessary through a magnifier, you will see two plates almost touching each other. The biggest plate is usually the negative side.

Please don't try to identify the correct orientation of an LED by trial and error. If you connect an LED the wrong way round, it may well be damaged, so please take care with this. LEDs can only be used on a DC (Direct Current) supply.

Wiring an LED

As well as ensuring we connect the LED the correct way round, another very important point is that it must be connected via a resistor. Resistors are small electronic components that, not surprisingly, 'resist' the flow of electricity. While it is of course sufficient to know that a resistor should be used, I think it's helpful to understand why, so here is a short explanation. If we connect an incandescent bulb to a variable DC power supply, such as a train controller, and slowly increase the voltage, the lamp will start to glow, and the brightness will gradually increase. The bulb has a resistance which is fairly constant, therefore as we change the voltage, the current increases proportionally, and with it the brightness.

An LED behaves in a completely different way. If we were to try to use the train controller, and increase the voltage to the LED, at first nothing would happen. Then when we reach a threshold voltage – around 2.5 volts – the current, and brightness, would start to increase very quickly, so quickly that we would almost certainly destroy the LED. There is no simple relationship between the voltage applied and the current which flows through it – even a very small change in voltage would cause a large change in current. The voltage that the LED "wants" to operate at is known as the Forward

Voltage, often shortened to V_f .

So we need to use a resistor in series (that is to say, in a daisy-chain) with the LED, which limits the current flow. This is shown in photo 4. Photo 5

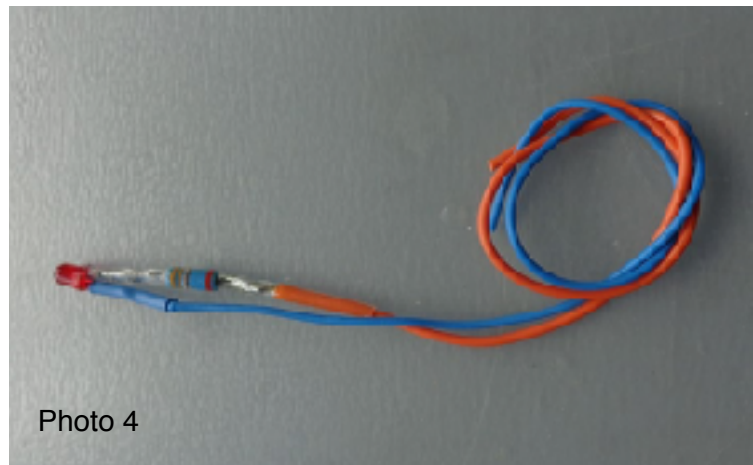


Photo 4

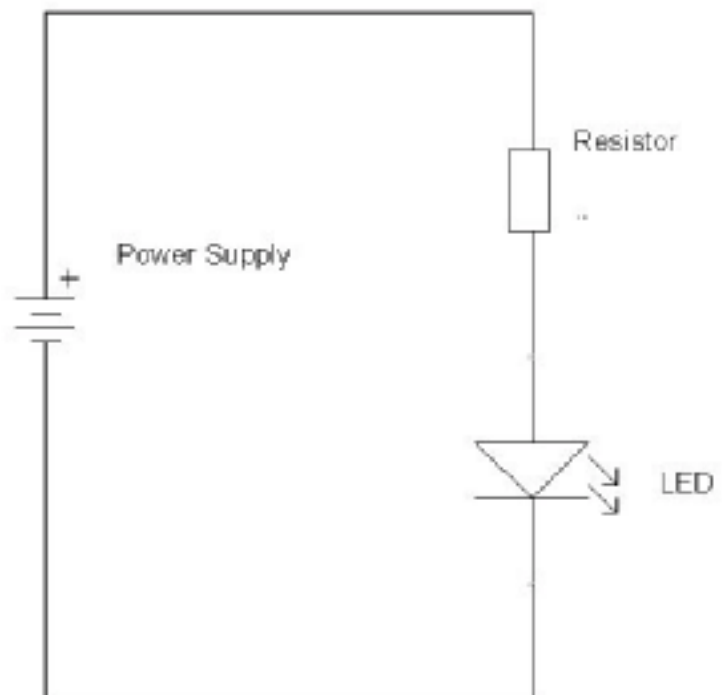


Photo 5

shows how this is represented on a circuit diagram. The voltage across the LED will be its Forward Voltage, and the remaining voltage from the supply will be lost across the resistor. Note that it doesn't matter whether the resistor is in series with the positive or the negative side of the LED, only that they are in series, one after the other.

For practical use, it is advisable to insulate the resistor and LED wires. This is most easily done with a short length of heatshrink tubing, and this is also shown in photo 4. Because they are polarized (must be connected the correct way round), it is helpful to use colour coded wires. Since Red and Black wires are usually used for layout track power, I personally use Orange (positive) and Blue (negative) for lighting

If you buy LEDs from some of the Model Railway suppliers, they also include suitable resistors. If not, then a value between 470 to 820 ohms will be about right, but see later for an explanation of how to calculate the resistor value. LEDs can also be purchased with resistors and wires attached, but these will be designed for a specific supply voltage, e.g. 5 Volts or 12 Volts. This is a more expensive option, but can be very convenient.

LED Specifications

When we buy an LED, we will (hopefully!) also get some information concerning its operating characteristics. These should include the Forward Voltage, the Typical Operating Current, and perhaps the maximum current rating. But many users will buy unbranded, unmarked devices, so we need some general guidelines. So the following are typical values.

LED Colour	Forward voltage
Red	2.0 v
Green	3.3 v
Yellow	2.0 v
Blue	4.5 v
White	3.5 v

Typical operating current is around 20 mA (20 thousandths of an Amp, or 0.02A). For lower brightness, current can be reduced as required. But it should never be increased beyond the maximum specification. It's not normally necessary to operate an LED at higher current than the typical value. So called "Superbright" LEDs are, as you would expect, brighter, and these can often be used at lower currents

Recently, LEDs have become available which have extremely high brightness, which operate at a correspondingly high current, and are used in torches, domestic light bulbs, security lights etc, but I won't mention these any further here.

Calculating The Resistor Value

If the LED is not supplied with a suitable resistor we can easily calculate the correct value if we know the LED characteristics, though it does require some basic school physics - Ohm's Law. For those who may have forgotten (!), this states that the current (I) through a resistor is proportional to the applied voltage (V), and inversely proportional to the resistance (R)

$$I = V \div R \text{ or, expressed another way, } R = V \div I$$

Where current is in amps, resistance in ohms

So let's look at a typical example... a white LED which we want to connect to a 12 Volt supply. In this case, the forward voltage is 3.5 volts, leaving 8.5 volts to be dropped across the resistor. We want a current of 20 mA, so from Ohm's Law, $R = 8.5 / 0.02 = 425$ ohms. Resistors are supplied in certain standard values, and the nearest one is 430 ohms, or more readily available, 390 ohms. If we use this lower value, the current will be a little higher, $8.5 / 390 = 21.7$ mA, but this would still be perfectly safe.

If a selection of resistor values is available, then you can of course, simply choose one which gives the desired brightness!

In the second part of this article I will show how we can connect multiple LEDs, and discuss some applications of LEDs for illuminating model buildings.

Editor's note

Thanks for a very informative article, Ian. I've had the task of reading it several times in my role as Editor as I 'cut and pasted' it section by section and I have to say that I now feel more confident about using lights (especially LEDs). I look forward to your next instalment which will appear in next month's Newsletter in fact I've already 'cut and pasted' it and find it equally informative!!

MMRG Newsletter readers recommend :-

“WALTONS of ALTRINCHAM”

30, Stamford St, Altrincham, WA14 1EY

0161 928 5940

www.WaltonsModels.co.uk

MMRG Newsletter readers recommend :-

“THE MODEL CENTRE”

Hill Farm, Beck Hole, Whitby, North Yorkshire,

YO22 5LF

01947 899125

www.themodelcentre.com

MMRG Newsletter readers recommend :-

“S.M.T.F.” (model shop)

**Brookside Garden Centre, London Road North,
Poynton, Cheshire, SK12 1BY**

01625 850427

AND IF YOUR LAYOUT HAS SHARP CURVES.....

Alek Adamski



..... always make sure that the lighter wagons are toward the rear of your train and not at the front



..... and try to avoid accumulating debris on your rails. Make sure your scenic features are firmly fixed in place!

If you've got more locos than your layout can sensibly support, you could try this novel method to bring them out of 'hibernation'!



MMRG Newsletter readers recommend :-

“CHESHIRE MODELS”

37, Sunderland Street, Macclesfield

01625 511646

www.cheshiremods.org.uk

MMRG Newsletter readers recommend :-

“TRIDENT TRAINS”

**Unit 10, The Craft Arcade, Dagfields Craft Centre,
Crewe Road, Walgherton, Nantwich, Cheshire,**

CW5 7LG

01270 842400

www.tridenttrains.co.uk

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If you would like to contact the Newsletter or Macclesfield Model Railway Group for any reason, simply 'click' on the appropriate red link above.

Don't forget your Committee members are:-

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Vice Chairman **Mike Hebblethwaite**

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Deputy Treasurer **Alan Ashton**

Secretary **Tom McDonough**

Member reps **Colin Moores**

Tony Hallatt

Steve Nixon

Newsletter Editor **Mike Hebblethwaite**

THE LAST WORD

It seems to have been a long time since the Newsletter has been able to award its '**Gold Star**' to a new contributor but, happily, this month we have been able to do so.

I know it's a bit like being awarded a 'Blue Peter badge' without the fanfare and celebrity, but it's the best we can do! It does, however, represent a special thank you for the effort taken to share interest in the hobby and the time taken to prepare something that readers can share. It does take some courage to 'expose' yourself and your interest to an audience for the first time and the '**Gold Star**' is also a recognition of that. Without the material for articles so generously given, there would be no Newsletter and, for that, I thank **all** contributors.....both new friends and old.

Unlike the modelling press, we do not have paid staff dedicated to visiting shows and reporting on their success or otherwise, reviewing models and writing articles about the 1,001 aspects of railway modelling. Our resources are, to my mind, much more relevant. We have, potentially, over 350 reporters, over 350 reviewers and over 350 model railway enthusiasts who could share what makes the hobby so enjoyable for them. **Every reader** of this Newsletter is a potential reporter, reviewer and contributor and could earn that '**Gold Star**'. How good would it be to see a '**Gold Star**' at least every couple of months?

At the end of the day, it is your Newsletter. As Jean Picquard says in Star Trek, "Make it so".

..... And the last word?

I did ask, last month, if any of our readers out there could help our younger fellow railway modellers by designing simple cardboard 'kits' that could go some way toward 'dressing up' simple layouts. Young imaginations need to be nurtured if our hobby is to continue long into the future and you could help.

Look out next month for the 'Penny Project' feature which will include at least one very simple 'kit' that can be printed out on to easily obtainable, white A4 card. It's certainly not a 'Metacalfe' kit, but it may give you some ideas about what you could produce.

Let's club together and help the young create a better model railway.

As ever, I hope you've enjoyed the read and that you long continue to enjoy your hobby.

'Til next month.

Mike Hebblethwaite

Editor