MERG West Midlands Area Group (WMAG)

Area Groups Public pages MERG Home page Back to West Midlands Area Group

October 2022

We were given two presentations in the morning by Andy Cumming and one by David Roberts in the afternoon in out Show and Tell session.

My Layout

Andy give us a presentation of the development of his model railway. How it all started in University days and what it is today. Andy described the successes and pitfalls developing layout in his loft.

My solutions

Andy's second talk focused on the solutions he developed whilst overcoming some of the problems with his layout.

Ed: I will place a link here in due course to the presentations.

MERG Layout control Buses

David gave a short presentation of the Layout Control Busses including CBUS, EzyBus and PTP-Lite

Once again we thank Andy & David for the work they have put in for the benefit of the Area Group

MERG West Midlands Area Group in attendance at local shows

Our colleague Charley Johnson has had a busy summer. In August he attended the Bournville MRC exhibition day, September the Stafford MRC show and early October Telford MRC show and Cradley Heath MRC Open Day.

We thank Charley for his hard work in representing MERG at these events.

David Roberts has built a simple test board to demonstrate CBUS. The test board was in

full use at the show.

Warley MRC annual exhibition takes place over the weekend of the 26th & 27th November. The MERG will be in attendance at the show. Andy Cummings has offered to help out and represent West Midlands Area Group. Thank you Andy.

July 2022

We were given two presentaions at our July meeting.

MERG CANCAB Options

We were delighted to welcome the Warwick and North Oxford Area Group Leader, Simon West, who offered to talk on the MERG CAB options and particularly what will be the new CANCAB2 kit (Simon is doing the production design and will be the elf) as well as his own slightly larger version. It was a useful opportunity to get further feedback on the new kit version and views on pot operation vs encoder.

An Introduction to Electrical Measuring and Testing.

Also,in the morning David Roberts presented An Introduction to Electrical Measuring and Testing. This talk provided an introduction to electrical and electronic test equipment as applicable to model railway electronics. The equipment discussed ranged from the simple multi-meter to the more specialist devices such as the logic probe and the oscilloscope. The presentation also covered how a Digital Multi Meter (DMM) is used to make various measurements.

In the afternoon David kindly offered to demonstrate some of the equipment mentioned in his presentation. Simon discussed with members various CANCAB options mentioned in his talk.

And finally we were delighted to welcome back Peter Wilson and the superb cake! Thank you Aileen.

April 2022

Details of our meeting appear in the June edition of the Journal

Tain on Tack indicators (TOTIs)

Andy Cumming talked how he experimented with different types of TOTis finally settling on his own dedicated design. Using Design Spark, he explained the stages involved i.e. design schematic, PCB outline and Gerber file production readiness for PCB fabrication. Andy detailed some of the highs and lows of the process. The talk concluded with a demonstration of his working TOTi. In the photos we see CANPAN Test Panel displaying LEDS i.e., TOTI active and inactive. Slides from the talk are available on the WMAG web pages here.

Semaphore experience: a layman's guide over many years.

Tony Chamberlain is well versed in semaphore signalling having been invited into a signal box at an early age (the bug never left him). He has recently stepped down from his position as a signalman, on the Severn Valley Railway link here. Tony's presentation commenced by explaining how railway signalling evolved.   We were shown examples of various types of signals, from a cross Brunel's Great Western. Composition, variations in design and physical locations alongside line side images and track layouts were displayed showing some of the complexities the signal faces where safety is the number 1 priority. Perhaps one of the most intriguing images was that view from Severn Valley Railways Bridgenorth South signal box which is the only one in the country where you can see live elephants! Elephant by the Track is a new one on me.

Demonstrations

David Roberts gave the group a demonstration of three modules he has recently built:

A DCC Loco identifier. Originally developed by MERG member Duncan Greenwood. The DCC loco identifier provides functionality that displays a locos identity at a button push.   While the decoder identifier may be built using an Arduino Uno and a motor shield this unit uses one of Duncan's PCBs. The output is displayed on a 4-row 20 character Liquid Crystal Display (LCD) via an I2C interface.More details can be found here https://www.merg.org.uk/merg_wiki/doku.php?id=projects:locoident

DCC++ EX This is a complete wireless DCC command station built using an Arduino Mega 2560 module linked to a motor driver shield and a wifi module .   This enables you to use either Wi-Fi throttle (iPhone) or Engine driver (android) to operate your layout https://dcc-ex.com/get-started/index.html . DCC++EX provides a simple and cost effective entry to DCC control.

NB1 booster Based on the MERG Kit. David built his version that also incorporates a RailCom cut out.

Design Spark. Andy Cumming followed on his talk from the morning by demonstrating in more detail how to use the software.

4-servo automated gate crossing. Colin Mitchell demonstrated his model of an automatic gate crossing.

CANPAN LED & Switch patch boards

Andy Cumming mentioned at our last meeting that he had some CANPAN LED & Switch patch boards on order from the manufacturer. Andy tells me these have now arrived. He has posted details on the MERG CANPAN forum page (https://www.merg.org.uk/forum/viewforum.php?f=205). If interested, contact Andy either directly, for those who noted his email address, or via a personal message on the Forum, or if all else fails email me and I will pass on your details.

January 2020

So what is Arduino

David Roberts gave a presentation to introduce the Arduino in terms of the hardware most commonly used by the Railway Modeller and the Integrated Development Environment (IDE). A look at Shields and other peripherals is included along with a very brief review of the standard interfaces.

David's presentation can be found here
https://merg.org.uk/merg_wiki/lib/exe/fetch.php?media=helpsystem:so_what_is_arduino.pdf

My MERG Journey

John Fletcher talked about his expeirances since joining MERG

October 2019

John Gowers gave a presentation about the mechanics of a steam engine. How to capture real sounds and applying them to your model railway

He also showed us how to inserting sound chips into a loco. This was followed by how you configure the captured sounds to the locos movements and actions.

Here are some of the photos from the day.

July 2019

Electrostatic Discharge: What it is and Why it is Important

David Roberts gave a talk on what Electrostatic Discharge is, how it is caused and the damage that it can cause to modern electronic devices and systems. Simple and affordable measures to mitigate the problems will also be described.

The Theory and Practice of a Simple MERG Kit

Some of us assemble kits without knowing very little about the types of components used and why they are important. David's presentation considers a simple MERG kit – the CANACT – looking at the components used and explain why they are chosen and how it all comes together to work.

Here are some images of the day.

April 2019

What is Arduino and what can it do for railway modellers

David Thomas presented 'A CBUS Sound Player' in which he explained how the project has been inspired by Davy Dick's sound player (See March 2017 journal and the subsequent threads on the Forum). The set up uses three main components: an MP3 player, an Arduino and a MCP2515 CAN Bus. Using Alan Turners pcb (See PCB section of the knowledgebase) he then went on to explain how he configured the various sounds using FCU and also demonstrated how the whole thing connected together as a CBUS module. Those interested in reading David's article can find it in Junes 2019 Journal here https://www.merg.org.uk/merg_journal/ .

Tony Jackson gave the second talk entitled 'A Magnetic Identity' in which he introduced the use of magnets to obtain the identity of a loco or vehicle (rather than only detecting its presence) to facilitate effective decisions regarding automating aspects of layout operation. Tony explained that by attaching magnets to the base of a loco or vehicle and passing in turn over a linear Hall sensor represented a code that could be configured as a specific identifier. I.e. 6 magnets giving a SSNSNS. Tony then explained how he configured individual locos to establish which is North and then using an Arduino sketch to process the results and display the correct loco or vehicle identifier.

Tony's article can be found in the June Journal (as above)

October 2018

'Wiring and Power supplies for the Railway Modeller'

David Roberts gave two talks in the morning.

The first one, focused on **wiring for the railway modeller** and included

• Theoretical aspects of electrical wiring • Design & Implementation of electrical wiring • Examples of wires, tools and terminations

His second talk was **Power Supplies** and explored:

• History • Direct Current (DC) Supplies • Linear Mode Supplies • Switch - mode Supplies • Sources of Power Supplies • Commercial Devices • Surplus Computer Supplies

July 2018

Howard Watkins as our keynote speaker.

The theme of our meeting was 'Back to Basics'

AM - Two talks given by Howard included

- Theory and practise of Soldering. - Tools and Supplies - Component recognition - Using LEDs

PM - Practical 'HANDS ON' session to include an opportunity to build a track tester,

[Back to West Midlands Area Group](#)

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