Newsletter

No.43: May 2025

Welcome to your Newsletter

In this issue: entertaining, in depth and informative articles from members, important committee updates and a number of items for sale or almost free.

Please let me know of anything you would like to see included in forthcoming newsletters. All feedback and contributions are welcomed. Remember to play your part and if anything, interesting (or even better, funny) happens whilst you are visiting the flying field then drop me an email (with pictures) for the Activities at the Field section.

Members are particularly interested in how you got into the hobby, what planes you have owned, technical expertise etc...

Send any newsletter related matters and articles to me at: neilgrayson@sky.com

NB: The next newsletter is being planned for July 2025, and hopefully a lot of stuff will have been happening at the field so I look forward to receiving your reports.

Membership

Currently we have around 46 members.

Contacting the Committee

An email address has been created for members to contact the Committee about Club matters. If you have any questions, suggestions or general comments, then please send them to the following email address:

KRMFCcommittee@gmail.com

Field Layout

The extension of the runway to the southwest is coming on and is now relatively flat but still a bit bumpy despite being strimmed of tall weeds and mowed a couple of times. The next step is to get it flattened out and suitable for take offs and landing. Any ideas on how to accomplish this would be most welcome.

Training and Testing Weekends

Last year the SAA and Scotland Area of the BMFA engaged in discussions aimed at cooperation, bringing the two organisations closer together. Part of that was the idea of attending Training and Testing events together, so that aeromodellers could see both organisations striving towards better safety and training, and offer modellers the opportunity to take any test they want: - Bronze, A, Bronze Plus, Silver, B, Gold, C or Examiner.

The SAA has already independently arranged the following events:

14th - 15th June - West Calder Aeromodellers

23rd - 24th August - Kinross Radio Model Flying Club

4th - 5th October - Hamilton Model Flying Club

The format of our club's training day on 23th-24th August is unknown at present so further information will be provided closer to the date. If anyone is interesting in taking a test let a member of the committee know.

In order to make SAA events joint with BMFA, clubs have to request attendance of BMFA examiners from Scotland Area as well. BMFA rules state that a BMFA examiner may conduct tests only at the request of the host club.

Before the BMFA can advertise joint T&T events, they would need an email from the club's official asking them to arrange BMFA examiners to conduct any BMFA tests that are desired.

The Kinross club secretary has emailed BMFA Scotland to request attendance by BMFA examiners. Whether an event goes ahead depends on requests from BMFA/SAA members for testing and the weather.

Club Web Site

The club website is now up and running and complete apart from some final tweaks. All forms are now available as are up to date rules and regulations and the constitution. The new web address is https://krmfc.bmfa.club many thanks to our club media manager, Kev Scott for setting it all up. If there is anything you wish to add to the site then contact Bill McDiarmid, Neil Grayson or Kev Scott.

Club's WhatsApp Group

If you want to be added to the club's WhatsApp group, please email Neil Grayson with your mobile telephone number and he will get the Administrator, Douglas Fulton to add you to the group. It is used for general chat, advice and to coordinate visits to the flying field.

Club Fuel

We still have a large stock of fuel. Contact a committee member if you want to purchase a few litres.

20% Nitro is £38 for 5 Litres

5% Nitro is £30 for 5 Litres

Wright or Wrong Flyer *by Ian McLuckie*

A few newsletters ago I wrote about the Wright Brothers first powered aeroplane, entitled "Two Blokes Arguing in a Workshop". I did that because I managed to source a 42" Wright Flyer laser cut kit and mused what the brothers went through in their historic journey to powered flight. The kit was for radio control which is unusual, most kits of the Flyer are for static display, and now I know why.

I said to Neil (Sec) when I had finished 'the build', I would write a review of the kit. I've seen lots of reviews on the internet, and 'box openings', but I have never done one before.

Anyway, I made a start on a review but soon ran into trouble after a few paragraphs. It was not so much a review but a list of scathing criticisms. I had intended to write a 'critical review'. A critical review evaluates the strengths and weaknesses of an item's ideas and content, but I only saw weaknesses.

That is not good. I began to envisage being at a preliminary hearing in Kirkcaldy Sheriff Court opposite a gun slinging Kirkcaldy solicitor representing the overseas company which made the kit. The solicitor was claiming damages for inaccurate statements, loss of business, and deformation of the designer, all as evidenced on the internet available to 5.5 billion people.

He might have been right about the internet. All our newsletters, abridged as necessary by Neil (Sec), are published there. I wrote the critique but the Club published it…where does the responsibility lie? It is with the author.

Suffice to say we are not going down that path, so what to do? Well, one way forward might be to simply state the facts and let you, the reader, decide. And that is what follows.

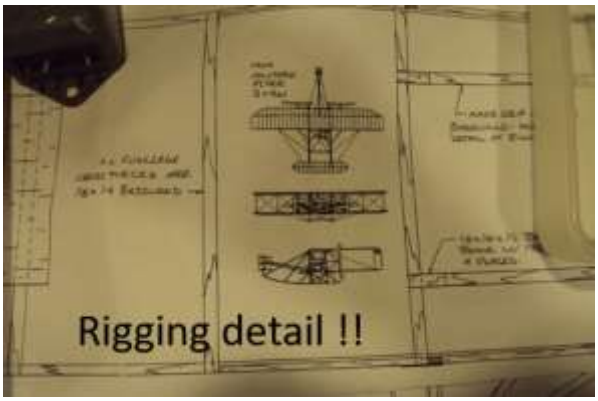
First of all, I bought the kit over the internet via the firm's web site. Of course that went wrong. I paid the full amount including post and package and waited. A week later an email arrived saying that the postage was much more than had been charged…some £40. I argued that we had formed a contract and they must honour it. Back they came saying that the small print allowed them to surcharge. I told them to keep their kit and refund my money. They did that.

However, a week later they came up with a new deal. Pay the postage and they would take 10% off the kit. A cheaper deal all round, so I bought the kit.

I opened the box to the smell of burnt wood. I will not criticise that, but simply say an overly powerful laser can create a lot of black carbon.

There was a full-scale plan and some A4 typed instruction sheets. These days some kit instructions come with excellent coloured pictures and explicit step by step diagrams, others don't…yes it was the latter.

The full-scale plan was dated 2002, and included very small sketches of the whole model to illustrate the extensive rigging, please see the two drawing extracts below. The Wright brothers lived by wire rigging and turnbuckles. The picture to the right shows the rigging material which was in the box i.e. some thread from a standard cotton reel. It was short by about 2 metres. If you can make out the model diagram rigging arrangements from the pictures below there is a prize waiting for you.



The primary method of construction seemed to rely on the main formers / struts just being glued end to end. Engineers might call those butt joints. I didn't think that would be appropriate for our Kinross field, we do not have smooth tarmac for take-off and landing. I reckoned the plane would just fall to bits. So, I introduced fishplates and gusset plates to secure most main joints, some of which were a junction of 5 struts. How do you butt glue 5 strips of balsa or basswood together to form a three-dimensional joint? Not a criticism just asking, because I don't know.

Talking about landing, the design has 'skids' not wheels. That's ok, it's true to the original, but taking off? Well, the Wright brothers eventually had a weight falling from a tripod and wooden runners on the ground, to pull the aeroplane along and aid the engines for take-off. I can't see me being allowed to erect a 2m tripod on the runway, so what to do? One answer is a four-wheel trolley which is left behind as the aeroplane takes to the air. The Wright brothers called it a dolly, not to be confused with the modern concept of a trolley, and nothing to do with a 'trolley dolly'.

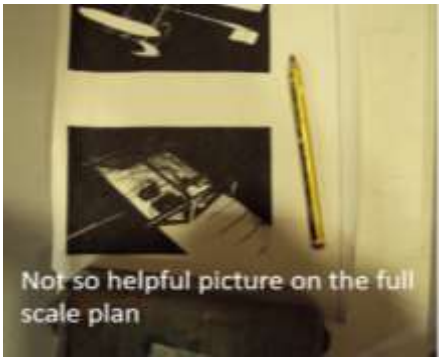
The A4 typed notes in the box suggested two geared motors with slow flying propellers. This 2002 design was a bit out of date; brushless motors may not have been popular then and we can certainly forget about gearing. I needed to depart from the plan. Two ESCs and two brushless motors with two 10 x 6 propellers would do the trick. How do you connect two ESCs electrically to two brushless motors? That's a secret ... for another time.

Now here's a thing. The Wright brothers invented counter rotating propellers. What's the problem? Surely with our modern kit all you need to do is reverse one motor and turn the propeller round. Wrong, that does not work, you need a special 'opposite' propellor and that is not readily available, so both propellers go as normal. In General Aviation, twin engine aeroplanes can have propellers turning the same way, the consensus is that it does not make much difference.

The Wright brothers invented wing warping. That is not feasible on a small model and it was not part of the kit. The wings warp on their own with little encouragement from me. So, I introduced ailerons on the top wing; that is not sacrilege, I just want the thing to be controllable.

The 'kit' instructions recommended covering the wings with tissue paper and dope or Eze dope. I tried that and successfully landed up with a paper mâché mess in a bucket. So, I used Oracover, a bit heavier but controllable. But here's the problem. The aeroplane is all about the bi-wing, there is not much else, there is no fuselage, the rest is wooden spars and string. Between the wings there are 12 vertical struts requiring 24 holes in the covering. That's a nightmare, and on top of that, the wing main struts are very fragile, not your carbon fibre of beechwood, just thin balsa pieces which warp before your very eyes. To do this properly a major jig would be necessary, and that would take more time to make than the wings. I ploughed on hoping to straighten everything up in due course. But I never got it right.

Well, the rigging was next and I gave the string thing up. To me it was just not feasible to bore holes in the very thin balsa struts and wrap cotton thread all over the place. I decided to insert cross struts of bamboo. Another departure, but, for my part, fully warranted. Not a criticism just a lack of my skills.


Not so helpful picture on the full scale plan

The plan drawing showed the centre of gravity about 25 mm in front of the wing. That must have been derived with the two heavy geared motors and umpteen Ever Ready AA batteries as shown on the drawing. I have tried to respect the C of G position with a LiPo 3s, 2200 mAh battery up front. Even that did not make the grade so I had to make a visit to the local church, not to pray for guidance which might have been a good idea, but to get some lead off the roof. Not really, but there is a fair bit of lead up front. But not to worry, the Wright brothers also put weights up front to make the canards less sensitive.

By way of summary, would I buy the kit again? Well, yes and no. I show no bias. Will it fly? Maybe, I show no bias. If it does some decent hops in a straight line on a calm day, that will suffice - just like the Wright Brothers did on their maiden flight.

Further Reading.

Wright Brothers, Wrong Story. *by William Hazelgrove.* This book looks to remove some of the myths built up over the years about the brothers. Hazelgrove describes the epic fight they had with the Smithsonian Institute and aircraft engine maker Glen Curtiss. Wilbur seemed to be the brains behind most of their research and when he died at a young age, Orville took it forward. A good read.

Frozen Hands and Cold Knobs - the Trials of Winter Flying *by Tim Knowles*

Model flying in Scotland is full of mixed blessings perhaps the coldest and windiest part of the UK but there again, longest daylight hours and model airfields set in stunning scenery.

This is my 3rd Winter season of flying and I had to try and find a way of keeping my hands warm for about 30 mins. The illusive nature of keeping hands warm and at the same time being able to use thumbs and index fingers.

Timeline of Gloves

Season 1

I had high hopes of a dedicated pair of warm gloves purchased from Orkney Scuba Diving which are used to warm hands after diving in Scapa Flow. Not actually that warm and even though the material was fairly thin my thumb and index fingers slipped inside the gloves and didn't move the sticks and knobs on the TX.

Season 2

Fingered mittens. These were purchased from Trespass but I sadly discovered too late that the thumbs were not fingerless. The material was too thick. Later that year from a shop selling fair trade Nepalese clothes in Chester I thought I had purchased the real McCoy, fingerless mittens with separate on/off coverings for the thumbs. Made by the fair and tough hands of the Nepalese and designed by Gurkhas and Sherpas they should have been the dogs Horlicks. They were fiddly to put on, the inside layer puckered up inside, the thumb coverings were well-nigh impossible to place and the mittens were too slippery to grip the fuselage.

Season 3

Another trip to Chester whilst staying in Llandudno. After trying 3 outdoor gear shops and then nudging the sales person to try a little harder and come out of his comfort zone as a till operative. He then moved to the glove section and suggested these. At £65.00 reduced to £55.00 now on sale £40.00.

://www.cotswoldoutdoor.com/p/mountain-equipment-mens-alpine-combi-mitts-B13JAA0016.html?colour=3624

Whoever did the photography for Cotswold obviously hadn't worn them…Lordy lordy.

He sadly hadn't worn them and it was only after wearing them for a few weeks that the superb design became apparent.

And if you're the flyer and live in Twatt, Shetland as I did some years back and require a little more pizzaz how about a matching set of gloves and Bob hat.

Thus, if by birth right and you live on Shetland (or Orkney) and you've got the Bob hat and gloves you are 100% a real Twatt but if you are less fortunate and at no cost you could be just be a twat. And as my English teacher used to say it's important to dot your i's and count the 't' s.

KRMFC – A Club History *by Neil Grayson*

It was back in the mid-1990s that several members of the Glenrothes Aeromodelling Club felt that their own flying field was unsuitable for models with engines larger than 10cc. This led to the start of discussions and meetings that would result in the development of our own club. After a particular monthly club meeting, Barry Widley and Pat Baxter discussed finding a site where it was possible to safely fly large models. Pat Baxter who was a member of the Kinross and District Model Aircraft Club and already flew models at Balado airfield approached the owner of Balado airfield, Douglas Alexander, and asked if model flyers could expand the use of the disused runway. Douglas agreed and the first tentative steps towards developing a new club began.

In 1996, an inaugural meeting was held in Thornton. It was agreed that a new club should be formed and a committee was elected with Pat Baxter as chairman and Barry Widley as secretary. A name for the new club was discussed with Pat Baxter's suggestion of Kinross Radio Model Flying Club (KRMFC) being adopted.

The disused runway had a concrete foundation with a tar surface that had seen better days and was broken in several places. It was decided, as one of the members had access to a JCB, to remove the tar surface completely and just use the concrete foundation. It was a major operation but eventually it gave the club a smooth surfaced 150m X 25m runway which was ideal for jets and large model aircraft.

A club opening event was planned and the first thing on the agenda was to find a patron. Pat Baxter happened to have a friend who was an RAF flying instructor at Balado during WW2 teaching advanced fighter tactics on nothing less than Spitfires! His name was Sir Alan Smith. Sir Alan accepted Pat's invitation and became KRMFC Patron.

Sir Alan was invited to open the Club's inaugural Gala Air Show. He accepted, but then contacted Pat before the event and said that he had asked his friend Johnnie to open our airshow in his place. Pat and Barry were hoping that it might be Air Vice Marshall Johnnie Johnson, the RAF's highest scoring Spitfire ace

– and it was! In fact, Sir Alan and Johnnie were famously Douglas Bader's wingmen. Another guest that Sir Alan invited when he was unable to make an event was Bill Reid VC who was a Lancaster bomber pilot during WW2. Unfortunately, very few of these brave men from WW2 are still with us.

The first airshow was going to be big, so Pat and Barry arranged for the CAA to come along to the flying site and approve the air show layout. Pat being confirmed as flight line director. Due to the club's special guests there was a lot of interest in the local newspapers and on local television news. All the neighbouring Air Training Corps (ATC) squadrons were recruited to assist with car parking.

It was a massive turnout! There were at least 1000 attendees with around 900 cars in the car park. The event was supported by Scottish Microlights, Scottish Gliding Union, Classic Motor Bikes and there were model shop trade stands and children's shows. It was a very special weekend. KRMFC expanded to being the largest in Scotland with over 100 members, some of whom travelled significant distances to use the superb runway for turbine jets.

After the inaugural fly-in/gala, KRMFC continued to run a large event/show each year for four years. The club worked with the Scottish Tourist Board and local radio stations to broadcast these shows, and hence they were always well attended by spectators and visiting RC pilots as well as by talented pilots coming from all over Scotland. It was not unusual to have 100 aircraft on the flightline. These events were a great success, despite being a challenge to organise and run.

Club Members: Bill Harper with his Mosquito, Don Grant with his Hurricane and Ron Fraser with his Spitfire. Standing: Chairman Pat Baxter accepting the keys from Jamie Alexander with Douglas Alexander.

Dr Keith Mitchell with his Beaufighter.
KRMFC Gala Airshow 1999

The Ghost Squadron, a team of model flyers formed in 1980 to promote the public awareness of large-scale model aircraft, attended one year. Unfortunately, the weather, which had been ideal when the site was set up, deteriorated into a full-scale gale and the Ghost squadron spent much of its time helping the organisers keep up the last standing Marquee as flying proved impossible. However, in other years the weather was much kinder and there were visits from Dr Keith Mitchell with his Beaufighter, Ted Allison with his Dragon Rapide, Doug Rigby with his quarter scale Bede and Jim Fox who gave a wonderful display with an early Sim jet powered plane. Evenings were catered for with a BBQ and bar in a marquee with entertainment provide by Tich Frier with his great humour and music. Everyone enjoyed the night time entertainment and great model flying. All this from a small club that had only just been formed.

Much credit must go to Pat Baxter and Barry Widley without whose vision this would never have happened

Unfortunately, Balado became the new site of the 'T in the Park' music festival from 1997 after moving from Strathclyde Park. This meant that flying was not possible for 3 months or more in the summer. Luckily, Barry Widley knew a farmer who farmed Balbedie Farm on the other side of Loch Leven and in 2001 managed to find a flying site on the farm for KRMFC, which could be used as an alternative to Balado. This worked well, but also created problems as some members preferred to fly at Balbedie on the grass runway while others preferred the concrete runway of Balado. While KRMFC carried on with the two flying sites for a couple of years, eventually the club divided in 2002 with Balbedie Aeromodelling Club being formed. "BAC" is still going strong today and is actually in the process of moving to a new flying site near Loch Leven's Larder.

With Balado becoming increasingly busier with the 'T in the Park' event it was decided, despite opposition from some members, to find a new site and not move to Balbedie. A site was offered at Upper Tillyrie near Milnathort. This site was on a slight hill, overlooked the M90, and had an overhead electrical cable, none of which was ideal for flying purposes. Despite developing the site, including having the overhead electric cables on the approach buried and also having the option to buy the field, after about two years, it was agreed to move away from Tillyrie. This was due to restrictions placed on the site by the council, which included only allowing I/C flying twice a week. KRMFC chairman at the time, Billy Orr, found the current

KRMFC site at Kilduff, south west of Balado, on a comparatively level site and away from any motorway. Brian Sharp was responsible for laying out the site and he did a first-class job. The club moved there in August 2006 and has been there ever since.

When established at its current site the location was perfect with a wide clear expanse for unhindered flying and no restrictions, although, due to a BP pipeline running to the south-east of the flying site and the A977 to the north, flying takes place to the south rather than the north. This can be an issue in the winter months when the sun is low in the sky, though rarely causes a problem in the summer months.

Sadly, this status quo has altered in recent years. Flying was restricted slightly with the building of a chicken farm about 3 years ago to the east of the flying field, which means that IC aircraft have to be kept away from the main shed, especially when new chicks are being hatched to avoid disturbing them.

Further restrictions were imposed when a dog walking park was built to the south-east less than 200 metres away from our main runway. Club members are now having to adapt to flying circuits to the west and there are plans to create a runway which runs south-west to north-east in an attempt to avoid overflying the dog park. So far, we have cultivated a good relationship with both neighbours and occasionally, dog walkers interested in what we are doing, come over to chat and watch our activities.

For over 17 years from 2007 until November 2024 Tom ‘Mario’ Wilson held the chairmanship of KRMFC and created the successful club that it is today. Many thanks are due to him for his sterling efforts. The chairmanship is now in Neil Gourlay’s capable hands with strong support from the Committee and many other club members as we adapt to changes in regulations, technology and social media....and move forward with whatever the future holds for our Club.

Many thanks to all club members, past and present who contributed to the above article.

What's in my Transmitter – *by Kev Scott*

Introduction

This is the first of two electronics articles for those people who aren't really interested in electronics. While the title says this will explain what is in your transmitter, in practice it will also explain what is in your receiver, what is in your Alexa, what is in your Hive central heating and what is in the smart dash on your car to name but a few. There will be no Electronics 101, no mention of capacitors, transistors and resonant circuits and all that stuff you really don't want to hear about.

The other incredible thing about it is it will (almost) all be explained in the context of aeromodelling. So, let's begin with a few analogies…

The Analogies (using the Genre of Aeromodelling)

The Interrupt - Imagine its mid-afternoon, you are in the pilot box at the field, gently doing circuits, thinking to yourself, that was a nice coordinated turn, I wonder if I will have a glass of wine or beer with that lasagne, I am planning to have tonight (or is that just me….). In other words, you are calm and all is right with the world. But that isn't the full story, there is another flyer in the pilot box with you and he is flying an IC plane. Just as you are coming round for another circuit, he shouts "DEAD STICK!" This has a dramatic effect on your life, and you need to switch from that nice circuit you were doing to getting out of the way. What has happened here is you have been **INTERRUPT**ed.

A Couple of Geezers in a Pilot Box

Your Tx uses these types of interrupts a lot. When there is nothing to be done, it will partially shut down the micro controller (MCU) to save power. When something happens – like the next packet of information has to be sent to the Rx, the MCU is rudely awaked and told to get on with the job, and when that is finished it falls back into the same power nap. But it is worse than that, an interrupt can itself be interrupted by a higher priority interrupt (I am sure you will know someone in your life like that!) and they all get stacked up. These interrupts might be happening 1000 times a second or so in your Tx, so it would be fair to say the micro controller won't get a lot of beauty sleep.

The Timer/Counter – Let's hark back to the heady days of the past when aeromodellers went to the field wearing a jacket, tie and trilby hat and didn't have a mobile phone (I am keen to resurrect this by the way!). On this particular day, the flyer has also unfortunately left his watch at home. He knows that the tank in his Harold Krier's Great Lakes Special is good for 10 minutes but how can he know how long that is when the plane is in the air. Fortunately, he brought his parrot to the field (it has an interest in aviation) and he is very lucky that give or take a few seconds it says "Whose an Amelia Earhart then!" pretty well every 20 seconds. Our pilot therefore works out if that if he counts the "Earhart's", three of them will mean a minute has passed and when he gets to 30 of them, he really should be landing to avoid the situation we have just talked about in the previous paragraph. He has just used a **TIMER** and a **COUNTER**.

Well Dressed Aeromodelling

Quartz Watch

Your Tx doesn't use a parrot to keep track of time you won't be surprised to hear. Instead, it uses a quartz crystal. You will likely have a wristwatch that has the word "quartz" written on the face and that was one of the first uses of them. When you put a voltage across a crystal, it vibrates at a frequency determined by its size and how the faces on it are cut. The really useful thing from our point of view is the frequency is very accurate indeed, which is kind of important for a watch. The lower the frequency a crystal operates at the less power the device attached to it consumes – the crystal in a watch usually vibrates at 32,768 times as second, and is cut specially to make that happen.

Why that frequency you might ask (or maybe you didn't but I am going to tell you anyway) – there are two reasons – it can be divided by two, which is easy for a piece of digital electronics to do and dividing it that way 15 times gives you one count per second. The other reason is it is higher frequency than humans can hear, although I can image that bats aren't in love with them!

In a modern Tx the crystals used will be a lot higher frequency than this, they might by 12MHz or 40MHz or similar. This is then divided down inside the MCU to a frequency that the programmer has decided, more on that in part 2.

Direct Memory Access (DMA) – Continuing the above theme, the aforementioned pilot then realises his fuel is limited. He has enough fuel for two or three more flights but he is going to have a problem after that. He has two options, he can either go home once the fuel runs out or (the better idea!) call up a family member and ask if they would be OK to bring along his second can of fuel; note this needs some brownie points in the bank to work! While the fuel is on route, the pilot can continue to fly – in effect someone else is doing the background work while the main task (flying!) continues. The micro controller that is the middle of our transmitter can do a similar job, while the joysticks are being updated and the information sent to

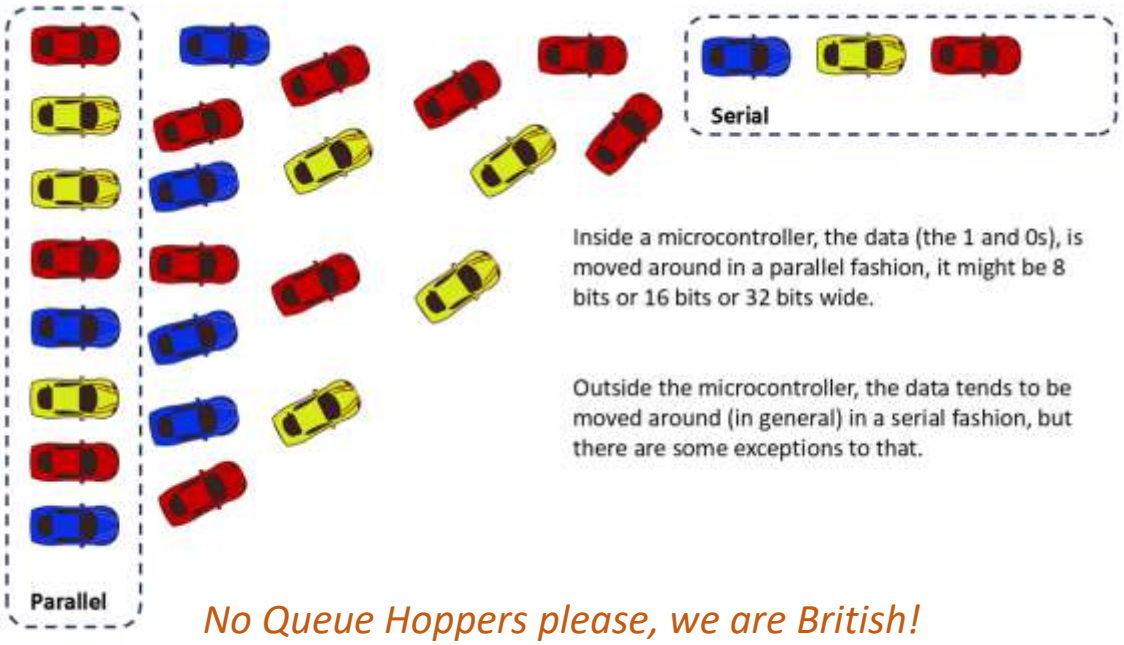
Direct Memory Access – Literally!

the receiver, other things like updating the display can still take place. This is done through the magic of **DMA** – more details in part two.

Serial and Parallel Bus

– Imagine you go to Elvington for the LMA event in August. At the end of the second day when the flying is coming to an end, most of the people leave at the same time. There are a number of ways of getting out of the airfield, it is a big place and the stewards have organised the cars in lines with gaps every so often between them.

When you all start to move, you find yourself making your way down eight gaps between the cars. All of your fellow aeromodellers at this point are driving at the same speed, you are moving in **PARALLEL.** As it so happens, there is a special term for eight bits of information locked together, and that is a byte, you are sure to have come across that from using a PC. As you pass towards the exit gate behind Yorkshire Air Museum, you need to start moving in a single line as the road is only wide enough for that. You are now moving in a **SERIAL** fashion.



When you get to the gate, there is sometimes a person there who is letting out one car at a time, you have to wait for the nod from that person before you can exit. That person is causing one more car to move – this is called **SYNCHRONOUS** operation. If that person had decided enough was enough and had headed home to watch Countryfile with John Craven (yes, he is still on it!) you will be left to your own devices to exit the show. The average time of the cars leaving would be constant and you could have a reasonable guess at it, but at any moment in time there would faster and slower exit rates. This is called **ASYNCHRONOUS**, in other words, it isn't determined by a regular beat.

Flash Memory

– If you have a plan on your build board, all of the instructions and dimensions on how to build it are fixed, you can't change anything and all you can do is work through the steps one after the other. This is similar to how your Tx executes instructions, it reads them from memory and executes them. You can also take the dramatic step of taking that plan off your build board and replace it with an entirely different one. This is equivalent to re-flashing your Tx, all of the old data is lost and replaced by new data.

RAM (Random Access Memory) – This is like your field box. Depending on how tidy it is (note I have not shown a picture of my one here!) you can pretty well put your hand in and take out the item you want. You don't have to take things out in any particular order to get at it. The word random in the term is a bit confusing because it isn't like when you buy a lottery ticket and you say *"just give me any random numbers, I am feeling lucky tonight!"* – you do know what you are looking for and where to find it, the random part just means there is no order to it, you are not going through it in any particular sequence.

REGISTERS - If you are like most aeromodellers, you will have some sort of drawer storage for all of the parts you use in your garage/man shed. If you are particularly organised, you might have printed out a sticky backed label and added that to each of the drawers so you can see what is in each – well done you! I don't do that, instead I have a spreadsheet that shows me what is in each of the drawers and it shows me what drawer to open. It reminds me of the cemetery where a famous crossword writer was buried – someone asked where his grave was and a very helpful bystander said it was 3 down and 4 across! Now imagine that rather than being in a two-dimensional arrangement, you just had all of your storage arranged in a line – you would refer to that box with the undercarriage components you were looking for as the 17th one from the left. This is how a micro controller works when it speaks to another device on the board, it makes contact with that device and then says what drawer it wants information out off by passing the number (or more correctly the **INDEX**) that we have described above. The location it gets the information from is called a **REGISTER**. It can also write out information (rather than reading it) using the same technique.


Storage – Old School!

Next Time

In part 2 of this article, we will dive a bit deeper. We will start with a block diagram of a typical Tx and talk about how things like switches, gimbals, displays and SD card access works, using the information we have just covered in this article.

We will also touch on why a Rx or Hive controller or an Alexa or anything else that is digital and has a small micro controller in it, really isn't that much different.

Credits

- Junior Mechanics and Model Airplane News June 1930 https://rcbookcase.com/details.php?publication_id=1714
- All in one field box image from RC Modeler July 1979 https://rcbookcase.com/details.php?publication_id=3245

The Scottish National Scale Model Show

Kev Scott visited the Scottish National Scale Model Show on Sunday 27th April held in Dewars Centre, Perth. It wasn't quite all plastic, static models as the SAA also had a stand there and being manned by Ian Cartledge and his family. They had an electric Spitfire and a Westland Lysander, which was fitted with a four-stroke engine (which belonged to Tony McElroy). The public also had a chance to have a go on a transmitter with a flight simulator.

The rest of the show was clubs showing off their work, and there was a lot of traders as well. A competition area was operating upstairs. The ratio of items on display was probably about 50% AFV (i.e. tanks), 30% aircraft and 20% Warhammer kit.

Activity at the Field – March, April

Thursday 6th March

There was a good attendance again at the monthly indoor flying event at Loch Leven Community Campus. Once again it was members from both Balbedie and Kinross clubs.

Several new aeroplanes, helicopters and drones made an appearance including a Chinook from Mike Hill, a Hacker MXS-804 from John Carson (flown by Mike Wardlaw in the video on Facebook). Also, from Mike Wardlaw a home-made SE5a built from 3mm depron and coffee stirring sticks, with an AR6400 Rx block.

Friday 7th March

Only a few members at the field today. Just Ian McLuckie, Neil Grayson and Tim Knowles.

Ian had brought along his newly built Super Scorpion which had been converted from the traditional diesel engine to electric power. He didn't get airborne but did a few taxiing runs and small hops. It appeared a little underpowered so he said that he would get an S4 battery instead of the installed S3.

Tim was flying his large glider but was only making a brief visit to the field as he had other things to do that day.

Neil was trying to get his Irvine 40 on his Funfly to run and finally got it running after finding that the idle valve was unscrewing itself due to a compressed spring. Unfortunately, once the engine problems were resolved it started to rain so him and Ian rushed to put their models in their cars.

Sunday 9th March

A good turnout and it was sunny after the mist cleared mid-morning and warmer than expected so thick clothes were shed.

Neil Grayson finally got his Limbo Dancer flying for the first time. Two flights were completed with no trimming required. There were doubts about reception as the fuselage on a Limbo Dancer is very narrow so the antenna-less receiver has to sit on the battery behind the fuel tank. A thorough range test was done and no issues were found.

Mike crashed 2 planes. Which ones? Bill flew his Wots Wot and helicopter. Neil Gourlay flew helicopter.

Billy Wilkie flew his Edge 540 an electric acrobatic model. Richard and Bob there flying a Boomerang.

Paul flew his pusher again.

Tuesday 18th March

Today our club again hosted the Scottish regional heat of the UK Youth Rocketry (UKROC). This year RAF Air Cadets from Durham attended fielding three teams with Team Skylark II becoming regional champions who went on to take part in the national finals at BMFA Buckminster on 1st May.

Well done to all the teams who launched successfully. All the rockets were designed and built from scratch. Teams were scored on altitude reached, successful separation and deployment of parachutes. They had 2 egg-astronauts to return safely to the ground unharmed. Excellent work!

Thursday 3rd April

It was the monthly indoor flying again today. It was a good session with a nice mixture of planes, drones and helicopters.

Tim Knowles had a very nice Horizon Hobby UMX Night Vapor which flew very slowly. It has LED lights AS3X and SAFE so it should fly well even with Tim flying it!

Tim's Night Vapor

Richard's Sky Challenger

Richard Blankski was flying a Sky Challenger but after a few flights he had to retire it for the night as he had an issue with a servo. Instead, he flew Kev Scott's Donut Models F3P to great effect. See the video on the clubs WhatsApp Group.

Also on the clubs WhatsApp group is a video of Mike Wardlaw's SE5a.

Sunday 6th April

Clement Emembolu asked previously if anyone was happy to test fly his new 64mm Dassault Rafale EDF. Today Gordon Frost test flew it successfully. It was a perfect flight with clear skies and light winds. The only issue was that it had to be hand launched by Billy Wilkie as the wheels were too small to cope with our runway. There is a video of the maiden flight on the club's WhatsApp group.

Monday 7th April

A couple of crashes today as Neil Grayson crashed his Funfly after it appeared that the left aileron jammed. It was flying towards the flying field from the west field when it suddenly dived to one side and hit the ground, hard almost inverted. Repairs are ongoing and it will fly again as it mostly came apart on the glue lines.

Paul Duffy's foamie Cessna had a couple of excellent flights but then on its final flight it failed to gain height, turned onto its right side and hit the runway. Quite a bit of glue will be required to get it flyable again.

Paul also had a cheap Chinese drone which he attempted to fly. Unfortunately, it took off and just kept going up! Neil tried to keep it in sight whilst Paul struggled to get it to respond to the controls but eventually it just disappeared, never to be seen again.

Tuesday 8th April

Paul Wasik visited the field for the first time in a good while as he has been building a replacement Moonglow. He flew his Funfly and Magnattila.

Saturday 19 April

There were windy conditions at the field today with gusts up to 15mph but it didn't stop Kev Scott from flying his foam board plane, High Hopes II. Unfortunately, it ended in tears but he has a spare fuselage and wings, (Triggers Broom?) so it will fly again soon.

Sunday 20th April

Cold and overcast during the morning with a constant breeze.

A lot of members flying. Gordon Frost, Neil Gourlay, Stephen Hunter, Billy Wilkie, Raimond Chiappa and Mike Hill. Kev Scott and John Mitchell also paid a flying visit but didn't fly.

Neil Grayson had a problem with his ASW-28 glider when applying full throttle on take-off as it almost looped and was very difficult to control. Neil Gourlay suggested and added mixing so that some down elevator was added when full throttle was selected which solved the problem.

Neil Gourlay had a problem on his Align 700 DFC helicopter after the throttle servo packed in and lock the engine on a high head speed so that he had to let it run until all the fuel was used and the engine cut. Only minor damage occurred however to the blades, booms etc....

Here is a selection of photographs from the day.


Neil's ASW-28


Mike's Cessna


Raimond's Wot Wot


Neil's Large Plane


Billy's Edge 540

Events for 2025

Loch Leven Community Campus Indoor Flying

Muirs, Kinross, KY13 8FQ - large sports hall

First Thursday Each Month 8:30pm – 9:30pm

Falkirk Model Flying Club Fly-In

Sunday 13th July 2025 at 10:00

Loch Leven Waterplanes

Saturday 16th & Sunday 17th August 2025

Volunteers will be required to help set up on Friday 15th August