

Feb  
2016

# Flight Lines



 **GALLAGHER**™





AR7700 Receiver

**THE WAIT IS OVER**

## MADE FOR MULTIROTOR

### THREE OUTPUT OPTIONS. ONE CONNECTOR.

The AR7700 is compatible with many of the most popular flight controllers and gives users three choices of ports to choose from: Serial (SRXL), PPM and Remote Receiver. Just plug a single connector into the receiver port that supports the option you want to use and connect it to your flight controller.



### TWO AUX PORTS AND A GEAR PORT.

The AR7700 includes extra ports that let you run functions like retractable landing gear, lights or gimbal control directly from the receiver.



### REMOTE RECEIVER INCLUDED.

A small remote receiver is included for larger multi-rotor applications that could use the redundancy and path diversity of patented MultiLink™ technology. By mounting the remote receiver away from the main receiver with a different antenna orientation, the odds of experiencing signal fade from signal reflection or antenna polarization are substantially reduced.



### BROAD COMPATIBILITY

The AR7700 will work with these and many other multi-rotor flight controllers.

Controller Compatible	AR7700 Receiver Modes
APM 2.6	PPM
Pixhawk	PPM, DSM (SRXL or Remote Receiver)
Vector	PPM
BrainFPV	PPM, DSM (SRXL or Remote Receiver)
CC3D	PPM, DSM (SRXL or Remote Receiver)
Crius AIO	PPM
Naze32	PPM, DSM (SRXL or Remote Receiver)
KK2.1.5	PPM
Multiflip SE 2.5	PPM
Naza M Lite	PPM
Naza M V2	PPM
Naze32 Acro	PPM, DSM (SRXL or Remote Receiver)
Quantron	PPM, DSM (SRXL or Remote Receiver)
Revo	PPM, DSM (SRXL or Remote Receiver)
Sparky	PPM, DSM (SRXL or Remote Receiver)
SP Racing F3	PPM, DSM (SRXL or Remote Receiver)
Vortex Quad	PPM, DSM (SRXL or Remote Receiver)



Sports simplicity meets App versatility

The Smarter Sport Radio



## MORE THAN MEETS THE EYE

- Up to 9 Channels available
- Sport radio simplicity + programmable versatility
- Programmed via mobile device or PC
- Ideal for Bind-N-Fly aircraft
- Four control surface channels
- 3-Position flap switch
- 2-Position auxiliary function switch
- 3-position AS3X/SAFE flight mode switch
- Requires free programming app or software
- Requires SPMA3081 or SPMA3065 programming cable, sold separately

Available from your local specialist RC Store or phone 0800 62 82 63 for your nearest dealer  
Distributed by H.O.T. LTD, Hamilton, New Zealand. [www.hotrc.co.nz](http://www.hotrc.co.nz), proud sponsors of RC events nationwide

TECHNOLOGY BREAKTHROUGH

Stan's Mighty Mick Reeves Spitfire takes to the air.

# ***FLIGHT LINES***

HAMILTON MODEL AERO CLUB INC.

Febuary 2016

[www.hamiltonmac.org.nz](http://www.hamiltonmac.org.nz)

**PATRON** Stu Rogerson

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WEB SITE Mikey Wilson  
CATERER James Danby

CLUB NIGHT Wednesday 10<sup>th</sup> Febuary 7.30 pm  
VENUE Beerescourt Bowling Club  
68 Maeroa Road - Hamilton

THEME: Holiday chitchat/story telling/event rundowns...

**Bulletin Printing** *Compliments of Gallagher*

# **Presidents Report**

I still can't figure out how December and January end up being the fastest disappearing months of the year! But here we are in Feb already and it's back to the writing of bulletins, committee meetings and club nights. I hope you all had a pleasant Xmas and New Year break with a chance to get time away from work and maybe do some flying. I didn't go away at all myself and the time off left me wondering if this is what being retired would be like....Nope, well not according to our "Gold Card" members who assure me they are far too busy to be called retired!!!



So we wrapped up December with our Xmas BBQ and flyin. This was postponed a week due to weather and although we hadn't actually set a rain date, it was good to see the message got out and we ended up with a grand turnout. We had a relaxed days flying with a great BBQ lunch. My thanks to Colleen Tynan for organizing the BBQ and table settings and adding a touch of class to the day. Colleen also made us a large Xmas Cake themed on Snoopy's Xmas. The cake was cut by Nancy Bradley and there was certainly plenty to go round. For this coming years Xmas event we are setting an actual rain date for the Xmas BBQ, so that should assure us we get the best weather first time up.

Our December club night meeting saw the usual antics with the annual awards handed out, videos, a photo review of the year gone by, a talk by Frazer and all followed by supper. Club night topics remain the hardest thing to come up with. Thus any ideas you have to keep everyone entertained would be appreciated. So please pass on suggestions to me or the committee and we'll do our best to accommodate your ideas.

This month's club night will be a bit of a run down on what everyone's been up to over the last 6 weeks and just a bit of a

chat session around anything and everything that flies. I have a handful of photos and a couple of stories so we should be able to fill in the gaps. Please make sure you bring along any new planes or parts of projects so we have some items on the tables to talk around too.

Our first club flying event this year is going to be a fun fly with a couple of easy tasks thrown in to test your skills and make sure you haven't lost your touch over the Xmas break. The task flights will kick off mid-morning so there will be plenty of time to practice if you feel so inclined. Of course you don't have to take part and the usual club flying can still carry on. Next month we have set a tentative date of 13<sup>th</sup> March for our first Float plane day of the year. This will be held at Lake D and at this stage is still subject to getting council approval.

Waitangi weekend sees a 2 day Heli event at our field run by Hobby Hangar and featuring a couple of international pilots. By the time you get the bulletin the event will likely have been and gone. Apologies for not having the date on the calendar in the December bulletin, but it's a good time to remind you to visit our web site on a regular basis to keep up with the latest news and event notices etc. The Website and Facebook page are the easiest way for your committee to get the message out, so visit it on a regular basis.

Now it seems someone has been busy lately, I'd like to congratulate our Club Captain Mikey Wilson on his upcoming entry into fatherhood and expecting the arrival of his first child later this year. Mikey claims it won't affect his flying...yeah right! All the best Mr & Mrs Mikey.

I'd like to thank Bruce Pickering for fixing the broken work Bench bracing on two of the model tables at the field. Please go easy on these guys as they are only lightweight and won't take a lot of abuse. Also, a thanks to Gordon Meads for sprucing up and adding some new signage around the field. You will note we have added the "rural property address" onto a sign to refer to if calling for an emergency response. You never know when you may need to call for an ambulance so get to know where the sign is located.

Finally, a note about the phone calls made to the Control Tower when flying is active at the field. The ATC controllers have asked that we have a contact number available at all times when we are flying. Therefore, if you are the person who Rang in at the beginning of a flying session and you leave for home whilst others are still flying you will need to make sure some else rings in with their contact phone number as you leave. (Otherwise you can call ATC and give them the new persons contact phone number yourself). Remember also to close off the flying session when all flying is finished and fill out the register etc. Thanks everyone for following these rules which are essential for maintaining our flying site where it is.

Well that's my lot to kick off 2016. Here's hoping for an exciting and safe year ahead. Please let us know your ideas for events and ways to improve our facilities and club nights.

Regards, Grant



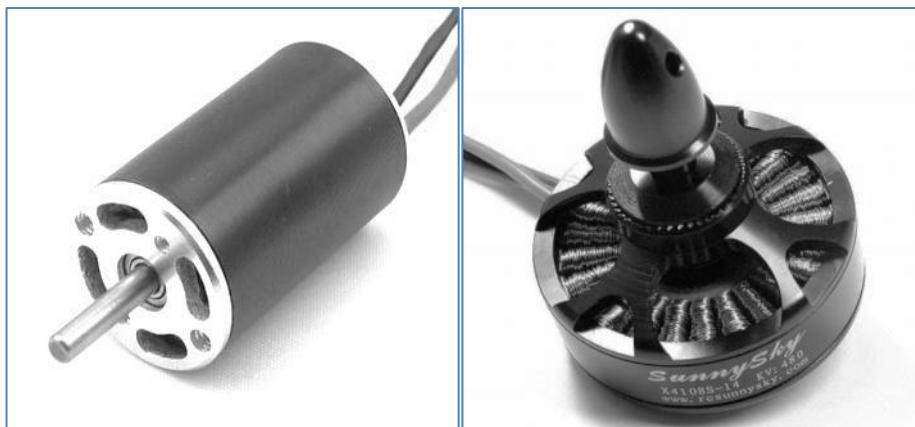
## ***Captains Report***

Over the last couple of months I have been reading a lot of past flightline newsletters as I try and work out a way to put the clubs history into a manageable form. The first thing that struck me is that as much as we think the hobby is changing it isn't. Yes the technology has definitely improved, models have become much larger but 30 years ago the club president was still worried about sound and the loss of fields as well as writing a page long article about how members were not putting up the fence or turning it on. Hilarious. Another thing I have noticed is that the Hamilton club has for a long time been really terrible at paying our subs. It seemed that in 1972 over half the club were overdue and there was a bolded warning that you may lose your 50 cent rebate if you didn't pay. Guess what? In 2016 we are still slow at paying so it would be fantastic and good for Alan's health if you paid them on time this year. You have a few months to get it sorted. I think the club is in a great place currently, we have many active members who compete in many various events. By the time you read this many would have traveled to Awatoto warbirds and the heli smack-down event would have happened. I will be "hovering" around the field for the event making sure the heli boys stay under 400 feet and I am sure it will be an entertaining event. On that note, make the most of summer. If it looks like a good day head out to the flying field and I will see you there.

Mikey

# ***Electric Motors For Planes.***

I am sure there are others who know more about these motors than I do but I have been asked to impart my knowledge in case it helps some members. There are basically two types : In-runners and out-runners. In-runners have their magnets in the center of the rotating part facing outwards, the Out-runners have their magnet attached to the inside of the rotating part, facing inwards. Both are attached to the shaft, assuming there is one. There usually is but there are the odd exceptions.



**In-runner brushless motor**

**Out-runner Brushless motor**

In-runners tend to be very high revving, sometimes 50,000 rpm or higher. Their main use is in ducted fan applications. They are not suited to larger propellers unless they drive through a gearing device. Out-runners are more widely used as they can directly drive propellers of many sizes. However they have to be matched to the propeller, esc and application. To assist in choosing the right one, a simple system has been devised which most manufacturers follow. This is usually printed on the outside for example:- 2812/22. This means the outside dimension of the part carrying the magnets, excluding any end or cap, is 28mm diameter by 12 mm length with 22 winding of the wire in the coils

which are inside. A large number of windings indicates a slower motor for larger props. This number can go down as low as 4 or as high as 38 or more. It is mainly of use in comparing motors from the same manufacturer using the same voltage battery. For example the Hyperion ZS3025 is available with 6,8 or 10 windings and can be used with props from 8 x 6 inch to 15 x 8 inch. All with the same 3 cell battery! Therefore if you were looking to buy one of these and wanted to use a 15 inch prop, you would get one with 10 windings (Which I have just done). The number of windings relates to the kv rating. A much more common and useful figure. This figure is the number of revolution per volt which indicates the optimum voltage battery to use.

The power output is the voltage x amperage and is expressed as watts. The wattage required depends on the size and weight of the model and the type of performance required. Some people work to 100 watts per pound. Some to as low as 3 watts per ounce for a vintage model. Knowledge of the amps being drawn is essential so it does not exceed the rating on the ESC. This is always printed on the outside and most flyers are sure to keep well below the maximum rating. For example I have just changed the motor on an old model and have gone from 25 amps to 33 amps max. I have therefore changed from an ESC of 30 amps rating to one of 40 amps. An over heated ESC will fail and you will probably have a very nasty experience! Also make sure the ESC is well ventilated as they all warm up and this heat need to be dissipated. You cannot trust manufacturers either. I flew a powered glider straight out of the box and the canopy melted with the heat! Extra ventilation never hurts and may save you model.

Ken Foster (EK)

# ***RC Pylon Racing Series 2016***

Our first Pylon meeting of the year has come and gone, a perfect day with very little wind. The trees lining the car park area were very handy for getting out of the hot sun along with the gazebo keeping the timers in the shade.

Entries were down again due in some part to another major event in the same area, however for those in attendance it was a great days racing with some very fast times. Due to the lack of numbers the timing was once again taken from the number 1 pylon mark.

Q500 Sport was a very close scoring event with only 12 seconds separating the entire field at the end of the day, Stephen Collins came out on top 3 seconds ahead of John Knox, John had the fastest time of the day with a 1min 26.47. In fact the entire field scored at least one time under the 1min 30sec mark.

E Sport was broken up into two halves to give the entrants time to charge their batteries. Graeme Duncan had a couple of PB's with two times under the 1min 30sec mark, Unable to catch Brian Harris at the end with his more consistent times.

Q500 Expert had a few DNF's, unusual for this class with the normally very reliable Nelson setups. I can't blame my problem on the engine though with a throttle servo failure causing me to retire only after one race. Ross Craighead was having fuel supply issues or something similar causing him to lose power around lap 6 on a couple of occasions. John Knox was the victor with a couple of blistering 1min 06's to finish off, just to prove it was no fluke.

## **RESULTS**

### **Q500 SPORT;**

- 1st Stephen Collins 362.5
- 2nd John Knox 365.7
- 3rd Paul Clausen 372.5
- 4th Ron Stone 374

Q500 EXPERT;

1st John Knox 279.8

2nd Ross Craighead 545.4

3rd John Danks 673.3

E SPORT;

1st Brian Harris 360

2nd Graham Duncan 366.6

Thanks to Noeline and Shelly and all the others who helped out with the timing etc., and to Paul and Bev for the use of their fantastic venue.

The next meeting is on Sunday the 29th February at the JR Airsail site at Tuakau, followed by the Nats. at Carterton over Easter. All the Pylon events will be held over one day, Saturday the 26th March so get your entries in for that one.

Until next time, happy flying.

Cheers John Danks

# *HMAC's 1<sup>st</sup> Float Plane day for 2016*



*To Be held at Lake D  
(lake Kainui)  
On Sunday March 13<sup>th</sup>  
(to be confirmed)*

# *HMAC Holiday Action*





# ***Coming Events***

**Feb 6-7<sup>th</sup>** WARBIRDS OVER AWATOTO POSTPONED!!  
Possible date 23-24<sup>th</sup> April but yet to be confirmed  
Watch This Space...

**Feb 6-7<sup>th</sup>** Down Under Heli Smack Down - (HMAC Field closed for Heli event) February 6, 2016 - February 7, 2016 @ HMAC Reekers Field, 231 Collins Road Hamilton

**Feb 8<sup>th</sup>** (Waitangi Monday) HMAC Field open for regular club use

**Feb 10<sup>th</sup>** HMAC first 2016 Club night

**Feb 14th** HMAC Club Fun Fly Day (with fun fly Tasks)

**Feb 20<sup>th</sup>** Vintage RC Contest & Rally February 20, 2016 - February 21, 2016 @ Tuakau MAC

**Feb 28<sup>th</sup>** RC Pylon Racing Series @ JR Airsail Airfield, 299 Native Rd, Pukekawa

**March 13<sup>th</sup>** HMAC Floatplanes @ Lake D (to be confirmed)

**March 24<sup>28th</sup>** Model Flying NZ National Championships @ Claireville showgrounds, Carterton, Wairarapa.

## **Flight Lines Deadlines 2015**

March Bulletin – 28 Feb

April Bulletin – 28 March

**For further up to date event info please visit:**  
**<http://www.hamiltonmac.org.nz/>**

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Hamilton Model Aero Club Inc.  
P.O. Box 1333, Hamilton

Website: [www.hamiltonmac.org.nz](http://www.hamiltonmac.org.nz)