ROTORUA MODEL AIRCRAFT CLUB (INC)

AUGUST 2024 NEWSLETTER

Secretary Andy Watson

Email: top.place@xtra.co.nz Ph 0274 856553

http://www.rotoruamac.org.nz/wordpress_Z

Welcome to the August 2024 newsletter

This will be a rather brief issue as we are in Australia for four weeks looking after a house, dog, cat, three chickens and a duck. The local Burpengary SAAMBR (Sports Aeromodellers Association Morton Bay Region) is only 4km down the road so I have been there a couple of times. A club with 200 members is very well set up however if you want to join the sub is $400.

A view of the pits The BA Hawk flew well but was almost shaken to bits on the rough runway. Not sure if it had the original servos ?

The smallest gas powered model I've seen was a 15cc petrol job.

Note the guy with the puffer jacket! Yep its been cold here!

No Tyros here !

CLUB POT LUCK DINNER

A pot luck dinner will be held on Saturday 24th thanks to the generosity of Tim and Jenny Charleson. If you are attending please contact Tim ASAP. This promises to be a great affair and a chance for to catch up with those that don't often make out to the strip.

LOGGING FLIGHT DETAILS

Now who knows about this. The guys on the Mode Zero Forum are playing about with old cell phones to record flight details such as GPS and height. They can plot the flight on to google earth and determine speed from the recorded info. I can see myself wasting a lot of time playing round with this. It could be a lot of fun.

CLASSIC OS RADIOS

Over the years we've seen several manufacturers disappear. Brands such as Micron, Fleet, Kraft,Gem, Teletrol, Silvertone and Space Commander all produced radio gear. Even OS produced radio gear up until the mid 1970s
Their ultimate set in 1966 was their 12ch set. This was like so many of sets of the day non proportional. The servos were at either centre or hard one way or the other. Each direction used a channel so to have say up and down elevator required two channels. Hence an eight channel set was required to control a basic Rudder, Elevator, Aileron, Motor setup. Another two channels were needed to provide three positions of trim with a mechanical linkage between the maim servo and the trim servo.

See what the RCM&E July 1966 issue had to say about it below.

This would keep you fingers and brain busy.

R.C.M. & E. TEST REPORT

O. S. MINITRON

12 CHANNEL REED CONTROL SYSTEM

A TECHNICAL OPINION BY W. PETER HOLLAND

The complete O.S. Minitron 12 channel system as supplied direct from Japan, arrived in complete working order. System is provided with transmitter battery box, receiver connectors, switch and jack plug, plus frequency pennant.

ONE'S first comment on commencing a test on this equipment is that the wiring diagram shown in the instruction booklet requires rather more than the usual amount of unravelling. It would have been much more clearly put in a rectangular layout. The fact that the instruction booklet is in basic Japanese could add to ones confusion. This diagram shows a separate battery pack for the servo supply and indicates that a separate switch and battery harness complete with plug and socket would be necessary. A tag board is also shown for connecting the main power wires, bias etc. The only pertinent section of the diagram which your tester was able to use was the receiver battery connection illustration, although here again it was simply a matter of chasing the appropriate wires, a thing normally done in strong disbelief of the printed word and accompanying illustration.

The first piece of information which requires clarification is the fact that there are two pink wires, a darker pink being the reed comb connections. This is led to one of the servo plug connections, there being two such sections of the harness, a third four pin (three used) plug and socket provides the power connections to the receiver via a double pole on/off switch. An earphone socket is wired in via the white and positive leads. This socket and one switch are provided, one has however to find a battery box and other parts of the system in addition to the servos. A separately packaged, 8 pen cell power pack was provided for the transmitter.

Transmitter

The finish on the equipment is excellent and the control keys have a nice soft "feel" to them, it was found that the amount of pre-travel and the amount of over-travel, after tone is transmitted combined to produce just the right effect. Pre-travel varies between $\frac{1}{8}$ and $\frac{3}{16}$ inch measured at the top of the control lever. The over-travel amounts to $\frac{3}{16}$ inch or a little more to enable one to give smooth thumb pulses without any "hard edges". The amount of effort required to make contact was 5 ounces and the amount of effort to achieve total movement of the key was 7.75 ounces.

Construction

The construction is quite clean and straightforward and all components are mounted on a $\frac{1}{16}$ inch glass epoxy printed circuit board with the components facing the back of the case in the majority of cases and a pair of toroidally wound chokes share the opposite side of the panel with the key switches, the latter providing a fixing point for the whole unit to the front of the case. A small steadying bracket is mounted at the bottom. The battery pack is wrapped in sponge rubber and is wedged in behind the circuit board. The tone adjustment pots are positioned in two banks of six and are numbered, although their position does not correspond to the key switches and reference has to be made to diagrams in the leaflet. There are five keying switches to provide the normal 10 channels, the additional two channels marked 'A' and 'B' are push-to-make, click action switches, a similar unit mounted at the top left hand corner of the case is used to check battery state. The meter normally reads output.

Performance

Current.

13.5v. input from 8 pen cells in series . . .

Carrier: 48 mA

Tone: 94 mA—96mA depending on whether one or two

tones are transmitted, the current varies slightly according to the tone frequency keyed.

Modulation.

The oscilloscope display indicated modulation amplitude of approximately 150% carrier level amplitude. Display showed a chopped sine waveform cleanly produced.

Output.

As far as could be ascertained on the field-strength meter the highest level of output was on modulation and amounted to approximately 75 milliwatts.

Endurance.

The transmitter was operated continuously for 35 hours before operation became inconsistent.

Stability.

Temperature stability was excellent, the outfit being heated to 120°F. and cooled to 32°F. with no change in function. This was just a simple go, no-go check.

Voltage stability was measured by reducing the input and it was possible to reduce volts down to 3v. before the reeds failed to respond at fairly close range, receiver was mounted behind screen and aerial rolled and placed in a screening can.

Physical Data

Size of Case		Projection of keys 1 in.	
Height	$6\frac{3}{4}$ ins.	Projection of handle $1\frac{1}{4}$ ins.	
Depth	$2\frac{1}{4}$ ins.	Projection of aerial when retracted $7\frac{1}{4}$ ins.	
Width	$5\frac{3}{8}$ ins.	Projection of aerial when extended 50 ins.	

Weight 3 lbs (with batteries)

Receiver

The receiver is a quite compact flat little package in a stout aluminium case. Three I.F. cans are used and a rather larger than normal reedbank to accommodate the 12 tones was fitted. The components are all mounted on a $\frac{1}{16}$ in. glass epoxy board held down by four screws fitting aluminium eyeletted-in fixing nuts in the p.c. board.

The case is in two pieces and is not fitted with any bolts or any other means of securing the two halves, these halves fit quite tightly and it was found in later tests that the receiver was not affected by "mechanical noise". We normally recommend that cases be bonded together to avoid this occurrence.

Performance

Currents.

6v. input from four pen cells (manufacturer recommends a separate battery pack for the receiver supply, although we found that servos operated successfully on a common DEAC power supply).

No signal 7.5 mA
Carrier 7 mA
1 tone (high) 32 mA
(Low) 45 mA
2 tones (Mid range) 38 mA

Sensitivity.

Better than one microvolt.

Interference.

A worn and unsuppressed *Kako* motor was brought to within 3 inches of the aerial before interference reached a level where servos were triggered intermittently due to reed movement. a meter showed that the level of interference was at this stage quite high. Generally speaking, the receiver is not particularly affected by interference and normal servos operated successfully with the device.

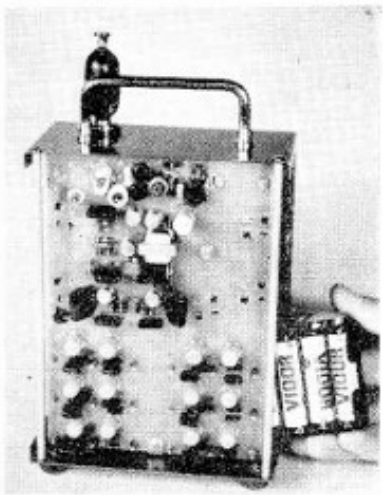
The reedbank seems well constructed, uses un-plated steel reeds and responds to A.F. frequencies from 340 to 580 c.p.s. It was noticed that reeds numbers 5 and 6 were almost the same length, and in fact careful examination of the reedbank showed that some pairs of reeds were more closely spaced in terms of audio response than the others. In one particular case quoted, it was necessary to adjust the tone from between 419 to 426 cycles per second to prevent the adjacent reed responding.

The tone adjustment pots on the transmitter have an average range of 30 c.p.s. so that adjustment is relatively easily facilitated. At close range however, it was noticed that both these reeds did strike even though the contacts were adjusted for the optimum performance.

Interference from other sources

The receiver was affected by close range operation of a superregen monitor though this might be expected with other superhet outfits. Similarly it was found that the same monitor was affected by the receiver when at close range.

Extreme left: the transmitter is supplied with imitation leather case cover and strap. Cover prevents those unsightly scratches from ruining the case appearance, and also prevents fingers from becoming really frozen on wintry days. Centre: transmitter with cover removed, showing control layout. Note battery test button adjacent to meter. Below: transmitter component board. Note neat control pots.



Dylan's Skyrader Takes to the air

Wednesday the 24th July saw a new old model back in the air. Dylan purchased the Skyrader the Club had for sale. He managed his first takeoffs and landings and went home with a big smile.

BUTTON MAN

A WORD FROM DAVE

We'll we are now in the "middle" of the winter weather, with the harshest usually coming after the shortest day. We have certainly had some foggy and frosty mornings recently, and with the sun low on the horizon flying has been rather challenging at times. Despite that the hardy and keen ones have been giving it a go. The keenest one would have to be our new member Dylan Payne who has recently moved to Rotorua from Ashurst. He has had model flying experience from his younger days and is now getting back into it with some buddy box work with John and myself and won't be long before he is solo again.
Tom gave his new electric helicopter it's maiden flight and all went well with the flight and landing, all in one piece. This is an Italian kit that Tom built up from the very basic of parts, from gearbox to rotor head and everything in between.
Tom showed me the assembly manual, and the quality of that is something to behold, very clear 3D " exploded " parts diagrams all colour coded.

Tom with his new helicopter, a SAB Goblin Raw700 22S 5000mha.

This photo shows the comparative size of Toms new machine. The sound of the SAB is so realistic you'd think there was a Huey coming over the horizon!

Not Ray’s S Bach as we know it! He has done a nice electric conversion job on it and

gave it a successful test flight today. He may give us a more technical item on this at a later date.
That’s all from me for now.

Cheers

Dave Little

FOR SALE

The Club has a beginners model for sale

Arising Star

- Complete with servos and ASP 46
- Test flown and ready to fly just requires a receiver and battery pack.
- Another good beginners model.
- Has had a bit of use but has plenty of life left

If you are interested in either of these models we can arrange a buddy box trial flight.

Contact John on 020 4118 5597

COMING EVENTS

August 24th	Club Pot Luck Dinner
Nov 16/17	Rotorua Vintage/Classic Rally