

# Ham Hum

February 2010



The official newsletter of  
The Hamilton Amateur Radio Club (Inc.)  
Branch 12 of NZART - ZL1UX  
Active in Hamilton since 1923



## Annual General Meeting

17 February 2010

7:30pm

Club Rooms

88 Seddon Road

**Next General Meeting**

**17th February 2009**

**27-28 Feb : “Jock White” Field Days**

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## **From the Committee and/or Editor**

More Silent Keys to report this month. ZL1BBH and ZL1WQ. More details on pages 4 & 5.

The Jock White Memorial Field Days is fast approaching again. The last weekend in February, 27th and 28th is when it's all happening. See pages 5 & 6 for more details.

The AGM is also fast approaching. The 17th February is when we kick off 2010 by electing officers and going over the highlights of last year. More on page 6.

This years National System Award finishes on 7th Feb. All reports have been very positive of our running of this years award, as well as the choice of teaming up with the Historic Places Trust as a source of points. The trust has been very appreciative of Amateur Radio in their various publications and very thankful for the way Amateur Radio has increased the profile of the Historic Places Trust.

## **Next Committee Meetings - 3rd February & 3rd March**

## SB PROP ARL ARLP003

### ARLP003 Propagation de K7RA

A steady stream of sunspot activity continues to dot the Sun. We had just one day with a daily sunspot number of zero this week, January 19 (Tuesday) when sunspot group 1040 moved over the horizon. But the next day old sunspot group 1039 re-emerged as 1041, and it now graces the Sun's southeast (lower left, relative to our view from Earth) quadrant. In fact, now that we have a view of most of the Sun (87.35% as of 2359z today, because of advanced orbiting instruments) it appears that the sunspot group that just left is nearly antipodal to the current visible spot, just exiting the Sun's northwest quadrant. If they stay strong, when the current one leaves, the other should return.

The current prediction from USAF/NOAA has the solar flux rising from Friday, January 22 through Tuesday, January 26, at 84, 85, 85, 86 and 87. Barring any unforeseen flares, planetary A index is seen as steady and quiet at five. Geophysical Institute Prague predicts quiet geomagnetic conditions January 22-23, quite to unsettled January 24, and quiet again January 25-28.

A Sudden Ionospheric Disturbance (SID) occurred on Wednesday after a solar flare. The IMF (Interplanetary Magnetic Field) between Earth and the Sun was pointing south. When it points north, the Earth is less vulnerable. You can see a detailed graph of the latest orientation of the IMF at <http://www.spaceweatherlive.com/>. See the graph labeled "Direction of the IMF." It took me a while to figure out what the Y axis was for. I expected it to represent time, but it seemed to show "meters." Then I realized it was minutes, and this record covers the previous two hours. When that graph goes above zero, the Earth is protected from the effects of solar flares. Thanks to Beth Katz of the Space Weather Discussion Forum at <http://www.spacew.com/> for that resource.

A SID will often cause a complete HF radio blackout, the duration varying with the intensity of the energy from the flare as it (the energy, not the flare!) reaches Earth.

You can monitor SID events yourself with homemade equipment shown on a Stanford University web site at, <http://solar-center.stanford.edu/SID/sidmonitor/>. Note the useful links provided, which lead to other pages and links, many quite useful. Check out <http://sidmonitors.blogspot.com/> and <http://solar-center.stanford.edu/SID/map/>. Thanks to <http://www.spaceweather.com/> for this tip.

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## Silent Key

I attended the funeral of John Whitehead ZL1WQ yesterday (Friday 15th January) at Thames

John was a member of the Waitomo Branch and probably the Te Awamutu Branch also as he lived and worked at Tokanui Hospital

He has been living in retirement at Thames for some years

As a young man before he was married he had the misfortune to lose a leg in a work accident but that didn't stop him from taking part in field activities etc

He was a keen scout leader for many years and also was involved with sailing boats

Despite his handicap his motto was "Giving up is not an option"

-ZL1RWR

## **Silent Key**

I'm sorry to inform you that Tom Green ZL1BBH has died.

His death notice stated that he passed away on 14th January with a funeral held on 21st January.

Donations are asked to be made to Waikato Hospice or the Cancer Society.

Thanks to Ron Badman ZL1AI for the information



## **Hamilton Amateur Radio Club Incorporated**

# **Annual General Meeting**

Date: 18 February 2009

Time: 7:30pm

Location: Club Rooms

88 Seddon Road

Business: Accept report(s), Elect Officers and Committee, Set Subscription rate and appoint Auditor.

All members welcome to attend to hear about the year just gone and to choose who will lead the club into the future.

Nominations for all positions welcome.

## Jock White Memorial Field Days

Saturday/Sunday February 27/28 2010

This annual contest is named to honour Jock White ZL2GX, NZART Contest and Awards Manager for over 40 years, for the service that he gave to NZART during that time.

This contest, like many others, results from Jock's initiatives.

This contest is primarily to test Branch organisation and weld a team of workers together.

**There is work for all:** spouses/partners, prospective members etc.

Our effort will be at the clubrooms and everyone is welcome to come down and have a fun time while talking to other branches and operators around New Zealand.

Timing:

Saturday 10am till noon preparation  
noon till 3pm setting up antennas.  
3pm till midnight operating.

Sunday 6am till 3pm operating.  
3pm till ?? dismantling.



## Space shuttles for sale

YES SPACE SHUTTLES THE "GENUINE ARTICLE".

Our friends in the... OK so it's the IRISH society, well the IRTS are reporting that there are only five remaining shuttle missions during 2010 and NASA is looking to

dispose of the spacecraft.

BUT WAIT FOR IT..

NASA has slashed the price of its shuttles to just 20.3m Euro.

Discovery is going to the Smithsonian National Air and Space Museum while Atlantis and the Endeavour are up for sale.

The delivery date is given as the second half of 2011 and shuttle main engines are said to be available for the cost of transportation and handling.

NOW WE CAN TRULY SAY "WATCH THIS SPACE".

-WIA

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## ARISS SSTV

Some images from the ARISS (International Space Station) SSTV (Slow Scan Television).

With thanks to PD0RKC, IK3ASM & EA1GGK



## Remembering the unit men - Faraday

Hello I'm Jim Linton VK3PC with another in a series of brief looks at those who made discoveries and have their names as units of measurement.

**Michael Faraday**, born in 1791, was a brilliant, mostly self-taught man, who entered science in an unusual way, by working in a book bindery that allowed him to read scientific books.

Then he began to attend lectures on many different topics but was particularly interested in electricity and mechanics.

Faraday literally talked himself into a position of assistant at the Royal Institution in 1813 and later that year joined a scientific tour of Europe where he met Andre-Marie Ampere and other scientists in Paris.

Exposure to those leading men of science during the 18 month tour had a profound influence. Through the work of others, the relationship between electricity and magnetism had been established, but Faraday took it further by converting electrical into mechanical energy, and providing the first notion of magnetic lines of force.

In 1831 he discovered electro-magnetic induction, demonstrating that a magnet could induce an electrical current in a wire.

This English scientist initially had his surname 'Faraday' as the old unit of charge known called the coulomb (coo-lomb), named after a French physicist who defined electrostatic force of attraction and repulsion.

A shortening of 'Faraday' gives us the Farad, the international unit for a capacitance.

-WIA

## IC-R6 – Compact Handheld Receiver, New!

Introducing the new **IC-R6** compact handheld receiver from Icom. Small in size, measuring only 58 (W) x 86 (H) x 30(D) mm, the IC-R6 contains many big features that allow you to listen to the widest variety of broadcasts.

Whether you are listening to something new while travelling or catching your favourite radio programs at home, the IC-R6 will become an indispensable piece of equipment for you to own and carry with you.

The IC-R6's wide band reception of 0.100–1309.995MHz means that you can listen to anything from AM broadcast to UHF TV audio. Listen to international, national, regional and local broadcast radio stations, plus many more interesting frequencies such as aircraft, air traffic control, marine bands or even listen to the motor racing teams at a race track. It is also ideal as a piece of test equipment for the professional radio engineer.

The IC-R6 has a drip-resistant case that protects the radio from harsh weather and damp conditions so you can take it virtually anywhere.

The use of a large internal speaker and BTL (bridge-tied load) amplifier ensures loud, crystal clear audio whatever the level of background noise. A useful VSC (Voice squelch control) function improves the quality of reception by opening the squelch only when modulated signals are detected.

You can name each of the 1300 available memory channels, making frequencies easier to find. The IC-R6 has a 100 channels per second high speed scan capability, useful when searching over 1300MHz of spectrum!

The IC-R6 has an efficient low current consumption design for long operation. With the supplied rechargeable Ni-MH cells, the IC-R6 can provide up to 15 hours of continuous receive. Power on the go is



easy, thanks to the IC-R6's ability to operate from a variety of power sources. The standard BC-07 AC adapter or optional cigarette lighter cable, CP-18A/E allow for simultaneous battery charging while operating the radio, a useful function while using the IC-R6 in your vehicle or at home. The receiver can also be powered by the optional BC-194 charger stand which eliminates the need to connect and disconnect an AC adapter to the DC power jack of the receiver.

With the optional software and cable IC-R6 programming and cloning is very easy. You can hook up the IC-R6 to a PC so you can customise channel names, scan lists, and more. In addition, the optional CT-17, CI-V level converter allows for PC remote control.

The IC-R6 retails at £173.87 plus VAT and comes complete with BC-07 UK battery charger, 2 Ni-MH rechargeable batteries, FA-S270C antenna, belt clip, handstrap and a handbook.

**Ian Lockyer**, Marketing Manager for Icom said, 'While retaining basic features of its popular predecessor the IC-R5, the IC-R6 contains many improvements including 100 channel per second scanning speed, 1300 memory channels, 15 hours of continuous receive capability, optional drop-in charger stand and voice control squelch.

"All these new features combined with a high degree of usability means that the IC-R6 will be equally at home with any casual listener of broadcast stations or the serious scanning enthusiast seeking a pocket sized quality receiver.'

[www.icomuk.co.uk](http://www.icomuk.co.uk)

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## NASA CubeSat launch

NASA plan to launch 3 CubeSats with Amateur Radio payloads this November. One of them, **KySat**, is believed to be the first CubeSat to carry a 2m to 70cm FM transponder

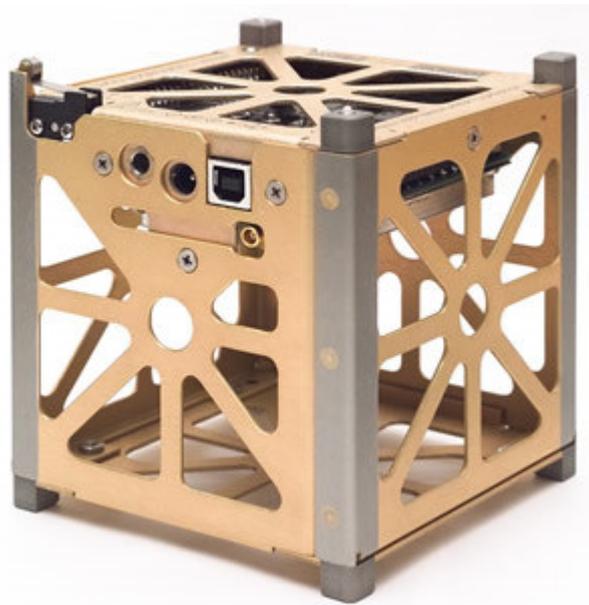
NASA will launch small research satellites for several universities as part of the agency's Educational Launch of Nanosatellite, or ELaNA, mission. The satellites are manifested as an auxiliary payload on the Taurus XL launch vehicle for NASA's Glory mission, planned for liftoff in late November.

The satellites, called CubeSats because of their shape, come from Montana State

University, the University of Colorado and Kentucky Space, a consortium of state universities. The University of Florida was selected as an alternate in case one of the three primary spacecraft cannot fly.

CubeSats are in a class of small research spacecraft called picosatellites. They have a size of approximately four inches, a volume of about one quart and weigh no more than 2.2 pounds.

To place these satellites into orbit by an agency expendable launch vehicle, NASA's Kennedy Space Center in Florida is adapting the Poly-Picosatellite Orbital Deployer, or PPOD. This deployment system, designed and manufactured by the California Polytechnic State University in partnership with Stanford University, has flown previously on Department of Defense and commercial launch vehicles.



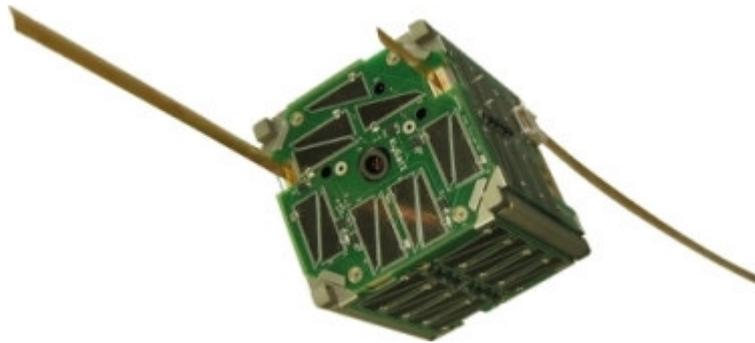
Montana State designated its satellite as Explorer 1 Prime, or E1P. The name honors the launch and scientific discoveries of the Explorer-1 mission, which detected the Van Allen radiation belts more than 50 years ago. E1P will carry a miniature Geiger tube to measure the intensity and variability of the electrons in the Van Allen belts.

Colorado's satellite is named Hermes. Its mission is to improve CubeSat communications through the on-orbit testing of a high data-rate communication system that will allow the downlink of large quantities of data.

The Kentucky vehicle is called KySat-1. It includes a camera to support a scientific outreach program intended for, but not limited to, Kentucky students in kindergarten through 12th grade. The satellite also has a 2.4-gigahertz industrial, scientific and medical band radio, which will be used to test high-bandwidth communications in the license-free portion of the S-band.

The satellites will hitch a ride to space with the Taurus rocket's primary payload, NASA's Glory spacecraft. The Glory climate mission, developed by NASA's Science Mission Directorate, will extend the nearly 30-year record of precise measurements of the sun's energy output. It also will obtain first-ever, global measurements of the distribution of tiny airborne aerosol particles. Aerosols represent one of the greatest areas of uncertainty in understanding Earth's climate system.

The ELaNA project is managed by NASA's Launch Services Program at Kennedy. For more information about the program, visit: <http://www.nasa.gov/kennedy>



Gunter's Space Page lists a target orbit of 705 km, 98.2° for the primary payload Glory <http://space.skyrocket.de/>

Information on the CubeSats can be found on the IARU Amateur Satellite Frequency Coordination pages.

Explorer 1 Prime - 437.305 MHz uplink and 437.505 MHz downlink proposed  
[http://www.amsat.org.uk/iaru/finished\\_detail.asp?serial=116](http://www.amsat.org.uk/iaru/finished_detail.asp?serial=116)

Hermes - 437.425 MHz  
[http://www.amsat.org.uk/iaru/finished\\_detail.asp?serial=104](http://www.amsat.org.uk/iaru/finished_detail.asp?serial=104)

KySat-1 - 145.850 MHz FM uplink and 436.975 MHz FM downlink  
[http://www.amsat.org.uk/iaru/finished\\_detail.asp?serial=102](http://www.amsat.org.uk/iaru/finished_detail.asp?serial=102)

## Upcoming Happenings & Events

<i>Date</i>	<i>Happenings &amp; Events</i>
<b>1 Jan-7 Feb</b>	<b>National System Award 2010</b>
1st February	HF Net, 3.575 MHz, 19:30
2nd February	VHF Net, 146.525 MHz, 20:00
<b>3rd February</b>	<b>Business Meeting</b>
<b>6-7 February</b>	<b>DX Weekend Contest</b>
<b>7th February</b>	<b>NZART HQ Info-Line</b>
8th February	HF Net, 3.575 MHz, 19:30
9th February	VHF Net, 146.525 MHz, 20:00
<b>13th February</b>	<b>Boat Anchor Sprint</b>
15th February	HF Net, 3.575 MHz, 19:30
16th February	VHF Net, 146.525 MHz, 20:00
<b>17th February</b>	<b>Club AGM</b>
<b>20-21 February</b>	<b>ARRL International CW Contest</b>
<b>21st February</b>	<b>NZART HQ Info-Line</b>
22nd February	HF Net, 3.575 MHz, 19:30
23rd February	VHF Net, 146.525 MHz, 20:00
<b>27-28 February</b>	<b>Jock White Memorial Field Days</b>
<b>28th February</b>	<b>NZART Official Broadcast</b>

**March—VHF mini-convention**  
**6th March—Paengaroa Junk Sale**  
**6-7 March—ARRL International Phone Contest**  
**7th March—NZART HQ Info-Line**  
**10th March—Break-In copy due**  
**13th March—Colville Connection (AREC)**  
**13-14 March—RSGB Commonwealth Contest BERU**  
**20th March—Auckland Combined Junk Sale**  
**21st March—NZART HQ Info-Line**  
**27th March—Wellington Radio Expo**  
**28th March—NZART Official Broadcast**  
**3-4 April—Low Band Contest**  
**3-4 April—Thelma Souper Memorial**  
**4th April—NZART HQ Info-Line**  
**18th April—NZART HQ Info-Line**  
**25th April—NZART Official Broadcast**  
**6-9 May—WRC Rally New Zealand (AREC)**  
**5-7 June—NZART Conference (Auckland)**  
**August—Hamilton Market Day**  
**21-22 August—Lighthouse Weekend—ILLW**  
**September—Kairangi Hillclimb (AREC)**  
**22-25 April 2011—VHF Convention (Wellington)**  
**4-5 June 2011—NZART Conference (Upper Hutt)**

For more information on any of the above please contact myself or any committee member.

## Satellite TV 'making humans invisible to aliens on other planets'

A Telegraph article reports on a claim by the world's leading ET hunter that Satellite television and the digital revolution is making humanity more and more invisible to inquisitive aliens on other planets.

The article continues: That might be good news for anyone who fears an "Independence Day" – style invasion by little green men. But it is also likely to make the search for extraterrestrial intelligence by Earthly scientists harder, **Dr Frank Drake** believes.

Dr Drake, who founded the SETI (Search for Extraterrestrial Intelligence) organisation in the US 50 years ago, said the digital age was effectively gagging the Earth by cutting the transmission of TV and radio signals into space.



At present, the Earth was surrounded by a 50 light year-wide "shell" of radiation from analogue TV, radio and radar transmissions, he said.



But although the signals had spread far enough to reach many nearby star systems, they were rapidly vanishing before the march of digital technology.

To a race of observing aliens, digital TV signals would look like noise, said Dr Drake. Digital transmissions were also much weaker than their terrestrial equivalent.

While old-style TV transmitters might generate one million watts, the power of a satellite signal was around 20 watts. Satellites also aimed their transmissions at the Earth, with almost none being allowed to escape into space



Read the whole article:

*Satellite TV 'making humans invisible to aliens on other planets'* at:

<http://www.telegraph.co.uk/science/science-news/7073574/Satellite-TV-making-humans-invisible-to-aliens-on-other-planets.html>

## Over 5500 km on FM

Tim N3TL in Georgia and **Dale KL7XJ** in Alaska had an FM contact using the Amateur Radio satellite **HO-68**. It was Tim's 49th state worked using his handheld station.

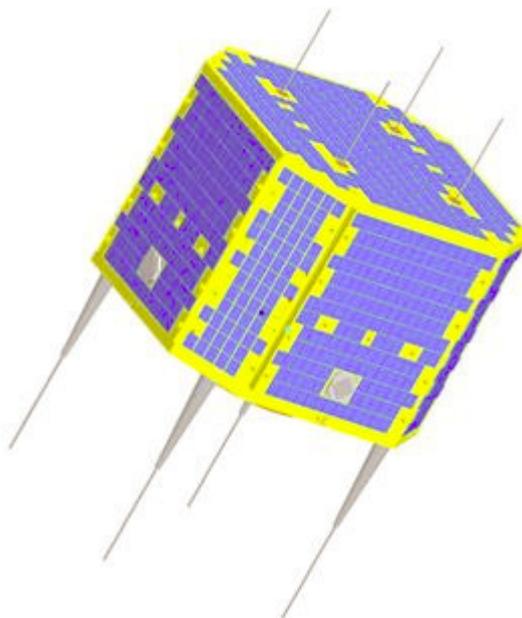
They used the 145.825 to 435.675 MHz FM transponder on the satellite for the 5552 km contact and Tim N3TL posted this report on the AMSAT bulletin board:

At 0204 UTC on 23 January, KL7XJ and I had a quick contact on HO-68 in FM.

At the time, the satellite was below 4.5 degrees and descending for me. I'm thrilled to put state No. 49 in the log with my handheld station - a Yaesu VX-7R and Elk dual-band log periodic. I never expected to get more than the lower 48 in my satellite log with the HT, so this is a very pleasant surprise.

My thanks to AMSAT-China for HO-68 (XW-1), and to Dale for being there when it counted.

HO-68 Operating Schedule  
Jan 24-31  
[http://www.southgatearc.org/  
news/january2010/  
ho68\\_schedule\\_2301.htm](http://www.southgatearc.org/news/january2010/ho68_schedule_2301.htm)



## AREC Event Operators Page

<b>Rally NZ/Possum Bourne Rally</b>	<b>Saturday 6-9 May 2010</b>	<b>Organiser : ZL1DK</b>
Please contact the <a href="#">Section Leader</a> with your team information and he will pass it on to Auckland.		

<b>Rollo's Marine Bridge to Bridge Water-Ski Race</b>	<b>2010</b>	<b>Organiser : ZL1UPJ</b>
<b><u>Position</u></b>	<b><u>Saturday Operator</u></b>	<b><u>Sunday Operator</u></b>
<b>Base</b>		
<b>Start Boat</b>		
<b>Rescue Boat</b>		
<b>X-Band</b>		
<b>A.</b>	Ngaruawahia/Taupiri	
	Start/Finish at Point	
<b>B.</b>	Ngaruawahia Ramp	
<b>C.</b>	Ngaruawahia W/S	
<b>D.</b>	Horotiu	
<b>E.</b>	Pukete Ramp	
<b>F.</b>	Days Park	
<b>G.</b>	Fairfield Bridge	
<b>H.</b>	Malcolm St	
<b>I.</b>	Narows	
<b>J.</b>	Field Days	
<b>K.</b>	Between Pipe and F/Days	
<b>L.</b>	High Level Bridge	

<b>Kairangi Hill Climb</b>	<b>Sunday September 2010</b>		<b>Organiser : ZL1IC</b>
<u>Position</u>	<u>Operator</u>		
1.			
2.			
3.			
4.			
5.			
<b>School Cycling</b>	<b>2010</b>		<b>Organiser : ZL1IC</b>
<u>Position</u>	<u>Operator</u>	<u>Position</u>	<u>Operator</u>
1.		5.	
2.		6.	
3.		7.	
4.		8.	
<b>Colville Connection</b>	<b>Saturday 13th March 2010</b>		<b>Organiser :</b>
<u>Position</u>	<u>Primary Operator</u>	<u>Secondary Operator</u>	<u>Other Operator</u>
<b>Base</b>	ZL1PK	ZL1DGK	ZL1LD
<b>Stony Bay</b>	ZL1TNO???	Sandy???	
<b>Fletcher Bay</b>			
<b>Hill 1</b>	ZL1IC		
<b>Hill 2</b>	ZL1TCE		
<b>Fantail Bay</b>	ZL1UPJ	Arthur	
<b>Stand By</b>			

For Details about and to help with these events, contact the person indicated as the organiser for the event. See Page 1 for their contact information.

## Club Information



### Contacts :-

**Business Meeting:** 1930 First Wednesday of each month  
88 Seddon Road, Hamilton

**General Meeting:** 1930 Third Wednesday of each month (except Jan)  
88 Seddon Road, Hamilton

**Homepage:** <http://z11ux.tripod.com>  
**eMail:** [branch.12@nzart.org.nz](mailto:branch.12@nzart.org.nz)

**HF Net:** 3.575MHz LSB 1930 Mondays  
**VHF Net:** 146.525MHz simplex 2000 Tuesdays

**2m Repeater:** 145.325MHz -600kHz split  
**STSP** 146.675MHz -600kHz split  
**Repeaters:** 438.725MHz -5 MHz split  
**ATV Repeater:** 615.250 Ch39 (off air)

*Cover Photo: AGM notice*

Sender Hamilton Amateur Radio Club (Inc)  
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Hamilton 3240