Orbit

The Official Publication of the Hamilton Centre of the RASC

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Table of Contents:

Editorial

Welcome to the 40th volume of *Orbit*, the newsletter of the Hamilton Centre of the Royal Astronomical Society of Canada. Please send articles to the editor (harry.pulley(at)gmail(dot)com) as this newsletter is for the members and by the members. It needs your input! Articles can be about any topic remotely related to astronomy so if you have a new toy or you did some observing, we'd love to hear about it.

The weather has been poor lately but there have still been a few nice bright comets to pass the time. I hope a few of you have had a chance to see comet McNaught at sunset or sunrise. I enjoyed comet Swan a few months ago and enjoyed sharing it with my son.

The rainy weather has put a damper (literally) on my overnight variable star observing plans but once the cold, dry weather sets in I hope to get back into it one of these nights.

From the President

It is now 2007, and the Hamilton Centre is beginning the new year with a new Board. Andy Blanchard is adjusting very quickly to his new role as Treasurer, and I am slowly adjusting to my new position as President. When I joined the club back in October of 2000, I didn't imagine then that just over six years later, I would be President.

This year is looking to be another great one for the centre. Due to the hard work of Kevin Hobbs and Colin Haig over the holidays, our Trillium Scope is ready to go in its new location in the roll-off building. It is rewired, and the computers re-programmed for complete control of the telescope from the warmth and comfort of the observatory. Plans are also continuing for the construction of a new roof for the observatory that will make it accessible to more people at a time, and give it better air circulation (that is, no circulation). And work is also being done to revitalize several of our scopes to make them more usable by all members.

Throughout the new year, *Orbit* and the website will continue to be great resources for members. Under the direction of Colin Haig, our new webmaster, we hope to provide an opportunity for the membership to share their images and other astronomy related materials. We also hope to keep the website updated with the latest information about what is going on in the centre so that everyone can get involved.

If any member has any ideas for other projects for the centre, or needs any information, please don't hesitate to contact any of the directors. As President of the RASC's premier centre, I want everyone to have a great year. May clear skies be with us all.

John Williamson,President

Treasurer's report

Hamilton Centre Treasurer's Report for 2006

Fiscal Year End Date: September 30

REVENUE	
Membership	
Fees (Regular)	$1606.00
Fees (Youth)	$67.30
Fees (surcharge) $939.00	
Fees (Associates) $60.00	
Fees (Life Grants)	$66.00
Donations / Fundraising	
Donations	$5897.85
Fundraising / Grants	$670.00
Educational Activities	$85.00
Interest	$0.00
Publication Sales	
Observer's Handbook	$15.00
Observer's Calendars	$60.00
Beginner's Guides	$0.00
Product Sales	
RASC promo items	$0.00
Events	
Annual Dinner	$1265.00
Observatory site	$696.00
Miscellaneous	$0.00
TOTAL REVENUE	**$11427.15**

EXPENDITURES	
Publications	
Newsletter	$49.66
Handbook	$0.00
Calendars	$122.41
Events	
Meetings	$240.00
Annual Dinner	$991.96
Astronomy Day	$100.20
Product Expenses	
RASC promotional	$0.00
Travel	
Speaker Travel	$0.00
Equipment and Supplies	$267.50
Office Administration	$600.23
Insurance	$1224.72
Observatory	
Maintenance	$1963.41
Telephone	$816.73
Electricity	$818.18
Alarm	$492.25
Miscellaneous	$0.00
TOTAL EXPENDITURES	**$7687.25**

SURPLUS ON OPERATIONS
$3739.90

ASSETS	
Liquid Assets	$11613.44

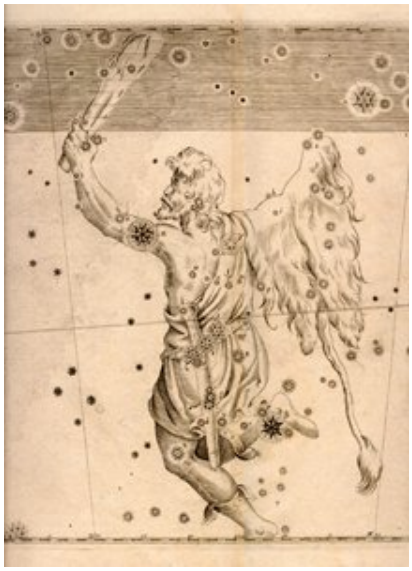
GREEK IN THE ROUND

by Ev Rilett

In ancient times although the constellations in the sky were not named proper, the figures were nevertheless prominent in the sky world wide. These stories have been handed down since the time of the ancients, Greeks and Romans. Stories (not written by a select group of screenplay writers) were told by soaring imaginations, believed and handed down from generation to generation. Each culture had its own variations and names, but it is surprising how many stories were similar and how their lives were affected, particularly in the agricultural aspects.

In 150 AD., Claudius Ptolomy named 48 northern constellations and incorporated most of the European lore surrounding them. Starlore is a very important facet of astronomy. It is almost impossible to reference stars or constellations and some of the naked eye objects without finding out some of the lore. Mythology is a very important influence on our lives because much of our culture and heritage is based upon the myths of these times. Unfortunately, with today's media (mainly television and radio) we find ourselves in a world where our imaginations are not often called upon to entertain ourselves. Light pollution has seriously curbed the curiosities of the heavens. Fear of the night has limited the time we allow ourselves the beauty of the quiescent blackness of night. We have grown away from starlore in the sense that many of the stories are now fragmented and we now regard them as fascinating stories. However we retain as much of the legends as possible, and hopefully the insights of our ancient ancestors. We will continue to pass them on to future generations to be enjoyed and cherished.

With this story handed down from our ancient ancestors, I hope to rekindle some of the marvel, beauty and to a great degree the beliefs and superstitions that shrouded the intricacy of their daily lives.



So without further ado, try to imagine yourself in their time. As your day comes to a close, you sit resting outside to feel the brisk evening and you look up to greet the setting Vega and rising Capella gracing the dusk sky. As it gets darker the sky-theatre curtain rises, the stage is set, and your imagination takes hold.

This is the story of the Hunter, **ORION**. Looking at the constellation, you can imagine him: very tall, broad shoulders and his sword at his side. You will find him prominent from November through March along the equator in the south east to south west skies. The belt stars are close to 0 RA. and 0 DEC.

It is said that Orion was the most handsome and tallest of all men, and also a great hunter. When very young he married Side (whom Sidereal Time is named for), who died young but gave him three daughters. Orion had many affairs after Side notably, Eos, goddess of Dawn, the Pleaides sisters (whom Zeus saved by turning them into doves that flew to heaven, and whom Orion now chases across the heavens), and eventually Artemis, Goddess of the Moon, who was just as keen a hunter as Orion himself.

Artemis (renowned as an beautiful icy deity) had finally found someone worthy of falling in love with. Orion gave himself up to the delights of hunting with Artemis and soon their affair attracted notice.

Artemis' brother was Apollo, chariot-driver for the Sun. Apollo saw that Artemis was so taken with Orion, she was neglecting her duties and had let weeks pass without once carrying the Moon across the sky. Arguing with her got him nowhere, so Apollo concocted a plan to get rid of Orion.

One day while Artemis was away, Apollo spoke to the Earth Goddess, who sent a gigantic scorpion from out of the ground to challenge Orion. Being extremely vain of his hunting skills, Orion was delighted to fight the scorpion. Back and forth the battle raged yet neither was able to deliver a decisive blow. Unfortunately Orion was mortal and eventually grew tired, while the creature came on and on. Finally Orion had to run for his life. He raced to the shore, dove in, and began to swim powerfully out to sea. Soon he was only a distant speck, among the wave tops.

At this point Apollo unfolded the second half of his plan. Calling his sister's attention to the unrecognizable black dot far away, he tauntingly told her that although she was good with her bow, even she had her limits, and it was unlikely that she could hit the little target. Stung to the quick, Artemis promptly fitted an arrow to her silver bow, drew to full reach, and sent the arrow flying. Her aim was perfect. Pierced through the head, Orion died instantly. When his body washed up on shore, Artemis was horrified to discover what she'd done, and wept bitterly. Hastily, she took the body to Aesclepius the doctor, and begged him to restore Orion to life. Before Aesclepius could perform the miracle however, a reluctant thunderbolt from Zeus destroyed him. Accepting at last that Orion was gone forever, the heart-broken goddess set her lover among the stars, but not just anywhere. In bitter tribute to the creature that started the fateful chain of events, Artemis carefully placed Orion in the winter sky - where half the heavens lay between him and his nemesis, the Scorpion.

[Of course Orion is well placed for observing right now! --editor]

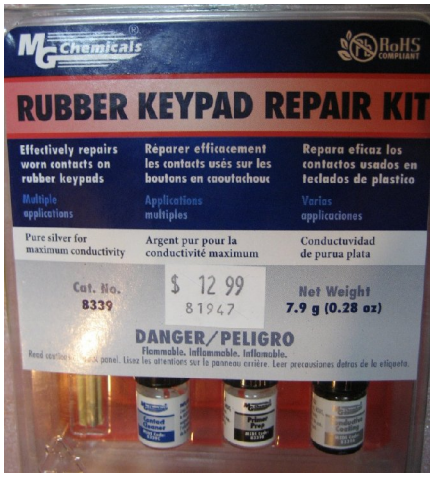
Meade Autostar Keypad Tune Up

By Colin Haig

Does the keypad on your Meade scope seem a little unresponsive? Or you have to push the buttons extra hard or multiple times to get it to work? Then you may be suffering the heartbreak of bad contacts. Yes, after years of faithful operation, sometimes the rubber keys with carbon contacts just don't hold up. This problem seems to affect only the newer generation of Meade telescopes that have an Autostar II or similar controller, such as an LX200GPS. The older scopes used a more reliable flat keypad that unfortunately would wear out over time. If you have problems with a newer scope, read on. This fix does not apply to the classic LX200 (i.e. non-GPS scopes).

The rubber keypads consist of a flexible membrane, and a harder button, with little round pads that make contact with the circuit board. The carbon pads are moulded onto the bottom of the rubber buttons, and when you push the button down, the black pad bridges some solder contacts on the green circuit board in the Autostar. The problem is that these pads are not very conductive, sometimes stick, and don't give a 100% reliable circuit with every press. At the scope, you might be experiencing jumpiness in the movement of the scope, multiple hits of the Enter and Mode keys may be needed, and the arrows for scrolling don't seem to behave consistently.

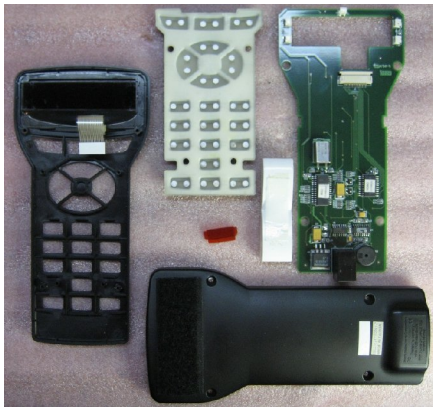
As a recent sufferer of this problem, I am happy to report there is a wonderful and inexpensive solution. Canadian manufacturer MG Chemicals makes a Rubber Keypad Repair Kit that cured my Autostar's buttons. It takes some patience, a few minutes to figure it out, and 24 hours for the solution to take full effect.



The kit can be purchased from several electronics components stores, including Active Tech in Mississauga (www.active123.com) and Sayal Electronics (www.sayal.com). For less than $15, you get a package with 3 cotton swabs, a stir stick, contact cleaner, prep, liquid silver, and super glue. Did I say super glue? Don't worry, its just part of the process. Basically you will open up your Autostar, clean out any obvious dirt, and then use the cleaner, prep, glue, and silver contact material in the right order, Effectively, you are putting a high-quality, low-resistance electrical contact on the surface of the existing black carbon pads, and this makes a large improvement in the keypad reliability.

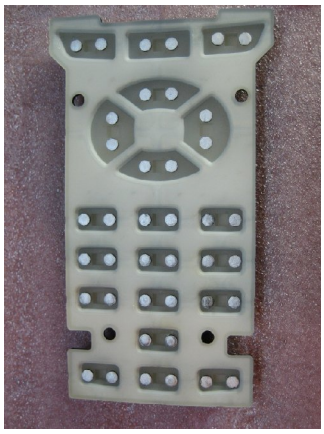
You start by discharging any static electricity, so that you don't damage the electronics. Put the Autostar on a grounded or anti-static work surface. Ground yourself, and then you are ready to go. Removie 4 small Phillips head screws to open up the Autostar, being careful to not lose the red lens for the light. After the back is off, you will see the green

circuit board. Be very careful in handling this. You need to separate the flexible ribbon from the LCD display from the beige connector by sliding up the latch. You need to be careful not to damage the ribbon, or pull it off the LCD.



Next, you will see the rubber keypad which can be lifted out of the front faceplate. It is white, with a number of little black rubber pads. Once its out, you can do follow the instructions in the kit. Be patient, and get as little of the liquids as possible on the pads. You want a smooth, flat finish, not bubbles or rough patches.

The kit tells you to wait 24hours for the solution to cure. This is really critical, and you will be tempted to put it all together. Don't. Preferably do the project on a rainy weekday evening, so you won't want to rush it. You will have a smooth flat metallic contact when you are done. Note that it does take a while to do each of these contacts, and its best to start at the top, and work down, otherwise you will smudge the chemicals with your hands. Don't use all of the chemicals – there is probably enough to do 5 keypads if you had enough cotton swabs. You need to use them sparingly. Another idea would be to get a bunch of friends together for a keypad repair workshop.



After a day has passed, observe anti-static precautions, and then you can reassemble the Autostar by inserting the rubber into the front case. Then assemble the circuit board and case, making sure you have the LCD ribbon in the beige connector properly, and the red lens at the top. It's a bit tricky to get that lens in place while closing up the two halves of the case. Once its all done, hook it up to your scope, and try it out. I feel mine works better than factory-new. This simple investment has made using the scope a real pleasure.

I Saw Santa Claus

by Ev Rilett

On Christmas Eve night. I was outside with my Mom's tiny puppy between 7:30 & 8:00pm. I was looking up towards a very clear sky with pretty much a full moon. It had to be clear because everyone is engaged for Christmas Eve visiting of some kind or other. So there I was looking directly at the moon and a beautiful long, slow, golden and very bright meteor came down right beside the moon. *[Continued on page 7.]*

It was a bolide which means it broke up at the bottom tip before it expired, like a tiny fire cracker. It was gorgeous . . . . . I knew in a moment it must be Saint Nick.

It was a lovely thought and I think I'll carry it with me. I hope everyone had a great Christmas Holiday season and a very Happy New Year.

Monthly meetings:

The Hamilton Steam Museum located at **106 Parkwood Crescent, Hamilton, ON L8V 4Z7**, *hosts our General Meeting on the* **1st Thursday** *of each month at* **8:00pm**.

Please visit our website! It is found http://www.hamiltonrasc.ca

Send an email to Mark Kaye (see the director's list below) to join the centre mailing list. See http://www.rasc.ca/computer/rasclist.htm for the national list.

THE HAMILTON CENTRE OBSERVATORY:

From Highway 6 North of Hamilton.

Take Concession 7 East eastbound, cross Centre Road.
Continue on 7E, keep going past railroad tracks, to near end.
Observatory driveway is on the right just before the stop sign.

From Mississauga or Milton.

Britannia Road past Highway 25, Guelph Line, Cedar Springs Road to End. South 1 Block on Milborough Townline to Concession 7 East.
Our gate is on the south side of the last lot (south west).
The observatory phone number is (905) 689-0266.

Observatory Keys

If you are a key holder, please make sure you get your new key from Andy Blanchard. If you are interested in becoming a key holder you must be a member in good standing for one year, sign a release form and attend a short observatory orientation meeting. Please ask a board member if you have any questions.

Directors and contacts

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