FERA
Ford Employees Recreation Association

FORD AMATEUR ASTRONOMY CLUB
FAAC
Established 1992

Star Stuff

ASTRONOMICAL LEAGUE

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Feature Article:

WEEKEND AT HARRY'S !

By Clayton Kessler

When our former club secretary, Harry Kindt, retired from his job with the City of Detroit, he and Ada seemed to disappear from the face of the earth. It turns out that they still reside on earth, upon retirement they drove until the skies got dark and bought a home! Fortunately, they only drove about two hours, to northwest Ohio, and their skies are amazingly dark!

The fun never ends. An e-mail invitation showed up to make a run for the border and spend a weekend observing at Harry and

Harry's (Continued on page 4)

The RATS Gather for Winter

By Clayton Kessler

You know...RATS, the Remote Access Telescope Subgroup, not that other stuff you are thinking. RATS is a loose gathering of local amateur astronomers from several area clubs. The reason that we meet is to promote a remote access telescope system that can be accessed via the internet. We have been making progress for some time and having a ball doing it.

Doug called the first meeting of the season on November 21st. We needed to gather and see where we stand on the remote telescope issue and what we can do to make progress. Since last year several things have happened. A computer system has been assembled and located in the roll off roof observatory. An ST5

RATS (Continued on page 6)

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1998 Club Officers

President	**Greg Burnett**
Vice President	**George Korody**
Treasurer	**Ray Fowler**
Secretary	**Dave Beard**

General Meetings
The Ford Amateur Astronomy Club (FAAC) holds regular general meetings open to the public on the fourth Thursday of the month at 5:00 PM. Meetings are held in conference room 1491 of the Ford Credit Building

Observing Site
The Ford Amateur Astronomy Club has an established observing site, by permit, at the Spring Mill Pond area of Island Lake Recreation Area in Brighton, Michigan. located near the intersections of I-96 and US-23. Members are responsible for opening and closing the gate after the parks 10:00 PM closing time. (Summer season only)

Observing Hot Line - (313) 390 5456
On Friday and Saturday nights, or nights before holidays, you can call the hot line number up to 2 hours before sunset to find out if we will be observing that night.

WWW Page
FAAC maintains a web page on the internet at URL:
http://kode.net/~dougbock/faac/
Ford Intranet at:
http://be0084.be.ford.com/fhl/faac

Membership and Dues
Membership to the Ford Amateur Astronomy Club is open to both Ford employees and the general public. The dues structure is as follows:

Annual Individual/Family	$ 20.00
Lifetime Membership	$100.00

Membership benefits include a subscription to the Star Stuff newsletter, discounts on subscriptions to Astronomy and/or Sky and Telescope magazines, after hours use of the observing site at Island Lake, and discounts at selected area astronomical equipment retailers.

Newsletter Editor:
Jack Kennedy
e-mail jjkenn@ibm.net
home 248-399-9403

Editors Corner

By Jack Kennedy

Well the year sure went fast and with the end of the year I finish my term as newsletter editor. It has been fun putting out the club newsletter each month. I appreciate all the great articles that I received from club members. I especially appreciate those that took the time to contribute month after month and especially Clayton Kessler. Clay provided many star party accounts, book and equipment reviews as well as a great article on Astrophotography. If you haven't seem Clay's photo book ask him the next time you see him. I hope you all continue to provide this great material to our new editor.

In this issue we have articles on the first annual North West Ohio Star party at Harry Kindt's, an update on the activities at NCO and a very good article on how to get started in Astrophotography. There is also the usual club information and neat stuff.

Of special note is the particulars on the Third Annual FAAC Dinner Party. Last year was lots of fun so don't miss it this year.

With the elections coming up its time to stop being a fly on the wall. Volunteer for one of the club board positions. We need new members to get involved and provide the direction that has made us so successful. Lastly,

Happy Holidays

House Bill 4254

The light pollution bill is still in the Senate committee for Technology and Energy. Looks like our Michigan Legislature at its best. We need to keep the pressure on our Senators or this bill may die of neglect. If you would like more information on this bill contact:
Jack Kennedy at 248-399-9403 or e-mail to jjkenn@ibm.net or any of the club officers.

Lights..... Camera..... Action.....

Getting Started in Astrophotography

By Clayton Kessler

Astrophotography does not have to be a big "production". You can take very satisfying, very professional looking, astrophotos with fairly minimal equipment. If this is a part of the hobby that interests you I urge you to take the plunge!

Let me give you some background. I have been in the hobby of astronomy for about three years. I don't make any claim to be some kind of "expert", I am just an average schmoe with less than average patience. I did, however, have a driving force. Ever since I was a child I have been fascinated by the astrophotos taken by observatories and placed in magazines. I did not realize that many amateur astronomers were getting similar results, and getting published, using equipment available to us all. I will let you in on a little secret, many of the photos that I see in magazines, are piggyback exposures through regular camera lenses. Secret #2 – piggyback astrophotos are relatively easy to take! In piggyback photography you take pictures through a camera lens – not the telescope. The telescope is used to make "guiding corrections" or correct any errant drifting of the stars by watching a star through a crosshair eyepiece.

What is needed to take astrophotos? Well..... a camera, of course, and you need to be able to hold the shutter open for a length of time. This means the camera should have a "bulb" or "B" setting. An older Single Lens Reflex (SLR) is perfect. You also need a cable release, if you touch the camera to trip the shutter you will blur the photo. You also need some kind of mount that will track the stars. This is not as difficult as it seems. Look at your telescope, is it a fork mounted SCT?, a newtonian on a german equatorial mount?, does it have a motor drive? If so, you are golden. You just need to attach your camera to the telescope, OR THE MOUNT, and start to take photos. The mount, you say? How come? Well a lot of scopes, notably 4.5" reflectors, come with a small GEM and a motor drive is a frequent accessory. This small mount is fine for visual work but somewhat light duty to drive both the telescope and the camera. The solution? Remove the telescope! This takes enough strain off of the motor that you can use the mount for photography with shorter focal length lenses. Without a telescope you cannot guide the mount but this is not so critical with a short focal length lens.

Ok, you have a camera and a motorized equatorial mount – now what? Well, we need to attach the camera to the mount. Many mounts or telescopes have the facility to attach a "piggyback camera mount" and these are available from scope dealers. The cost for a piggyback mount runs from 30 to 50 dollars and they will support a camera and up to a moderate telephoto lens. When you are just starting don't use more than a moderate telephoto

Astrophotography (Continued on page 4)

FOR SALE

Televue 27mm Panoptic eyepiece
Perfect condition, in box
Purchased new this year at TSP for $313
Asking $275
Greg Burnett
gburnett@ford.com
(313)845-3586

ATTENTION!!

If you have an email address, but are not receiving FAAC meeting notices, etc. Send your current email address to gburnett@ford.com to get on the distribution list.

Harry's (Continued from page 1)

Ada's. Well, I am always ready for a star party so I packed up my 8" and accessories and headed south. I had to work on Friday so it was dark by the time I arrived. Boy!, was it **DARK**. Harry lives in a rural farm area with a few houses. The only lights are the occasional yard light put up by farmers and homeowners. I had a hard time seeing any address but I stopped at the house with all the cars out front. I found a place to park, in front of Jack Kennedy's "telescope case" (motor-home) and joined the fun.

Several club members were in attendance including Doug Bock, George and Pat Koroty and Jack Kennedy. A couple of local astronomers, Larry and Patrick, showed up also. What a nice site! Harry has a large backyard that slopes slightly up to the west. To the south, east and west are farm fields. To the north are a few neighbors. Let me mention the neighbors for a moment. Several houses down are the only intrusive yard lights in the area. Harry asked for, and received, permission to install full cutoff shields on these lights and, in fact, has the shields in hand. These will be installed shortly and remove the only intrusive lights around. The neighbor right next door was also very considerate. When the arrived and left their house in their car, they did so with the headlights off – very nice people. The early evening was cloudy but it cleared by around 7:30 or so. After it cleared I could easily see the 5th magnitude stars in the bowl of Ursa Minor and I did not see any intrusive "light domes" from cities nearby. These are very nice skies! I would put them on par – or slightly better than Lake Hudson.

Friday night was spent looking over Jack's shoulder as he did some work with his CCD camera. I also spent some time watching the meteors flash by. I did not keep an accurate count but 3 to 5 per hour would be a fair

Harry's (Continued on page 5)

THIRD ANNUAL FAAC DINNER PARTY INFORMATION

Mark your calendar for our Third Annual FAAC Dinner Party, which will be held on Saturday, January 30, 1999. The informal party will be held at Leon's in Wixom. Social hour begins at 6:30 PM with a buffet dinner at 7:30 PM, followed by presentations, surprises, and gab. The cost is $15 per person. A cash bar will be available (no BYO).

Don't miss this gala event. All FAAC members and their families are welcome. Have a night out and socialize with your friends. Be prepared for the unexpected.

Please advise your attendance to any Board Member as soon as possible, but no later than Monday, January 24, and turn in your dinner monies no later than Thursday, January 28. By the way, January 28 is the first General Membership Meeting of the new year.

Leon's is located at 29710 Wixom Road, which is across the road from the north end of the Ford Assembly Plant, just north of I-96.

Astrophotography (Continued from page 3)

(135mm or so). If your scope does not have any way to attach a piggyback mount there are other ways.....

You need to look at the mount and be creative. Often there are screw holes that can be used to attach a "ball swivel camera mount" available from a camera store. Every mount is different so take a look. If you see something that you think will work try it! You can even use a piece of wood, a ¼-20 screw and a roll of duct tape (or "Doug" tape at the NCO). Attach the camera to the wood with the ¼-20 screw (sink the screw head into the wood so it will not scratch

Astrophotography (Continued on page 5)

Harry's (Continued from page 4)
SWAG. Most seemed to be going east to west and were probably Leonids. Clouds moved in at around 2 AM so we had the opportunity to get a good nights sleep.

Saturday dawned with some clouds, and some blue patches we also had a stiff wind. We did the usual get up and grumble around. A good breakfast in Montpelier got us off to a running start. Most of the day's discussion centered around the cloud deck and if it would clear in the evening. Towards the afternoon the talk turned to astrophotography. After a nap (I was told by a reliable source that the sides of the motor-home could clearly be seen to move in and out in time with loud roaring noises.....) we checked the internet to get a feel for the clouds. The weather satellite images showed a clearing approaching. As darkness came we set up and checked equipment for the evening's activities.

The clouds cleared as predicted but the wind stayed pretty stiff. This was both good and bad. Because of the wind, no one had any dew problems throughout the evening. But the wind made it difficult to use any high power, and made photo guiding almost impossible. The skies got good and dark and we were able to observe two occultations of Jovian moons. As the evening wore on we ended up with three scopes doing astrophotography! Because of the wind, most of the shots were wide angle piggyback photos but they were a lot of fun to take. I haven't talked with Harry yet but mine came out OK and I know Jack was pleased with his!

The meteors kept up their show on Saturday with similar frequency as Friday night. There was one especially exciting bolide that showed a short, bright streak and then an explosion! It exploded with a very white light that threw an amazing shadow!

As the evening wore on some cloud bands

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Membership Renewal Changes.

All memberships expire December 31. Renewal will be due before January 31. Membership fees paid before January 31, $20.00 a year. After January 31, your name will be removed from the roster. A new membership application must be completed. Any renewal postmarked after January 31 the membership fees will be $25.00 for the year.

Please don't let this happen, Renew your membership on time.

Subscription for Sky & Telescope or Astronomy magazine.

Do not send in your money to FAAC for Sky & Telescope or Astronomy magazine, we now have a form that you must send in with your subscription. For a one year subscription of Sky & Telescope or Astronomy magazine. Pick up a form at the next FAAC meeting and save $10.00 for a one year subscription. Or contact any FAAC board member.

Astrophotography (Continued from page 4)
anything). Duct tape the wood to your telescope tube near its' balance point. Take astrophotos. Is this an elegant solution? **Heck no!** Does it look good? **Heck no!** Will it take astrophotos? **You Betcha!!!**

What else do you have to do? When you set up you have to **POLAR ALIGN** your mount very carefully. Polar alignment is critical to good astrophotos – especially if you want to use that 500mm telephoto. Polar alignment means you are going to adjust your mounts polar axis parallel with the axis of the earth. If your scope has a polar alignment finder scope this is easy. If not you may have to rough align with a compass and protractor and do a drift alignment to

Astrophotography (Continued on page 6)

RATS (Continued from page 1)
CCD camera has been procured, and this system is being furiously "debugged" by the resident astronomer! (I wonder if a CCD camera can be worn out?) In our first meeting of the year we decided to build the stepper motor control system designed by Mel Bartles. This will be used to provide computer control of the 12.5" telescope in the roll off observatory. In addition, encoders will be added to the mount to provide feedback to "The Sky" software. Mel's software uses standard ACL to provide a computer interface to the stepper control.

Jack Kennedy volunteered to purchase the components and assemble the stepper control system. Doug is going to research the proper stepper motor sizes and gear ratios. I am going to build an extended counterweight shaft assembly and interface the encoders to the mount.

A fairly aggressive 30 day timeline was proposed so we need to get cracking!

The idea was to have a star party afterward if it was "clear". Who would have thought that it would actually be clear in Michigan when you wanted it to be. Wonder-of-wonders, a cloudy morning turned to brilliant blue skies by mid afternoon. This provided us with the opportunity to set up scopes, "debug" the ST5 some more and generally have a fine old time. It finally got hazy around midnight but a thoroughly good evening was had by all. I hope that this clear night trend continues throughout the winter.

The next RATS meeting will be on December 19th, star party to follow if clear. If you have a chance come on out! We always have a good time and we can use all the help we can get! Many interesting things are going on at Doug's Northern Cross Observatory!

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Harry's (Continued from page 5)
moved through, usually a coffee break was enough to let the sky clear back out. It had to end sooner or later and the clouds rolled in to stay at around 2 AM.

After the "grumbling around time" on Sunday morning we picked up, packed up and bade goodbye to Harry, Ada and Zeke the astro dog. Sunday's weather was fair and mild, perfect for a nice drive home. I have to say that I had a great time at the star party. I am very grateful to Harry and Ada for the invitation and I hope to be invited for a return trip! I am also envious of Harry's observing site! How wonderful that a person can retire and pursue their interests. Harry, when you build that observatory building don't hesitate to call me for help!

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Astrophotography (Continued from page 5)
perfect your alignment. The method for drift aligning a scope is written up in many reference books far better than I could here. If I could give you a hint find someone at a star party that is proficient in this and have them teach you. It is not hard and takes around 20 minutes or so. If this seems hard, don't worry! It is not difficult and if you are going to take photos with short focus lenses (35mm, 50mm, 100mm) just set north with a compass and set your latitude with a protractor. Sight on Polaris through your finder scope and start shooting!

OK, we have a mount, a camera and a cable release. We have duct taped our camera to the scope. What else do we need? How about film! It must take some special kind of high speed scientific film to take astrophotos, doesn't it? Nah, you don't need any special film, the ones available from your local drug/department/ camera store are fine. What kind do I recommend? Well – stay away from black and white. It is hard to get developed, most places have to

Astrophotography (Continued on page 7)

Astrophotography (Continued from page 6)
send it out. You really don't need Tech Pan 2415 that has been hypered for this kind of astrophotography. Leave that to the "pro-amateurs" that get published in the national magazines. Color film is much more impressive! There are lots of colorful things in the sky that are so dim we see them as shades of gray. Color film, however, shows lots of red emission nebulas and blue reflection nebulas. In addition, stars themselves have lots of color variation and look great on color film. I can recommend several common color print and slide films that should be easy to get a hold of. Kodak sells Royal Gold 400, Max 800, Ektachrome EliteII 200 and Ektachrome 1600. The Ektachrome films are slide films. Fuji also has several very good films that you can get anywhere. Fuji Super "G" 400 and Super "G" 800 are getting hard to find but are great films. They are being replaced with Superia 400 and Superia 800 X-tra. The good news is that the Superia films are very nice and good replacements for the Super "G" series. In general start out with about a 400 speed film and you won't go far wrong.

How long do you expose the film? This depends upon sky conditions and the "speed" of the camera lens. Generally speaking, the darker the sky – the longer you can expose the film. I can give you the rule of thumb that I use from "moderately dark" skies.

Camera Lens Speed:	**Exposure Time:**
f 2.8	10 minutes
f 3.5	20 minutes
f 5.6	30 minutes
f 8	45 minutes

Another hint I can give is to "stop down" your 50mm lens to at least f2.8. This will reduce or eliminate the coma that is present in all camera lenses. This coma does not show up in terrestrial subjects but stars are pinpoints and they show aberrations that would otherwise not be noticed.

So! You took some photos – now what? You have to get them processed. Color print films can be processed at your favorite "One Hour Photo" joint. But be prepared for some more work when you get them back. Many photos will be very washed out looking, or they may be a strange green color. This is quite normal, your photos have to be "color balanced". Most automatic processing systems have no idea what an astrophoto is, and neither do most processing machine operators. If you have the necessary computer hardware and software to do this yourself that is wonderful, but most people do not. This is where a good photo processor is a jewel. Cultivate your local shop, bring your stuff in at a non busy time and schmooze. Ask what they can do to darken the background and bring out details. Bring in magazine pictures and show them what you want. Most places like happy customers and will make the adjustments necessary to make your photos look their best. Before I became computerized with this stuff I had a great deal of satisfaction with Quicksilver Photo in Plymouth and Photo 1 in Cadillac. Both shops have done a very fine job with my astrophotos.

Well, we didn't talk about how to take astrophotos if you have a dobsonian, or how to take prime focus astrophotos or where to take photos. Maybe some future articles there. Go out, set up, take astrophotos and show them off!

Ford Amateur Astronomy Club
Star Stuff Newsletter
P.O. Box 7527
Dearborn, MI 48121

December		1	2	3	4	5
		SR: 07:42	SR: 07:43	SR: 07:44	SR: 07:45	SR: 07:46
		SS: 17:01	SS: 17:00	SS: 17:00	SS: 17:00	SS: 17:00
		MR: 16:03	MR: 16:46	MR: 17:35	MR: 18:30	MR: 19:30
		MS: 04:53	MS: 06:08	MS: 07:22	MS: 08:31	MS: 09:34
				FM: 10:21		
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MR: 20:33	MR: 21:37	MR: 22:40	MR: 23:41	MR: None	MR: 00:41	MR: 01:39
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				LQ: 12:55		
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MR: 02:37	MR: 03:34	MR: 04:31	MR: 05:29	MR: 06:26	MR: 07:21	MR: 08:15
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					NM: 17:44	
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MR: 09:05	MR: 09:51	MR: 10:32	MR: 11:10	MR: 11:45	MR: 12:18	MR: 12:50
MS: 18:56	MS: 19:55	MS: 20:57	MS: 22:01	MS: 23:07	MS: None	MS: 00:14
						FQ: 05:47
	DSO:20:55					
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MS: 01:23	MS: 02:34	MS: 03:46	MS: 04:58	MS: 06:08		