



## Welcome

Dear Reader,

This issue closes out our 10th year of publishing this ezine. Wow, 120 issues, who knew that I would keep this up this long. In the last 10 years we have seen quite a change in IR technology.

Most camera systems cost more than \$30,000 then and were rather big and bulky. Today we have cameras available for less than \$2000 weighing less than a pound with measurement, color, and digital storage!

When I started out as a thermographer 34 years ago, cameras like these would have seemed like science fiction, and they were. Look at the communicators from the original Star Trek series. My children have smaller cell phones with more advanced features than Kirk ever had!

And finally the existence of the web and email has made the production and distribution of this newsletter possible; and these technologies have come a long way since we started publishing as well.

It will be fascinating to watch as the IR technologies and the web evolve over the next 10 years.

**Let me know how you like this format and whether you prefer the html or the pdf format. You can vote and leave your comments by visiting this [link](#).**



Have a very Merry Christmas! We'll see you in 2010 for volume 11.

Gary Orlove,  
Editor and Publisher

## Video of the Month

A video from David Brown of the Infrared Training Center explains transparency in the world of infrared.



Click the image to link to the video

## Links

 [Infrared Training Center](#)

 [ITC On-Demand Training Portal](#)

[E-LearnIR](#)

 [Course Calendars](#)

 [ITC Web Store](#)

 [InfraMation IR Conference](#)

 [IR InformIR Blog](#)



### InfraMation 2009 IR Clinic Manuals

#### Available Manuals:

- Marketing your IR Services
- AltaIR Software
- Advanced Infrared Imaging Radiometry
- ExaminIR Software
- Thermographic Stress Analysis and Non Destructive Evaluation
- HVAC Applications
- Building Science
- Reporter 8.3 Software
- Indoor Electrical Applications
- Research & Development / Automation Applications
- Home Inspection
- Mechanical Applications
- Roof Surveys
- GasFindIR Applications
- Advanced Condition Assessment of Substations and Transformers
- Home Energy Auditing with Infrared Thermography
- Managing IR Programs
- Medical Applications
- Arc Flash Safety

We have an abundance of clinic manuals left over from our recent conference. We are offering these for \$25 per manual.

All manuals printed in color.

A nominal Shipping and Handling fee will be added to these prices. Please contact Karen Tedford-Tierney if you are interested in purchasing any of these items.

Telephone 978-901-8405  
Fax 978-901-8832

We accept VISA, MasterCard, and American Express credit cards.



## IR News you can Use

Straight from the World Wide Web, here is what's going on in the world of infrared thermography.

- [New technologies emerge for breast health screenings](#)

*Laconia Citizen- Leslie Modica - Dec 6, 2009*

Dr. Nicole Shertell, who practices clinical thermography at Whole Life Health Care in Newington, said while a mammogram tests for density in breast tissue, ...

- [Find Out How Heat-Seeking Cameras Help Evaluate Tree Health at Paignton Zoo](#)



*Zoo and Aquarium Visitor News- Philip Knowling- Nov 16, 2009*

The two day seminar, Physiology, Ecology and Thermal Imaging, was held recently at Paignton Zoo. The event was organized jointly by arborculturalist Andrew ...

- [Test for sleep apnea 'unwired'](#)

*Houston Chronicle- Todd Ackerman- Nov 29, 2009*

A thermal infrared camera about 8 feet away collects information based on airflow throughout the sleeping patient's nostrils. ...

- [Measuring and Managing Silage Heat](#)

*World Dairy Diary (blog)- Cindy Zimmerman - Nov 19, 2009*

This really cool infrared camera can read the temperature of a silage bunker and provide a color picture of the variations in heat levels ...

- [Spitzer Telescope Observes Baby Brown Dwarf](#)



*The Future of Things - Ehud Rattner - Nov 29, 2009*

Now, thanks to Spitzer's long-wavelength infrared camera, astronomers have penetrated the dusty natal cloud containing two baby brown dwarves named SSTB213 ...



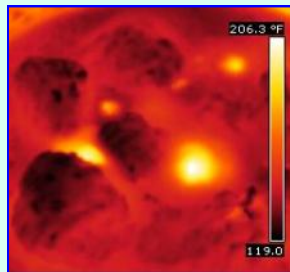
## Brainteaser of the Month

Here is this month's brainteaser. Readers who email us a correct explanation are entered into a drawing to win a prize.

Please put "Brainteaser" as the subject of the message.

[Click here to email your guess](#)

Do you have an interesting image that you think would challenge other thermographers? If so please [email](#) me your image (preferably in native .img, .jpg, .tif, .tgw, or .tmw format) with an accompanying visible photo and explanation. If your image is used, you receive a gift as well.



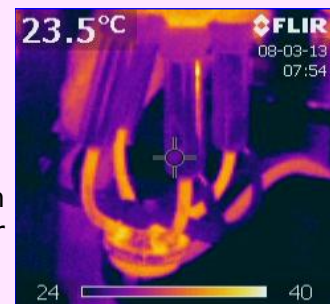
## Last Month's Brainteaser

Last month's brainteaser is an image of a milking machine.

We received a total of 361 guesses last month and 357 correct answers! Our readers sure know their milking machines!

Congratulations to our winner William Broach, and to our thermogram contributor, Armando López Guerrero .

They both win the revered ITC low e coffee mug.





## ITC Message Board Posts

Here is a selection of recent new threads by IR Community members. Feel free to click the links, see the responses, and post your own response if you like.

- [Protecting camera from RF](#)



I did a demonstration for a potential client where there was a lot of RF being generated. The camera (a PM 390) was clearly influenced by the RF -- screen changes, various displays on the screen that did not belong there, etc. It recovered as soon as the RF stopped, but I am concerned about damage. Does anyone have thoughts about how to protect the camera? Perhaps a Faraday cage?

- [Energy loss from walk in cooler calculation](#)

I have a customer that wants us to run a comparison on how much energy is being lost from a walk in cooler running without an air curtain as opposed to running an air curtain when the door is open. My first instinct is to take temp measurements on a paper bag hanging in the doorway for 5 minutes after each scenario. Then with a base measurement from inside the cooler and the size of the door opening I assume there would be a calculation I could run to show the amount of loss in both cases. Am I on the right track here and can anyone point me to the correct calculation?

- [Emissivity values on a building survey](#)

As i understand different materials have different emissivity values and when using the camera in order to achieve an accurate apparent temperature reading or delta T the correct emissivity value of that material must be used. My question is: if i am using my camera to scan the internal surfaces of a building for potential water leaks etc, there are many materials used in its construction. considering the fact i am in theory scanning multiple surfaces all with different emissivity values; how can i be sure my temperature readings are accurate? without scanning and altering the parameters of each surface first?

- [Suspect monitoring inside a building by infrared ...?](#)

I saw some films showing the police using an infrared technology to monitor the suspect inside an apartment. The images in the film just show a patch of color moving in the apartment. What kind of technology is talking about? is it fake?

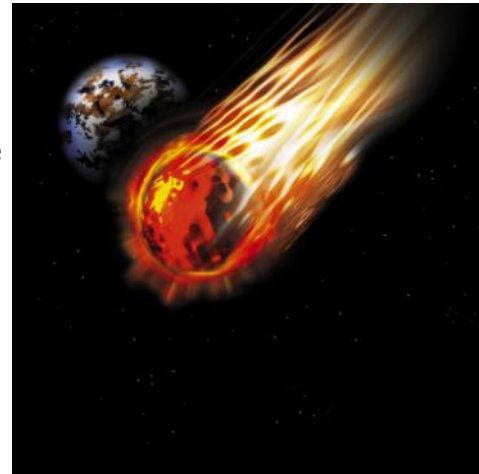
And of course if **YOU** have a question or want to start a discussion on a topic, we would love to hear from you. Just post a new thread on a [message board](#).



## Record Meteor Showers During the Day with your IR Camera

The Geminids meteor showers run from 6 to 18 December, primarily in the Northern Hemisphere. This is one of the best meteor showers of the year and never seems to disappoint observers.

This meteor shower gets the name "Geminids" because it appears to radiate from the constellation Gemini. An observer in the Northern Hemisphere can start seeing Geminid meteors as early as December 6, when one meteor every hour or so could be visible. During the next week, rates increase until a peak of 50-80 meteors per hour is attained on the night of December 13/14. The last Geminids are seen on December 18, when an observer might see a rate of one every hour or so.



What does this have to do with IR? If you have an IR camera, you can see many meteorites during the day, you don't have to wait for nighttime. Record some video with your cameras and put it on YouTube for all the world to see. And send me a link!



## FLIR delivers IR camera number 100,000 direct to "Bob the Inspector!"

At a press conference held in Tucson, Arizona on the 5<sup>th</sup> of November, FLIR delivered their 100,000<sup>th</sup> IR-camera to home inspector Bob Childs.



Bob Childs, with the company Bob the Inspector, became the owner of the 100,000<sup>th</sup> IR-camera produced by FLIR. In addition to receiving an award, Mr Childs, will also receive his FLIR BCAM SD infrared camera compliments of FLIR Systems (\$3,450 value).

The company "Bob the Inspector" uses an IR-camera to perform building inspections on private homes in order to detect problems on electrical systems, heating systems, air conditioning and other areas related to energy performance.

*"It is fitting that our one-hundred-thousandth infrared camera goes to Bob Childs, a home inspection professional", says Arne Almerfors, President Thermography Division, FLIR Systems. "As our country and our world continue to strive to go green, home inspectors and energy auditors are at the forefront of that monumental effort, evaluating our homes and buildings to ensure they are sound and energy efficient."*

FLIR, with both development and production in Sweden, has been manufacturing IR-cameras for over 40 years and the interest for IR cameras is growing. In 1995, FLIR delivered 400-600 cameras per year. Today the number is 25,000 camera per year from the thermography division.

*"As a market leader we take on the task to develop the market and continuously find new and exciting applications for our IR-cameras. Three years from now, I see us delivering 100 000 cameras per year", concludes Arne Almerfors.*



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