

BATS IN MY BAT CAVE

By Joe DeMonte
ITC Senior Thermography
Course Instructor
ASNT PdM Level III



As any good story will start, I found myself working late in my Fortress of Solitude getting ready for the Memorial Day weekend. It was dark out (no I wasn't wearing sunglasses or 106 miles from Chicago), and getting late in the evening. My friend Stacey, myself, and my two children Conner and Kayla, were putting the finishing touches on what I now term the "Bat Cave". It is a simple arched roof structure that I am using to complete IR experi-

ments and other projects.

My team and I had just moved a refrigerator into the workshop when something wicked this way came! Was it a bird, or a



Several Myotis lucifugi just hanging around

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INFRARED INCREASES PRODUCTIVITY AND IMPROVES SAFETY IN THE PLYWOOD INDUSTRY

IR Cameras See Through Steam In Log Vats

When manufacturing plywood and veneer, it is critical that logs be softened before they are transported into plants for peeling and further processing. If not sufficiently softened, logs can split in the peeling process, resulting in lost productivity and waste.

The Process: To insure logs are properly softened in the plywood and veneer manufacturing process, they are bathed in outdoor troughs filled with a caustic hot-water solution. Once the logs are sufficiently softened, they are removed from these vats, loaded on conveyor belts and

transported into the plant for peeling.

The Problem: Logs frequently jam in the vats; to avoid production interruptions and/or downtime, a crane operator using a hydraulic arm unclogs the jams, and makes sure the logs keep moving onto the output conveyor. Seems simple enough, however, oftentimes the crane operator's view becomes obscured by steam created by the combination of the caustic hot water bath and cooler outdoor temperatures. During the colder winter months especially, the steam produces almost 'whiteout' conditions, sometimes blocking the crane operator's view completely,

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Above: Note the lack of visibility from a typical view of the assembly line.

Below: The Thermovision infrared camera helps the operator see through the steam to safely complete his tasks.





Infrared Thermography

Level I certification courses

The Infrared Training Center is holding a series of infrared training courses and would like to invite you to attend!

The Level I course is geared to the new IR camera user and focuses on its use for a variety of applications.

Attendees completing course requirements and a field assignment will receive a Level I Thermography Certification.

COURSE HIGHLIGHTS

- *Introduction to thermal imaging and measurement systems for predictive maintenance applications. No experience in thermography is necessary!*
- *Collect quality data, accurate temperature readings, and account for measurement effects such as distance and emissivity using IR cameras.*
- *Interpret thermograms and make informed decisions using heat transfer concepts to analyze images, and see the latest in report generation and database software.*
- *Avoid costly mistakes — distinguish between hot spots and reflections, direct vs. indirect readings and qualitative vs. quantitative thermography.*

TUITION

A registration fee of \$1550 includes 4-day seminar cost, breakfast/lunch and all course materials.

LAS VEGAS

DATE: June 24-27, 2002

TIME: 8 A.M. to 5 P.M.

WHERE: Holiday Inn Las Vegas
325 East Flamingo Road
Las Vegas, NV 89109

Phone: 800-732-7889

FLIR ROOM RATE: \$69 + TAX

Hotel offers a complimentary shuttle from LAS (McCarran) Airport.

Hotel info:

http://www.sixcontinentshotels.com/holiday-inn?_franchisee=LASFR

NASHVILLE

DATE: July 22-25, 2002

TIME: 8 A.M. to 5 P.M.

WHERE: Holiday Inn Select Opreyland/
Airport
2200 Elm Hill Pike
Nashville, TN 37214

Phone: 800-633-4427 or
615-883-9770

CORPORATE RATE: \$94.99 + tax

Hotel provides complimentary airport shuttle.

Hotel info:

<http://www.turbotrip.com/usa/tn/nashville/holidayinnselectoprylandairport/>

REGISTRATION

If you have any questions or to confirm registration, please contact Laurie Kelley:

(978) 901-8291 or toll free at 1-866 TRAINIR.

1-866 TRAINIR

<http://www.infraredtraining.com/>

BATS (CONTD.)

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plane? Superman? Batman? No, it was a Pennsylvania Little Brown Bat (*Myotis lucifugus*). It flew over our heads chasing some sort of flying insect, and then made it's way into the rafters of the building.

This native bat is very common in PA. Its diet consists of moths, beetles, flies, and most importantly, mosquitoes. I don't have a problem with the bat being in my workshop. The bat had a problem with me. He/she did not know how to find his/her way out of the shed. The poor thing was actually flying around in the rafters in an erratic manner. After the bat stopped flying, we were sure that it had not found its way out of the workshop.

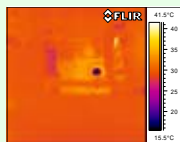
I decided that I needed to remove the bat from the inside of the shed before I locked the doors for the evening. Bats do not typically live in my workshop due to the fact that they cannot get in and out without the doors open. The dark recesses of the rafters proved impossible for detection devices that work in the



Hard to see aren't they?

LAST MONTH'S BRAINTEASER

Well it seems that one of our industry's "hot shot" thermographers has again won the prize with his guess of camera reflection showing the narcissus effect. Congratulations to Mark Goff from TVA in Chattanooga, TN



Thermal Signature of a Bat

400 to 750 nm waveband. In other words, we couldn't see the bat.

Fortunately, the DeMonte household maintains a FLIR 695 on the premises. I decided to power the long wave camera up and search for the bat. Lo and behold, the camera



BATBUSTERS

made short work of the bat's hiding place!

Finding the little guy (couple of inches long with an 8-10" wing-span) was completed in just a few seconds. Now the tough part was to get him safely outside. Who was I gonna call? Ghostbusters only handle the incorporeal so that leaves them out. The next best thing was to call BATBUSTERS! The team showed up in just about 30 seconds since they were already there helping me move the refrigerator!

Armed with the latest in Bat Catching paraphernalia, the team moved in for the extraction. The little flying insect eater proved no match for Stacey Snyder's Radar-proof Nylon Net-shaped Bat Capture Device (AKA "The RNNBCD"). Once the little brown bat was safely in the net, the team proceeded outside to let him go his own way.

I never thought to use IR to help

out the bat until I spent several minutes just trying to see if he was still in the workshop. For the past few nights, I continued to look for bats in the workshop to see if they



had found a way in beside the front doors. So far, no bats have shown up with the 695.

Warm blooded mammals can be located in a variety of settings with the proper equipment. Keeping an eye on herds or packs of wildlife can give biologists or game commissions valuable information about the size and distribution of many key species. Helicopter mounted FLIR cameras and ground based imaging systems continue to broaden the applications for IR. Look no further than your backyard, and you will find something new for IR to solve.





**YOU ARE CORDIALLY INVITED TO THE THIRD ANNUAL
INFRARED THERMOGRAPHY
APPLICATIONS CONFERENCE
September 29 – October 2, 2002
Orlando, Florida**

The Infrared Training Center (ITC) and FLIR Systems, world leaders in thermography training, thermal imaging and temperature measurement systems, invite you to attend our unique and informative **InfraMation 2002 Applications Conference** – the leading global infrared camera user meeting – in Orlando, **September 29 – October 2**, at the beautiful **Wyndham Orlando Resort**.

InfraMation provides an exciting forum to network with other IR thermographers and technical professionals to exchange applications information and success stories. Most importantly, learn new ways to maximize your investment in IR technology!

Stay current with innovative thermography applications, predictive maintenance trends, cost-saving techniques, and cutting-edge infrared camera and software developments – including the **new ThermaCAM P and E-series systems from FLIR**.

**Register before July 31, 2002 and receive
a value package worth up to \$500!**

Highlights of this exciting 2 ½ day **InfraMation 2002** conference will include:

- Over **30 informative presentations** by actual infrared camera users
- **FREE IR applications and software clinics** – bring your specific work projects, problems and questions for expert consultation. Clinic attendance is limited and you must be a paid **InfraMation 2002** Conference registrant to reserve a spot so register today!
- **Exhibitors Showcase** featuring interactive displays by leading predictive maintenance vendors
- Both informal and formal discussions with fellow thermographers, industry professionals, and ITC instructors.

InfraMation is designed and produced by the world's leading IR experts to help you get the most out of your infrared program. Whether you're a new or seasoned thermographer, **InfraMation** is the one thermography conference you can't afford to miss!

[To learn more, visit our web site <http://www.inframation.org/index.aspx>](http://www.inframation.org/index.aspx)

Register before July 31, 2002 and take advantage of our special discount package!

FOR QUICK AND EASY INFRAMATION 2002 REGISTRATION

Call toll free: **1-800-254-0632** or,

email: inframation@flir.com, or,

register on line: <https://www.inframation.org/secure/secregistration.aspx>



[Wyndham Orlando Resort](#)

PLYWOOD (CONTD.)

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making it impossible to see where he is swinging his boom. Out feed cab operators also are hindered when steam obscures visibility. Production comes to a complete halt when the loader can't see jammed logs through the steam. Not only does the presence of steam reduce productivity throughout the plant, it can compromise worker safety as well.

The Solution: Infrared cameras detect heat energy and, as such, see through fog, steam, smoke and other obscurants. By using FLIR ThermoVision™ IR cameras, several major North American plywood manufacturers have implemented systems that allow crane and out feed cab operators to see through steam and maintain optimal productivity. IR cameras were placed on both the loader roofs and the out feed cabs. The infrared cam-



Above Thermal - Sees log vats clearly.



Below Visual - Steam obscures view.

eras are tilt mounted and enclosed for protection against rain, debris and other harsh environmental conditions. Operators view images on high quality flat screen monitors, making it easy to see where logs are jamming regardless of weather conditions. Systems are affordable and easily installed by an in-house integration team.

The Results: Cost Savings (Return-on-Investment): Before installing infrared cameras, plywood manufacturers were not able to operate effectively from November through March. After installation of the ThermoVision systems, production levels and safety were maintained year-round, regardless of steam produced by weather conditions. One major US plywood manufacturer reported estimated cost savings in productivity and operating output of over \$250,000 annually. ♦

MEET THE STAFF: BOB ROGERS

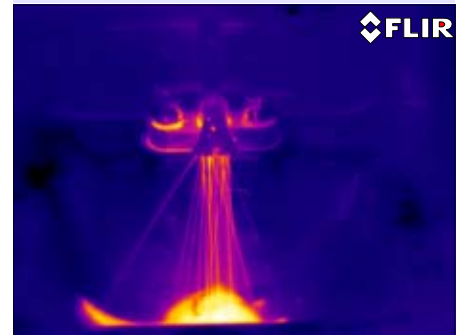
*Senior Thermography Course Instructor
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Bob has performed over 2100 infrared surveys on electrical switchgear throughout the Northeast and taught Electronic and Electrical Engineering at Wentworth and Digital Equipment Corporation. Bob has an MBA from Babson College in Marketing and Quantitative Methods and a BS in Electronic Engineering from Wentworth Institute of Technology. Bob

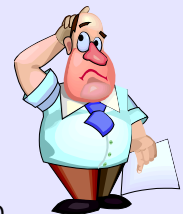
has been instrumental for a number of electrifying experiments in our camera laboratory and provides training in the U.S. and South America. He has traveled extensively throughout the United States and Europe conducting training seminars on a wide assortment of electronic equipment. Bob holds an FCC First Class General Radiotelephone Operator's License with a Radar endorsement and is an avid ham radio operator in his spare time. ♦



BRAINTEASER OF THE MONTH



Here is this month's brainteaser. First reader to email me with the correct explanation wins \$20 in Infrabucks. Please put "Brainteaser" as the subject of the message. ♦



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About the Infrared Training Center

The Infrared Training Center offers training and certification in all aspects of infrared thermography use. Our world-class training facilities are located near Boston, Massachusetts, USA and Stockholm, Sweden and have the world's most extensive hands on laboratories for infrared applications. Please join us in exploring the fascinating world of infrared!

Your comments and suggestions about this newsletter are welcomed and encouraged. If you have an interesting application or case study to share, we encourage you to submit it for publication.

Please e-mail

mailto:Gary.Orlove@infraredtraining.com or regular mail to the USA office

"Delivering world-class training and knowledge about thermography"



itc **INFRAMATION** - Editor / Publisher: Gary Orlove

Upcoming Classes - Americas

Remember we also teach customer site training courses at your convenience. Please contact us for more information.

June 2002

- 3-6 - Level II - Miami, FL
- 3-7 - Level I - Boston, MA
- 10-14 - Level II - Boston, MA
- 10-13 - Level II - Indianapolis, IN
- 18-21 - Level I - Puerto Rico
- 24-27 - Level I - Las Vegas, NV
- 24-28 - Level I - Trinidad

July 2002

- 15-19 - Level I - Boston, MA
- 15-18 - Level I - Portland, OR
- 15-19 - Level I - Venezuela
- 22-25 - Level I - Nashville, TN
- 29-8/1 - Level I - Detroit, MI

August 2002

- 5-9 - Level I - Boston, MA
- 6-9 - Level I - Chicago, IL
- 6-9 - Level I - Denver, CO
- 12-15 - Level II - Chicago, IL
- 13-16 - Level I - San Francisco, CA
- 26-29 - Level I - Honolulu, HI

September 2002

- 9-13 - Level I - Boston, MA
- 9-13 - Level I - Argentina
- 10-13 - Level I - Edmonton, Canada
- 16-19 - Level II - Edmonton, Canada
- 16-19 - Level II - Prince George, BC
- 17-19 - R&D - Santa Clara, CA
- 17-20 - Level I - Raleigh, NC
- 18 - ThermaCAM Reporter Software - Boston, MA
- 23-26 - Level I - Toronto, Canada
- 23-27 - Level II - Boston, MA

- 29-Oct 2 - **InfraMation Conference - Orlando**

Upcoming Classes - International

June 2002

- 3-7 - Level I
- 10-14 - Level II - South Africa
- 17-21 - Level II - UK
- 24-28 - Level I

July 2002

- 1-5 - Level I - Italy
- 1-5 - Level I - South Africa (ABB)

August 2002

- No Courses

September 2002

- 2-6 - Level I - Singapore
- 9-13 - Level II
- 9-13 - Level I - Malaysia
- 16-20 - Level I - UK

Upcoming Classes - Germany

June 2002

- 24-26 - Operator CM
- 24-29 - Level I EN 473

July 2002

- 9-11 - R&D
- 22-24 - Operator CM
- 22-27 - Level I EN 473

August 2002

- No Courses

September 2002

- 16-18 - Operator CM
- 16-21 - Level I EN 473

Infrared Camera Rentals

Rent an infrared camera from **FLIR Systems** to locate electrical and mechanical problems, schedule repairs, and avoid costly plant shutdowns. Whether you have a temporary testing/inspection requirement or need to evaluate an IR camera before purchasing, renting from **FLIR** can help you solve problems.

- Rent direct from the world leading IR camera manufacturer
- Low rates and quick delivery
- Build credit toward purchase
- Wide selection of camera technologies and accessories

For more information call us toll free at **1 (866) IR RENTS**
1 (866) 477 3687
<http://www.infraredcamerarentals.flir.com>

Upcoming Classes - France

June 2002

- 10-12 - Operator CM