

## Snapshot Size-Up #109



### Thermal Imaging Cameras

All objects have temperatures and emit waves of energy called infrared radiation. Thermal Imaging Cameras translate these energy waves into images. Hotter objects appear white, cooler object appear black and all other objects will appear in various shades of gray. Infrared radiation is not blocked by smoke, which makes it possible for firefighters to use thermal imagers to “see through” smoke. Although most Fire Departments use thermal imagers at structure fires to search for victims, locate downed firefighters and detect structural dangers, this technology can be used to help firefighters see in many environments with diminished visibility. Below are some examples:

1. Search and Rescue of lost or endangered victims in open wilderness-type areas.
2. Size-Up of structures to help identify the location of the fire.
3. To help determine the number of victims at a vehicle accident.
4. To determine the best location to ventilate areas where extensive heat has accumulated.
5. To assist with overhauling hot spots behind walls or in enclosed areas that could not be seen otherwise.
6. To locate and isolate electrical fires behind walls.
7. To identify sources and movement of hazardous materials and contaminants on bodies of water and on the ground.
8. To determine product levels within a container.



Deputy Chief Frank Viscuso is a twenty-year veteran of the fire service. He is a regular contributor to Fire Engineering Magazine & FireOpsOnline.com. He is also co-author of the book *Fireground Operational Guides* (PennWell 2011). The book features universal tactical worksheets and operational guides for more than 70 incidents that range from water, gas and electrical emergencies to multiple-alarm structure fires.