

# **BULLARD T-4 THERMAL IMAGING CAMERA STANDARD OPERATING GUIDELINE**

**DATE APPROVED: APRIL 2008**

## **I. SCOPE**

- A.** This standard establishes guidelines for the use of the Bullard T-4 Thermal Imaging Camera (TIC).
- B.** To provide a reference document to be used for training of personnel in the uses, deployment, limitations, operation, care and maintenance of the TIC.

## **II. POLICY**

It shall be the policy of this department to utilize thermal image cameras in every structure fire and any other situations as identified where it will enhance the safety of fire department personnel.

## **III. PROCEDURE**

- A.** This TIC is carried on engine 71. Personnel should become familiar with the location of the TIC on the apparatus. Ultimately, the company officer shall determine who will operate the TIC.
- B.** When the Engine Company arrives on the scene of a fire or any other incident where smoke will or could hamper visibility, personnel shall remove the camera from its charger and take it to the entry point of the structure.
- C.** When operating in the "Rescue Mode", company personnel shall use the thermal image camera to aid in the search for victims.
- D.** If conditions warrant the use of the camera, the nozzle person shall be the operator of the camera. Command should be notified that the TIC is in use. Through field exercises it has been determined that the safest and most efficient operation of the camera occurs when its operator's view is not obstructed by other firefighters. Camera operators must be aware that they have a tendency to move faster than the rest of the team who are operating in zero visibility. Standard firefighting practices should be observed with the Thermal Imaging Camera acting as an "extension of the tool in the hand." Less than two person teams should only be deviated in extremely dire situations.
- E.** In moderate to heavy smoke conditions the Camera allows a crew to quickly check a smoke filled area to determine whether or not there is fire present. The camera operator must remember not to move too quickly, so that the rest of the team is not lost in the zero visibility environment.

- F.** The Camera has the potential to inspire over-confidence because it allows firefighters to "see" in an environment that in reality has zero visibility. Firefighters should remember that they must stay low even if the camera allows them to see that the majority of the heat is at the ceiling. The possibility of a flashover in the dynamic atmosphere of a structure fire is higher than ever before because of new materials, construction methods and rapid responses. Personnel must understand that the camera could fail and an escape route must be easily located, either by following a hose line or rope tag line to safety.
- G.** The camera can also serve as a tool for detecting heat during the overhaul phase of an incident. It must be remembered, that the TIC cannot penetrate most construction materials including drywall, plaster and lathe, concrete, glass or plastic. Also, the TIC cannot penetrate water. Because the camera has a black and white display it is sometimes difficult to differentiate between what is heat or fire trapped in a wall and what is radiant heat.

#### **IV. OPERATION OF THE TIC**

- A.** The TIC is stored in the charger in the cab of engine 71. The charger also includes a spare battery.
- B.** To turn the unit on, depress and release the large red power button under the LED display.
- C.** The right side of the display will show a bar graph or Relative Heat Indicator (RHI). The RHI will indicate the approximate temperature of the object viewed within the "crosshairs" shown in the middle of the screen. The accuracy of the indicators is dependent on numerous factors including the distance from the object being viewed.
- D.** Electronic Thermal Throttle. The thermal throttle is ideal for pinpointing hot spots during overhaul, searching for electrical equipment, or clarifying objects in ambient temperature situations. To activate the thermal throttle option, locate the two black buttons on the top of the T4. Press the down button (the button closer to the front of the imager) to activate the thermal throttle. The electronic thermal throttle will automatically sense the hottest area in the scene and color it blue. Continuing to press the down button (or holding it down) will further engage the thermal throttle and will color more of the scene blue, eventually coloring even the coolest objects blue.
- E.** Digital Zoom Feature. The T4 enables magnification of far away scenes at both 2x and 4x zoom. With one simple push of the black "z" button, located next to the power button under the LCD display, the 2x zoom is enabled. A second push of the button activates the 4x zoom. A third push of the button disables the zoom function.