

Congratulations

Congratulations on the purchase of your new Bullard Thermal Imager. The Bullard Thermal Imager combines the most advanced thermal imaging technology with our expertise in high heat, impact resistant thermoplastics to bring you the most durable thermal imager on the market. Our innovative design includes many unique features making the Bullard Thermal Imager the best choice for today's firefighters.

The benefits of using thermal imaging technology as a fire fighting tool encompass just about every aspect of a firefighter's job. Thermal imaging is not, however, a technology designed to replace current fire fighting tactics. Rather, it is a tool that allows the firefighter to be more effective and make better decisions. Some of the many uses for your Bullard Thermal Imager include:

- Search and rescue
- Scene assessment
- Locating the seat of the fire
- Determining the spread of the fire
- Locating hot spots
- Identifying potential flashover situations
- Determining ventilation points
- Determining entry points
- Overhaul
- Hazmat
- Wildland firefighting
- Training



NOTE

To help us better serve you, please fill out the warranty card enclosed with your Bullard Thermal Imager.

▲ WARNING

Read all instructions and warnings before using this product. Failure to observe this information could result in death or serious injury.



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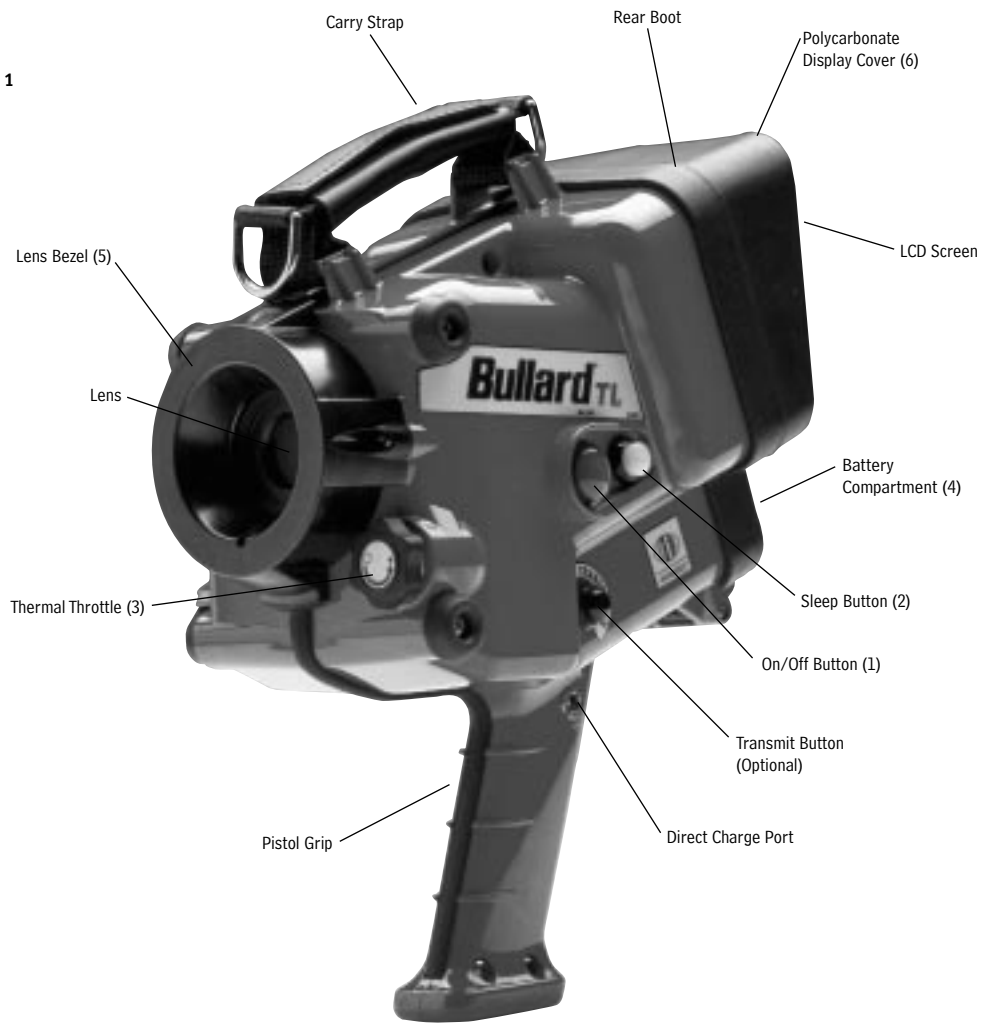
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Bullard Thermal Imager

Figure 1



Use and Operation

Power

To turn on your Bullard Thermal Imager, simply depress the large green “On/Off” button on the left side of the unit (**Item 1, Figure 1**). Upon depressing the “On/Off” button the “Sleep” indicator light will appear on the viewing screen. However, the thermal image will not appear immediately as the unit requires a few moments to warm-up and complete the self-calibration process. After approximately 20 seconds, the thermal image will appear.

Sleep Mode

To conserve battery life, the Bullard Thermal Imager includes a unique “Sleep” feature. To put the unit into “Sleep” mode, simply press the yellow “Sleep” button on the left side of the unit (**Item 2, Figure 1**). When in the “Sleep” mode, the “Sleep” indicator light will appear on the viewing screen. To bring the unit out of the “Sleep” mode, simply push the yellow button again. The thermal image will immediately reappear on the screen.

Thermal Throttle

The Bullard Thermal Imager features the first fully adjustable aperture (Thermal Throttle) which means you always get the clearest picture. Simply put, the Thermal Throttle controls the amount of energy that reaches the thermal detector. The process is similar to that of the pupil in the eye. When there is bright light the pupil shrinks to protect itself. When there is low light the pupil expands. The Thermal Throttle works the same way. In high heat situations, the Thermal Throttle may be reduced down to obtain the best contrast and the clearest image. In low heat situations, the Thermal Throttle should be wide open. Since the Thermal Throttle is manually adjusted, the operator can always get the clearest image.

The Thermal Throttle is manually adjusted by turning the Thermal Throttle dial on the front left of the unit (**Item 3, Figure 1**). Turning the dial clockwise (toward the lens) closes the Thermal Throttle, turning it counterclockwise opens the Thermal Throttle. For increased durability, the Thermal Throttle is equipped with a safety slip

mechanism, which engages when the Thermal Throttle reaches the fully open or fully closed position. This mechanism prevents over-adjusting or over-tightening the dial.

Bullard recommends the following Thermal Throttle adjusting procedure

Once the unit is turned on and the internal calibration is completed, turn the Thermal Throttle clockwise until the image on the screen disappears. This is the fully closed reference position. Then turn the Thermal Throttle knob in the opposite direction until the picture contrast is to your liking. It will take less than one full revolution of the Thermal Throttle to completely open the aperture. Once the aperture is fully open the safety slip mechanism engages to ensure the Thermal Throttle is not over-tightened. Continuing to turn the dial beyond that first full revolution will not improve the contrast.



NOTE

Most of the needed adjustment will be accomplished within about 1/4 of a revolution of the Thermal Throttle.



Figure 2

Charging the Nickel Metal Hydride Battery

Before using a battery for the first time, be sure to charge and drain the battery at least three times. This will enable the battery to achieve maximum life.

Using the Battery Charger

The battery should be charged in the battery charger, using either the AC or DC adapter provided (**Figure 2**). To charge battery, simply insert battery into charger so that the metal connectors on the battery are aligned with the metal connectors in the charger. A red light will illuminate on the charger to indicate that the battery is charging. When the light on the charger turns to green your battery will be fully charged. You may leave the battery in the charger indefinitely. You cannot overcharge the battery.

Using the Direct Charge System

The direct charge system will allow the battery of the Bullard Thermal Imager to be charged inside the camera. The standard battery charger should be connected to a power supply using either the AC or DC adapter provided. Connect the charger to the camera by using the gray connector cord provided. Insert one end of the cord into the charger using the outlet provided on the front of the charger and the other end into the direct charge plug located on the handle of the thermal imager. A red light will illuminate on the charger to indicate that the battery is charging. When the light on the charger turns to green your battery will be fully charged. You may leave the direct charge system in place indefinitely. You cannot overcharge the battery.

Using the Direct Charge System/Battery Charger

A battery can be charged in the charger at the same time as the battery in the camera is being charged by using the directions previously mentioned. Charging both batteries at the same time will not lengthen the charge time or cause any damage to the batteries or charging unit.

Loading the Battery

To open the battery compartment (**Item 4, Figure 1**), turn the two thumb knobs outward and pull the door open. Remove battery. Now insert a fully charged battery making sure the Bullard decal is facing away from the camera and the type is right side up. If the battery has not been inserted correctly the door will not shut and the thumb knobs can not be secured. If the door will not shut please remove the battery and review the instructions above. The battery can easily be replaced in the dark. To do so, simply locate the notched bottom of the battery. Make sure the notch is pointing away from you and is on the left-hand side. If the door will not shut please remove the battery and try again.

Additionally, as with all batteries, your Bullard rechargeable battery will experience a slow drain of its charge during storage. The amount of drain varies widely based on storage conditions. For best performance, charge each of your batteries every two weeks.

Palm and Top Straps

The palm and top straps are designed to allow the user to field replace the top and side strap without having to return the imager to the factory.

Replacing the Palm Strap

Using a 3/8" wrench, remove the nut on the right side of the strap. Remove the strap from the screw by lifting away from the camera. Remove the left side of the strap by removing the screw with a Phillips screwdriver. The new strap should be attached by first securing the left bracket to the camera using the existing screw. The right bracket should then be secured by placing the bracket on the screw and tightening the nut. The strap is correctly attached when the Bullard logo is facing outward.

Adjusting the Palm Strap

To adjust the palm strap on the side of the unit, pull open the leather hand guard and readjust the strap. Once adjusted to comfortable length, close the leather hand guard.

Adjusting the Shoulder Strap

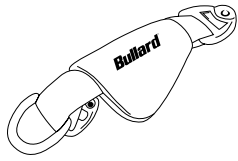
To attach the shoulder strap, clip the hooks to any of the three D-rings on the unit. Adjust the strap to a comfortable length.

Replacing the Top Strap

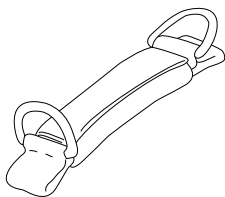
Unwrap leather pad from strap to expose the ends of the strap. Remove right side of strap from Velcro®, wrap the end around the anchor on the top of the camera and re-attach to the Velcro. Remove the left side of the strap from the Velcro, wrap the end around the anchor on the top of the camera and re-attach to the Velcro. Wrap leather pad around the strap ends.

Wrist Strap

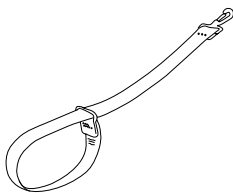
This strap can be used as a backup to keep the imager from falling if it should slip from your hand. The adjustable strap fits over the sleeve of your turnout gear and can adjust to any size wrist. The wrist strap can be easily attached to any D-ring located on the camera.



Palm Strap



Top Strap



Wrist Strap

Care Instructions

The design of the Bullard Thermal Imager requires very little maintenance.

For best results, after each use:

- Clean the outside of the unit with mild soap or detergent.
- Wipe the lens with a soft cloth.
- Clean the display with a soft cloth.
- Check screw tightness on rubber bumpers and side strap.
- When not in use, always store your Bullard Thermal Imager in the case provided.

CAUTION

Do not use solvents or paint thinners to clean your Bullard Thermal Imager, as they could permanently mar the surface or degrade the protective properties of the casing. Failure to observe these instructions may result in product damage.

Cleaning the Lens

The Thermal Imager lens is protected by both a silicone gasket and a plastic lens bezel. The bezel (**Item 5, Figure 1**) contains a drain hole so that any water that may get into or behind the bezel will be effectively drained away.

Normally, the lens can be cleaned with a soft cloth and soapy water. However, if the bezel drain becomes clogged it may be necessary to remove the bezel in order to clean out the passageway. The bezel can be easily removed by unscrewing the two retaining screws. Once clean, re-attach the bezel ensuring that the drain is positioned on the bottom of the assembly.

Replacing the Video Display Cover Window

The display cover (**Item 6, Figure 1**) has a scratch resistant hard coating to minimize marring. However, if heavy scratching or gouging does occur, the cover window can be replaced. To do this, simply remove the four stainless steel screws along the top and sides of the window. Then remove the battery door thumb knobs by loosening the two screws that retain them. Remove the plastic display cover window and replace with a new one (part number TIWINDOW), making sure that the O-ring countersink slots around the mounting holes are facing outward. When reinserting the screws, make sure each one has the sealing O-ring in place.

⚠ WARNING

Do not attempt to disassemble the sealed case of your Bullard Thermal Imager. If the unit is not functioning properly return it to Bullard for evaluation. Disassembling the unit voids all warranties.

The Bullard Thermal Imager is not certified as intrinsically safe.

Thermal Imaging is not a technology designed to replace current fire fighting tactics. Rather, it is a tool that allows the firefighter to be more effective and to make better decisions.

Do not attempt to remove the lens gasket or the rear boot. These parts are sealed and removal will cause leakage. Failure to follow these instructions could result in death, serious injury and/or product damage.

Service

If your Bullard Thermal Imager is not performing properly please contact Bullard Sales Support at 877-BULLARD (285-5273).

Describe the problem to the Bullard Representative as completely as possible. For your convenience, your Representative will try to help you correct the problem over the phone, or will transfer you to the Bullard Service Center. Before returning your Bullard Thermal Imager:

1. Verify with your Representative that the product should be returned to Bullard. Sales Support/Service Center will provide you with written permission and a return authorization number.
2. Before returning the product, decontaminate and clean your Thermal Imager to remove any hazardous or contaminated materials that may have settled on the product during use. Laws and/or shipping regulations prohibit the shipment of hazardous or contaminated materials. Products suspected of contamination will be professionally decontaminated at the customer's expense.
3. Ship returned products, including those under warranty, with all transportation charges pre-paid. Bullard cannot accept returned goods on a freight-collect basis.
4. Returned products will be inspected upon return to the Bullard facility. The Service Center will telephone you with a quote for required repair work that is not covered by warranty. If the cost of repairs exceeds stated quote by more than 20%, your Coordinator will call you for authorization to complete repairs. After repairs are completed and the goods have been returned to you, Bullard will invoice you for actual work performed.

Warranty

Bullard warrants to the original purchaser that the Bullard Thermal Imager is free of defects in materials and workmanship under intended use and service for a period of one (1) year from date of manufacture. Bullard's obligation under this warranty is limited to repairing or replacing, at Bullard's option, articles that are returned within the warranty period and that, after examination, are shown to Bullard's satisfaction to be defective, subject to the following limitations:

1. Article must be returned to Bullard with shipping charges prepaid.
2. Article must not be altered from its original configuration.
3. Articles must not have been misused, abused, or damaged in transport.

Bullard provides a limited lifetime warranty on the Bullard Thermal Imager outer shell. This warrants that the outer shell is free of defects in materials and workmanship

under intended use and service for the original purchaser. Bullard's obligation under this warranty is limited to repairing or replacing, at Bullard's option, articles that after examination are shown to Bullard's satisfaction to be defective, subject to the following limitations:

1. Article must be returned to Bullard with shipping charges prepaid.
2. Article must not be altered from its original configuration.
3. Article must not have been misused, abused, or damaged in transport.
4. When the outer shell is obsolete and Bullard no longer stocks the part, the limited lifetime warranty will be terminated.

In no event shall Bullard be responsible for damages, loss of use, or other indirect, incidental, consequential or special costs, expenses or damages incurred by the purchaser, notwithstanding that Bullard has been advised of the possibility of such damages.

Any implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to one (1) year from the date of manufacture of this product.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Extended Warranty

The extended warranty has all the same terms and conditions as the one-year warranty, except it is for the period of two years. This warranty can be purchased directly from Bullard or through any authorized Bullard distributor.

Bullard Thermal Imager

Ordering Information

CATALOG NUMBER	DESCRIPTION	CATALOG NUMBER	DESCRIPTION
BULLARDTI	Bullard Thermal Imager (Includes Bullard Thermal Imager, two 10 volt NiMH rechargeable batteries, 10 volt charger with 110 AC and 12 volt DC adapters, wrist strap and carry case.)	TRANSCOMMAND	Wireless Remote Transmitter with TV/VCR and internally mounted receiver. Includes wireless remote transmitter, TV/VCR (110 AC and 12 volt DC), receiver mounted inside the TV, Omni-Directional antenna, and all necessary cables.
TRANSMIT	Wireless Remote Transmitter (Includes wireless remote transmitter, receiver, 2 channel switch box, cable, two 10 volt NiMH rechargeable batteries, 10 volt charger with 110 AC and 12 volt DC adapters.)	TRANSMITONLY	Wireless remote transmitter (Receiving system not included.)
RECEIVER	Bullard Transmitter Receiver System (Includes the Omni-directional antenna, receiver, and all cabling necessary for receiving transmit video signal.)	COMMAND	Combination TV/VCR with built in receiver for simpler operation. Package includes TV/VCR (110 AC and 12 volt DC), built in receiver, Omni-directional antenna, and all necessary cables.
BATTERYNiMH	10 Volt NiMH rechargeable battery	GLARESHIELD	Attaches to Thermal Imager reducing glare in bright sun conditions
BATTERY10V	10 volt NiCad rechargeable battery	TRUCKMNT	Truck mounted direct charge system. This system includes: Vehicle Mount, Battery Charger, 2 Power Cables (110 and 12 volt), Mounting Gasket, Attachment Hardware, and Security Buckle
SHSTRAP	Replacement shoulder strap	TRIPOD	Heavy-duty 4-foot tripod for Thermal Imager.
STRAPKIT	Thermal Imaging Camera replacement strap kit includes wrist strap, palm strap, and top strap	CLAMP	Thermal imaging clamping system to be used with tripod or as stand alone system to mount imager to almost any surface
WINDOW	Replacement hard coated polycarbonate display cover	OMNI	Omni-Directional antenna with permanent and magnetic base.



Head
Protection



Respiratory
Protection



Fire and Rescue
Safety



Thermal
Imaging

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