

# TacSight SE35<sup>™</sup> Thermal Imager User Manual

# Congratulations

Congratulations on the purchase of your new TacSight SE35 Thermal Imager from Bullard. The TacSight SE35 Thermal Imager combines advanced thermal imaging technology with our expertise in high-heat, impact-resistant materials to bring you the most durable thermal imager on the market. The TacSight SE35's innovative, compact design and logical, easy-to-use interface presents the first truly personalized thermal imaging tool for law enforcement tactical and patrol applications, as well as assorted security operations.

Some of the many uses for your TacSight SE35 Thermal Imager include:

- Vehicle Pursuits and Fugitive Searches
- Perimeter Surveillance
- Search and Rescue
- Hidden Compartments in Vehicles
- Marine and Ground Surveillance
- Environmental Law Enforcement
- Officer Safety
- Training

Bullard stands ready to support your department with industry leading thermal imager training materials and Law Enforcement Thermographers Association (L.E.T.A.) certified instructors.

> NOTE 13

To help us better serve you, please fill out and return the warranty card enclosed with your TacSight SE35 Thermal Imager.

# A WARNING

Read all instructions and warnings before using this product. Failure to observe this information could result in death or serious injury. Your thermal imager is like any other tool: it must be used properly and safely. All users should be trained on the proper, ethical and safe use of thermal imagers prior to using the TacSight SE35.



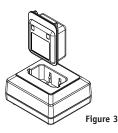


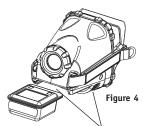


# Use and Operation

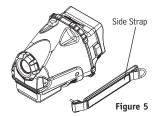


Power Button





Battery Locking Buttons



# Power

To turn on your TacSight SE35 Thermal Imager, simply depress the large, dark gray power button under the LCD display (Figure 2). Upon pressing the power button, the thermal imager will initiate a calibration sequence. During this process, the display will show "TacSight SE35." The image will appear in approximately 30 seconds. To turn off power, depress and release the power button.

#### The TacSwitch

This switch, located on the top of the thermal imager, allows the user to alter the brightness of the LCD display. For standard operations, the switch should be set to the right for "full brightness" on the LCD. In situations where it is desirable to limit the backlighting of the user from the LCD, the switch can be moved to the left, or "dim" position, which reduces the output of light from the LCD.

For clandestine surveillance operations, an optional TacScope monocular eyepiece can be attached to the bottom of the TacSight SE35. The thermal image will display wihtin the monocular scope and the user can switch the TacSwitch into the "LCD Off" position by moving the switch to the center position.

Note that the position of the TacSwitch does not affect the transmission of a wireless image via the optional attachable transmitter handle.

#### Image Controls

Your TacSight SE35 has three buttons on the top of the thermal imager and a manual turning focus ring on the front of the imager that allow the user to control specific aspects of the image.

- The button nearest the display activates Zoom mode. By depressing this button, the user activates 2x digital zoom. Another press of the button switches the system to 4x digital zoom. A third press of the button brings the system back to normal. The digital zoom feature can allow the user to see more detail within an image without getting closer to the scene.
- . The center button is the Enhanced mode button. By depressing this button, the thermal imager gain is increased, enhancing image sensitivity. When viewing scenes of moderate and similar temperatures, enhanced mode can improve the ability to discern details.
- The button nearest the lens is the Polarity button. Activating this button changes the thermal imager from "white hot" to "black hot." This allows the user to compare scenes under different polarity schemes, potentially improving image interpretation. Also, certain agencies may train with and prefer one polarity system over the other.
- The hardened thermoplastic ring on the front of the thermal imager is the manual focus ring. Turning the ring form left to right allows the user to focous clearly on an object a s close as 18" or 1/2 meter.

During use avoid pointing the camera directly at the sun as this may damage the microbolometer detector elements. While not in use, take precautions to store the camera so that the lens is protected from direct exposure to the sun or intense radiation sources.

CAUTION

#### > Note K g

You will periodically observe a momentary freeze in the image as the unit shutters and self-calibrates. This is a normal function of your thermal imager and it will occur every one to five minutes, depending on the calibration needs of the unit.

#### Using the Battery Charger

The battery should be charged in the battery charger using either the AC or DC adapter provided (Figure 3). To charge the battery, simply insert battery into the 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 as the battery will not overcharge. For maximum battery life and performance, you should remove the battery from the charger and discharge it on a monthly basis.

## CAUTION

An AC Adapter is supplied with the unit for powering the battery charger. When using AC power, do not substitute an adapter with a different specification. Failure to observe this instruction may result in equipment and/or property damage.

# A WARNING

As with all batteries, the positive and negative contacts for the TacSight battery are exposed. Connecting the contacts located on the label side of the battery with a conductive material will complete a circuit and could cause the battery to overheat or combust. Do not store the battery with the contacts facing a conductive surface, such as a metal table top. Failure to follow this warning can result in property damage, fire or serious physical injury.

#### Loading/Unloading the Battery

Loading and unloading the battery on the TacSight SE35 is easy (Figure 4). To install a battery, slide the battery into the groove on the bottom of the unit and ensure that the battery is properly seated. To remove a battery, depress both battery locking buttons simultaneously and slide the battery out of the unit. Since it can only be loaded one way, the battery is easily replaced in the dark.

Additionally, as with all batteries, your 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 week. A fully charged battery should provide approximately 90 minutes of operating time. This may be affected by storage temperatures, storage time and the age of the battery.

The approximate battery level is indicated by the colored LED lights on the top of the display screen. When the red LED light is lit, the battery has approximately 8 minutes of ooperation time remaining.

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Bullard provides an optional AA alkaline battery case which can be used as an alternative to the standard 10 volt NiMH rechargeable batteries. The AA alkaline battery case requires eight AA alkaline batteries. Once the batteries are installed, the case loads into the unit in the same manner as the standard NiMH battery.

Due to the unique way that alkaline batteries disperse power to the thermal imager, the LED indicators will report battery levels that are not necessarily indicative of the battery's actual remaining charge.

Do not attempt to place the alkaline battery case into a TacSight SE35 battery charger.

#### Side Straps

The side straps are designed to be field replaceable. Users can order replacements and install them without having to return the thermal imager to the factory. To adjust a side strap, loosen the hook and loop material on the inside of the strap and set it to the desired length. Then press the hook and loop material together.

### Removing/Installing the Side Straps

To remove either of the right or left side straps, loosen the hook and loop material on the inside of the strap and remove the strap from the plastic loop located on either side of the LCD display (Figure 5). Remove the screw that holds the strap to the imager. To install, fasten the strap to the unit using the screw provided. Feed the strap through the strap loop and adjust to the desired length.

# **Care Instructions**

The TacSight SE35 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 side straps.
- Store your TacSight SE35 in the rugged hard case.

Bullard also provides preventive maintenance programs for all of its thermal imagers. Consult with your distributor regarding availability and recommendations.

#### **Cleaning the Lens**

The TacSight SE35 lens is recessed in an impact resistant bezel. The lens can be cleaned with a soft cloth and soapy water as required.

# CAUTION

Do not use solvents or paint thinners to clean your TacSight SE35 Thermal Imager as they could permanently mar the surface or degrade the properties of the outer shell. Failure to observe this instruction may result in equipment damage.

## CAUTION

The TacSight SE35 Thermal Imager should not be stored in subfreezing environments. Failure to observe this instruction may result in equipment damage.

### Replacing the Video Display Cover Window

The display cover 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 screws along the top and bottom of the window. Remove the plastic display cover window and replace with a new one making sure that the countersink slots around the mounting holes are facing outward. Replace the mounting screws and tighten them; avoid over-tightening the screws.

## Service

If your thermal imager is not functioning properly, contact Bullard Customer Service at 1-877-BULLARD. A customer service representative will work with you to determine if the problem can be solved in the field, or if the thermal imager must be returned to the Bullard Service Center. If the thermal imager will be returned to Bullard, please ensure that:

- You have indicated the Return Authorization number on the package;
- Your thermal imager is not contaminated by hazardous materials;
- 3. You package the thermal imager carefully, preferably in its original case;
- 4. You send all applicable accessories as requested by the customer service representative;
- 5. You ship the package with freight prepaid.

Qualified warranty repairs will be handled promptly at no charge to the user. Non-warranty repairs will be evaluated and quoted based on the Service Center program in place at the time. Non-warranty evaluations and repairs may be subject to evaluation fees.



# Warranty

Bullard warrants to the original purchaser that the TacSight SE35 Thermal Imager and transmitter if applicable, are free of defects in materials and workmanship under intended use and service for a period of one (1) year from date of manufacture. The company's obligation under this warranty is limited to repairing or replacing, at the company 's option, articles that are returned within the warranty period and that, after examination, are shown to the company's satisfaction to be defective, subject to the following limitations:

- a) Article must be returned to Bullard with shipping charges prepaid.
- b) Article must not be altered from its original configuration.
- c) Articles must not have been misused, abused, or damaged in transport.
- d) Maintenance and field replaceable items, if defective, are covered under warranty for a ninety (90) day period.

These items include:

- Batteries
- Straps
- Battery chargers
- Display covers
- · AC/DC adapters
- · All accessories except transmitter

Bullard provides a limited lifetime warranty on the TacSight SE35 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. The company's obligation under this warranty is limited to repairing or replacing, at the company's option, articles that after examination are shown to the company's satisfaction to be defective, subject to the following limitations:

- a) Article must be returned to Bullard with shipping charges prepaid.
- b) Article must not be altered from its original configuration.
- c) Article must not have been misused, abused or damaged in transport.
- d) 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 that 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. The extended warranty must be purchased within 30 days of the original order.

# **Ordering Information**

CATALOG NUMBER	DESCRIPTION	CATALOG NUMBER	DESCRIPTION
HANDLETRANSONLY	Four-channel wireless remote transmitter (housed in quick-attach handle) - receiving system not included	NIMH	10 V NiMH rechargeable battery
		RCN17ALK	AA Alkaline Battery Case
HANDLETRANSONLY2	Two-channel wireless remote transmitter (housed in quick attach handle) - receiving system not included	HANDLE	Attachable handle for TacSight series
ML1	MobileLink two-channel handheld receiver with one 10 V NiMH rechargeable battery and one 10 V charger with 110 VAC (USA only) and 12 VDC adapter	HANDLEVO	Attachable handle with video out for TacSight series
		TACSTRAPKIT	Replacement strap kit includes left and right side straps
ML2	MobileLink two-channel handheld receiver only	TACWINDOW	Replacement hard coated polycarbonate display cover
ML3	MobileLink four-channel handheld receiver with one 10 V NiMH rechargeable battery and one 10 V charger with 110 VAC (USA only) and 12 VDC adapter	T3CHARGERBASE	Charger for NiMH rechargeable batteries
		15VADAPTOR	15 Volt AC adaptor for use with T3 Charger Base
ML4	MobileLink four-channel handheld receiver only	CARADAPTOR	DC Car Adaptor for use with T3 Charger Base
MCC1	Mobile Command Center two-channel receiver with recorder	T3RETRACT	Retractable strap kit that keeps the TacSight convenient yet out of the way
MCC2	Mobile Command Center two-channel receiver without recorder	ТАСРМКІТ	Field Service kit for "wear and tear" items for your TacSight in a convenient bundled package - includes display cover window, side straps, and one battery
MCC3	Mobile Command Center four-channel receiver with recorder		
MCC4	Mobile Command Center four-channel receiver without recorder	ТАСРМ	Preventative maintenance factory service package to keep your TacSight performing and looking like new
REC	Four-channel receiver system (includes the antenna, receiver, and all associated cabling necessary for receiving transmitted video signal)		
		TACSIGHTEXT	Original limited warranty extended one full year
REC2	Two-channel receiver system (includes the antenna, receiver, and all associated cabling necessary for receiving transmitted video signal)		

Bullard

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