



UltraLite ALS[®]
TURBO

OPERATOR'S MANUAL



CAO GROUP, INC.
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Welcome

Thank you for purchasing the UltraLite ALS®. Please take a moment to inspect the shipment to make sure the following parts are included with your Kit:

| | | |
|--|---|--|
| Basic Kit (200-00110) 1 UltraLite ALS® 1 BMT™ TurboHead Assembly 1 Power Adapter Pack 1 Power Supply 1 Pair Amber Glasses 1 Vehicle Power Supply 20 ft. Extension Cord | Basic Plus Kit (200-00114) 1 Basic Kit 1 Battery Charger 1 Battery Pack (3) | Complete Kit (200-00111) 1 Basic Plus Kit 1 UV Magnum Head 1 Green Turbo Head 1 Red Turbo Head 1 Yellow Turbo Head 1 Red Glasses 1 Yellow Glasses 1 Glasses Bag |
| Basic DVSA Kit, UV (200-00007) Basic DVSA Kit, BMT™ Turbo (200-00108) 1 UltraLite ALS® Handle 1 UV Magnum Head* 1 Power Supply 1 Battery Charger 3 Battery Packs 1 Pair Amber Glasses w/ Bag 1 UltraLite ALS® Case w/ Foam Set | * BMT™ Turbo Head (Item #200-0108) can be substituted | Complete DVSA Turbo Kit, UV (200-00109) 1 Basic DVSA Kit, UV 1 BMT™ Turbo Head 1 White Turbo Head |

If any parts are damaged or missing upon arrival, please contact an authorized UltraLite ALS® representative.

Before operating the UltraLite ALS, please read these instructions and familiarize yourself with the UltraLite ALS and its features.

OPERATIONAL SAFETY

The UltraLite ALS® incorporates solid-state emitters to generate the wavelengths required for quality forensic illumination. The output intensity of these components is strong enough to present the risk of injury to eye and skin tissue.



**DO NOT POINT THE UNIT
DIRECTLY AT THE EYES OR SKIN!**

Use only accessories and power sources that are supplied with and designed specifically for the UltraLite®. Do not allow moisture to collect on or enter into the unit. Do not immerse. If the unit is used in humid environments, store in a warm, dry place between use to allow moisture to evaporate.

ULTRALITE ALS® FEATURES

UltraLite ALS®



On/Off Button



1/4 - 20 Tripod Mount

Low Battery Indicator

Power Level Indicators

Power Setting Button

Battery Pack Charger



Battery Docks

Charger Power Indicator

Power Input Jack

Charging Indicators



Head Assembly



Battery Pack



Power Adapter Pack

| LIGHT OUTPUT SPECIFICATIONS (mW) | | | | |
|----------------------------------|-----------|-----------|-----------|------------|
| Head Designation | 1/4 Power | 1/2 Power | 3/4 Power | Full Power |
| UV (400 nM) | 65 | 125 | 185 | 250 |
| BMT | 460 | 1030 | 1550 | 2110 |
| Green | 190 | 410 | 605 | 730 |
| Yellow | 75 | 190 | 295 | 400 |
| Red | 270 | 610 | 950 | 1325 |
| Infrared (IR) | 160 | 370 | 575 | 805 |
| White | 280 | 630 | 945 | 1275 |

OPERATING INSTRUCTIONS

1. UltraLite ALS® Assembly

a.) Attach the desired Head Assembly to the UltraLite body. Insert the head in a straight and slow manner to avoid damaging the contact pins. Hold the head against the handle, and rotate the locking ring on the handle until it is hand-tight. **DO NOT TWIST THE HEAD. DO NOT OVERTIGHTEN.**

b.) Insert either a battery pack or the power adapter pack into the bottom of the handle. For the power adapter pack, plug in the jack from either the wall or the car power supply into the bottom of the pack.



When mounting the Head Assembly to the UltraLite ALS®, twist the Locking Ring only. **DON'T TWIST THE HEAD!**

2. UltraLite ALS® Operation

This unit features an energy conserving “sleep mode”. After five minutes of inactivity, the unit will automatically shut off the indicator lights and enter this mode.

- a.) If the unit is in sleep mode, press the On/Off button once to “wake up” the unit.

- b.) Press the On/Off button once to activate the light.

- c.) Press the Power Setting button to increase the power output to the desired setting. The power increases from setting 1, to 2, to 3, to 4, then cycles back to 1. The green lights on the neck of the unit indicate the power setting that is currently in use.

- d.) Press the On/Off button to deactivate the light.

Note: *The yellow light on the neck will illuminate when the battery pack has 20% of its full charge left. Actual time remaining will vary, depending on which Head Assembly is in use.*

| LED HEAD | WAVELENGTH (nm) | EVIDENCE | GLASSES |
|---------------|--|---|---|
| BMT™ | 450 nm | 99.5% Of All Evidence | Amber |
| UV | 400 nm | Body Fluids, Bite Marks Bruise Evidence | Amber Red Yellow |
| GREEN | 525 nm | Trace Evidence Fingerprints, Fibers | Amber Red |
| YELLOW | 590 nm | Fingerprints, Fibers Altered Documents | Amber Red |
| RED | 630 nm | Fibers, Altered Documents | Amber |
| INFRARED (IR) | 850 nm | Altered Documents, cleaning solvents, fresh paint, and explosive residues | Infrared detection cameras and other devices |
| WHITE | Full Spectrum 400-750 nm 6500 kalvin | General crime scene search, oblique lighting; hair, fiber & fingerprints | None or Yellow forensic goggles and filters |

3. Disassembly

a.) To remove the head, rotate the locking ring on the handle until the head becomes loose. Pull the head straight away from the handle.

b.) To remove the power or battery pack, squeeze both tabs on the sides of the item, then pull straight out.

When mounting the Head Assembly to the UltraLite ALS®, twist the Locking Ring only. DON'T TWIST THE HEAD!



BATTERY PACK CHARGER

The battery pack charger features a logic circuit that will determine if a battery pack is in place and if it needs to be charged. If two battery packs are in place and both need charging, the unit will fully charge both batteries simultaneously. If all packs in the unit are fully charged, it will shut off until the charge falls below full. **DO NOT** place the power pack adapter in the battery charger.

1. Assembly

- a.) Insert the cord jack of either the wall power supply or car power supply into the side of the charger.

- b.) Insert a battery pack into one of the battery docks. Make sure the battery is completely inserted and snaps in place.

2. Operation

Each row of colored lights indicates the amount of charge each battery currently has, relative to a full charge.

CARE AND CLEANING

Clean the UltraLite® and its accessories using a soft cloth dampened with a mild detergent solution. Use a cotton ball or swab and a mild glass cleaner to remove dust and dirt from the Head Assembly lens. Avoid touching the lens. Do not drop or apply blunt force to the UltraLite or its accessories. Store the UltraLite components in the travel case provided when not in use.

To extend the life of the battery remove the battery from the handle and replace it with the power pack adapter if the unit is not going to be used for several days.

TROUBLESHOOTING

| Problem | Solution |
|--|---|
| Unit does not activate. | Make sure the power or battery pack is fully inserted. Make sure the battery pack is charged. Make sure the wall or car power supply is plugged in, and the jack is fully attached to the power adapter pack. |
| Unit turns on, but no light comes out. | Press the trigger button again in case the unit was in sleep mode. Remove the head and make sure the contact pins are intact. Make sure the head is fully attached. |
| Light output is weak. | Make sure the battery is fully charged. Check the power output indicator |

TROUBLESHOOTING (CONT.)

| | |
|----------------------------------|---|
| Light output is weak. (cont.) | to confirm the unit is at the desired setting. Remove dust or other containments from the Head Assembly lens. |
|----------------------------------|---|

OPERATING SPECIFICATIONS

| | |
|------------------------------|----------------------|
| Power Input, car adapter: | 12DC @ 2.5A |
| Power Input, wall pack: | 100-240VAC @ 50-60Hz |
| Operating Temperature Range: | -30° to +40°C |
| LED Lifespan: | ~ 5000 hours |

WARRANTY

The UltraLite ALS® is warranted against defects in materials and manufacturing for 1 (one) year from the date of purchase. The UltraLite ALS contains no user-serviceable parts. Any alteration, tampering, opening, or abuse of the UltraLite ALS voids the warranty. The CAO Group may repair or replace products eligible for the warranty at its option. Please contact an authorized UltraLite ALS representative for warranty questions.

Additional accessories available for the UltraLite ALS®:

- 200-00110 - UltraLite ALS® Basic Kit
- 200-00114 - UltraLite ALS® Basic Plus Kit
- 200-00111 - UltraLite ALS® Complete Kit

- 200-00012 - Battery Charger Kit
- 200-00030 - Battery Charger
- 200-00031 - Battery Pack
- 200-00032 - Power Adapter Pack
- 200-00033 - Power Supply
- 200-00034 - 12VDC Vehicle Power Adapter
- 200-00060 - 20' Extension Cord

- 200-00113- Four Head Kit (UV Magnum, Green Turbo, Yellow Turbo, and Red Turbo)
- 200-00121- BMT™ Turbo (450 nm) LED Head
- 200-00123- Green Turbo (525 nm) LED Head
- 200-00124- Red Turbo (630 nm) LED Head
- 200-00125- Yellow Turbo (590 nm) LED Head
- 200-00126- White Turbo LED Head
- 200-00027- UV Magnum (405 nm) LED Head
- 200-00128 - Infrared (IR) (850 nm) LED Head

- 200-00044 - Red Viewing Glasses
- 200-00045 - Yellow Viewing Glasses
- 200-00046 - Orange Viewing Glasses

- 200-00007 - Basic DVSA Kit, UV
- 200-00108 - Basic DVSA Kit, BMT™ Turbo
- 200-00109 - Complete DVSA Turbo Kit



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