
UNITRON®

Advanced Diascopic Stand

MANUAL



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SAFETY NOTES

1. Open the shipping carton carefully to prevent any accessory, i.e. objectives or eyepieces, from dropping and being damaged.
2. Do not discard the molded shipping carton; the container should be retained should the microscope ever require reshipment.
3. Keep the instrument out of direct sunlight, high temperature or humidity, and dusty environments. Ensure the microscope is located on a smooth, level and firm surface.
4. If any specimen solutions or other liquids splash onto the stage, objective or any other component, disconnect the power cord immediately and wipe up the spillage. Otherwise, the instrument may be damaged.
5. All electrical connectors (power cord) should be inserted into an electrical surge suppressor to prevent damage due to voltage fluctuations.
6.  **LAMP REPLACEMENT -- CAUTION:** the glass housing of the lamp may be extremely hot. DO NOT attempt to change the lamp before it is completely cooled or without wearing adequate skin protection.
7.  **FUSE REPLACEMENT --** For safety when replacing the fuse (ONLY replace with the same size, type and rating of original fuse), be sure the main switch is in the off position, disconnect the power cord from outlet, and replace the fuse. Reconnect the power cord and turn unit on.
8. Confirm that the input voltage indicated on your microscope corresponds to your line voltage. The use of a different input voltage other than indicated will cause severe damage to the microscope.

CARE AND MAINTENANCE

1. Do not attempt to disassemble any component including eyepieces, objectives or focusing assembly.
2. Keep the instrument clean; remove dirt and debris regularly. Accumulated dirt on metal surfaces should be cleaned with a damp cloth. More persistent dirt should be removed using a mild soap solution. Do not use organic solvents for cleansing.
3. The outer surface of the optics should be inspected and cleaned periodically using an air stream from an air bulb. If dirt remains on the optical surface, use a soft cloth or cotton swab dampened with a lens cleaning solution (available at camera stores). All optical lenses should be swabbed using a circular motion. A small amount of absorbent cotton wound on the end of a tapered stick such as cotton swabs or Q-tips, makes a useful tool for cleaning recessed optical surfaces. Avoid using an excessive amount of solvents as this may cause problems with optical coatings or cemented optics or the flowing solvent may pick up grease making cleaning more difficult.
4. Store the instrument in a cool, dry environment. Cover the microscope with the dust cover when not in use.
5. Our microscopes are precision instruments which require periodic preventative maintenance to maintain proper performance and to compensate for normal wear. An annual schedule of preventative maintenance by qualified personnel is highly recommended. Your authorized UNITRON® or ACCU-SCOPE® distributor can arrange for this service.

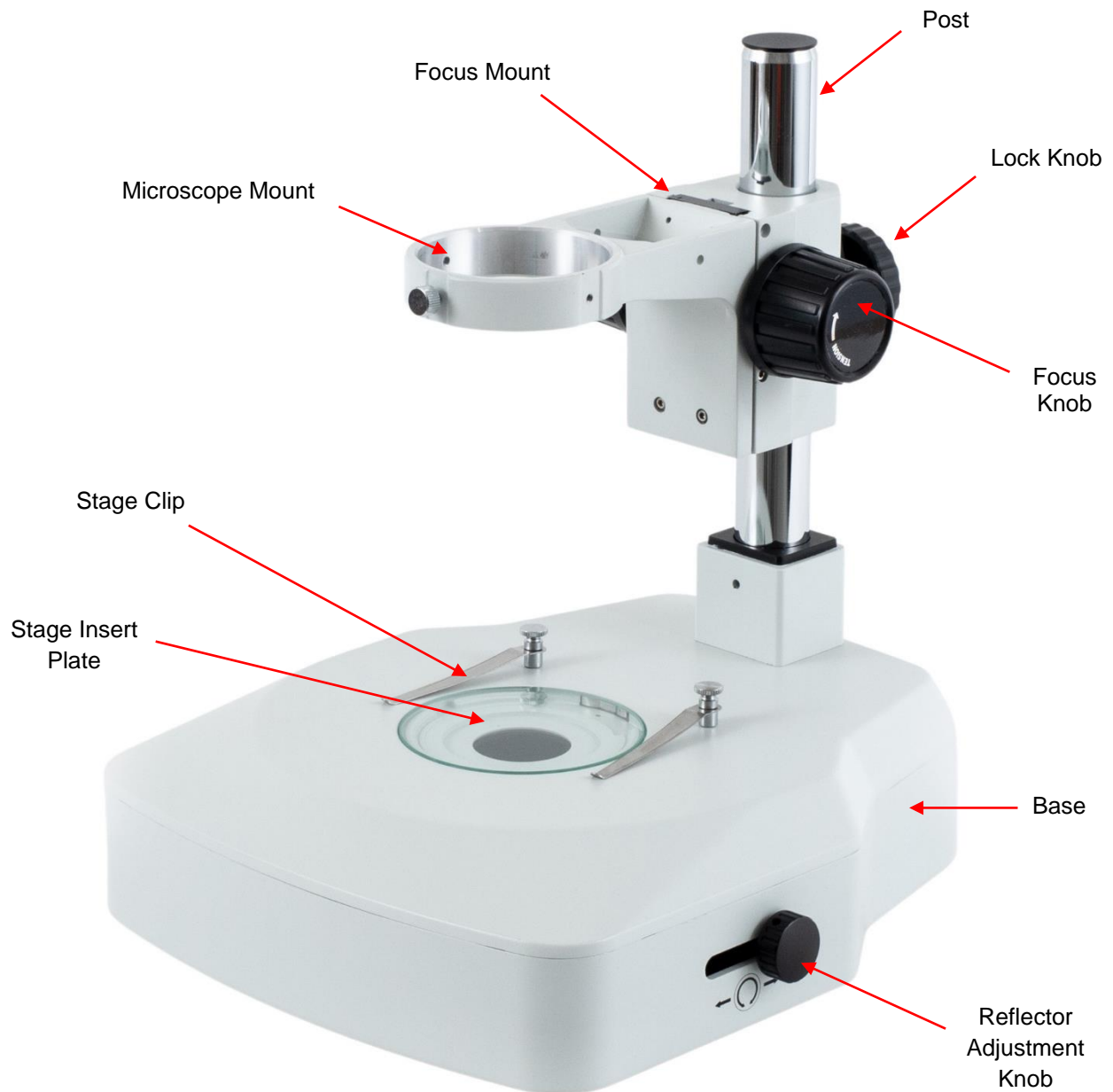
INTRODUCTION

Congratulations on the purchase of your new microscope accessory. Our microscopes and accessories are engineered and manufactured to the highest quality standards. Your microscope will last a lifetime if used and maintained properly. Our microscopes are carefully assembled, inspected and tested by our staff of trained technicians in our New York facility. Careful quality control procedures ensure each microscope is of the highest quality prior to shipment.

UNPACKING AND COMPONENTS

Your microscope arrived packed in a molded shipping carton. **Do not discard the carton:** the carton should be retained for reshipment of your microscope if needed. Avoid placing the microscope in dusty surroundings or in high temperature or humid areas as mold and mildew will form. Carefully remove the microscope from the EPE foam container by its arm and base and place the microscope on a flat, vibration-free surface. Check the components against the packing list included with your microscope.

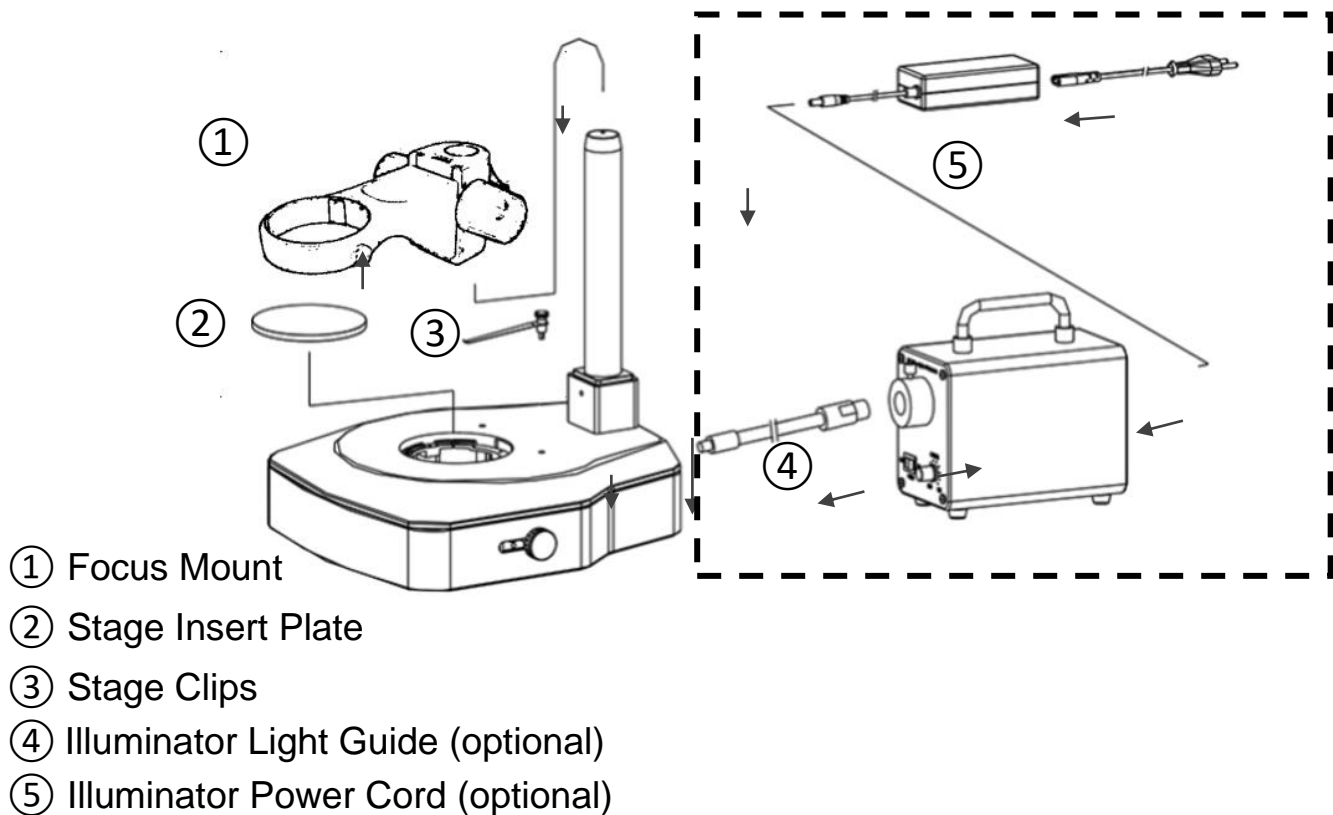
COMPONENTS DIAGRAM



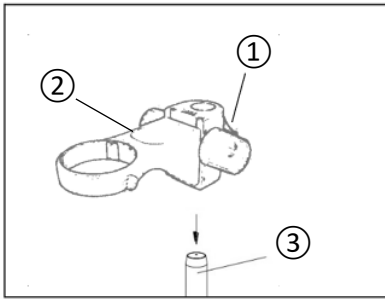
ASSEMBLY DIAGRAM

The diagram below shows how to assemble the various components. The numbers indicate the order of assembly. Use the 1.5mm and 3mm hex wrenches that are supplied with your microscope when required. Be sure to keep this wrench for changing out components or making adjustments.

When assembling the microscope, make sure that all parts are free of dust and dirt, and avoid scratching any parts or touching glass surfaces.



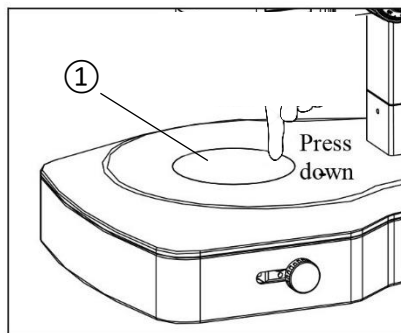
DETAILED ASSEMBLY



Mount the Focus Mount

Loosen the lock knob ① (not focus knobs) of the focus mount ②. Position the focus mount as shown and gently slide it down onto the post ③ until the mount is somewhat centered between the top and the post base.

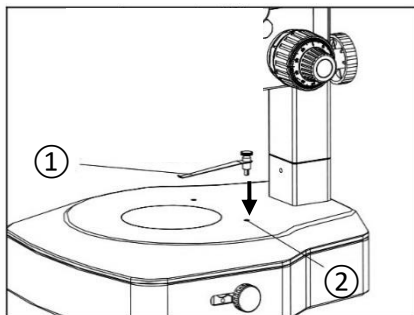
Tighten the lock knob.



Install the Stage Insert Plate

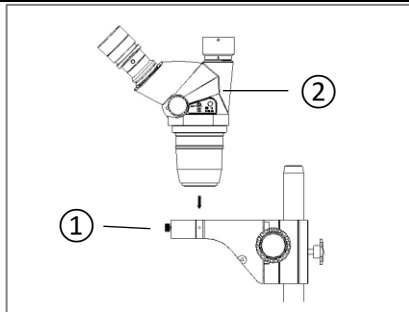
Gently push the stage insert plate ① with the edge tilted toward the spring on the inside of the hole in the base and set it into place.

To remove the stage insert plate, press down with one finger near the spring – it will pop up on the opposite side and you can then lift it out.



Install the Stage Clips

Insert the stage clip post of the stage clip ① into the hole ② on the top of the base as shown; repeat for other stage clip.



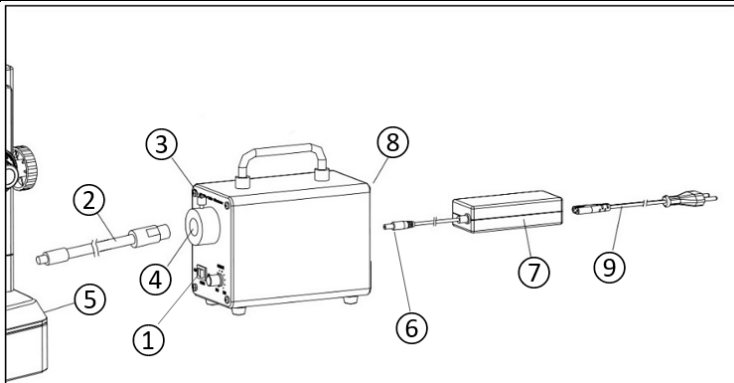
Mount the Microscope Body (not included)

Loosen the lock screw ① on the microscope mount. The lock screw may be located on the front or the side of the mount.

Carefully slide the microscope body ② into the 76mm diameter opening in the microscope mount until it is completely seated in the mount.

Tighten the lock screw.

DETAILED ASSEMBLY - *continued*



Connect the optional LED Illuminator & Power Supply

Make sure the power switch on the illuminator ① is set to "OFF".

Align the end of the flat part of the illuminator light guide ② with the lock screw ③ on the socket ④ on the front of the illuminator and slide it in and tighten the lock screw.

Insert the other end of the illuminator light guide into the socket ⑤ on the back of the microscope and tighten the lock screw on the top of the socket.

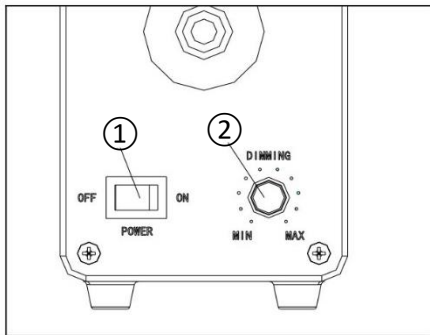
Insert one end ⑥ of the power cord on the power supply ⑦ into the socket ⑧ on the back of the illuminator.

Plug the other end ⑨ into the corresponding socket on the other end of the power supply.

Plug the other end of the power supply into a grounded (3-prong) outlet.

NOTE: Always use the power cord that is provided with your microscope; using a different power cord may damage your microscope. Should you need a replacement, contact your authorized UNITRON dealer or call UNITRON at 1-631-543-2000 for a dealer nearest you.

OPERATION

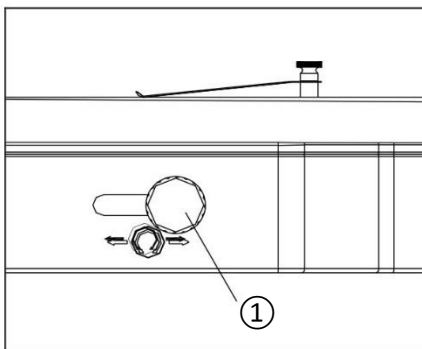


Adjusting the Illumination

Turn the power switch ① to "ON".

NOTE: For longer lamp life always turn the light intensity control knob ② to the lowest illumination intensity setting possible before turning the power on or off.

The light level may need adjustment depending upon the specimen density and objective magnification. Adjust the light intensity for comfortable viewing by turning the light intensity control knob clockwise to increase brightness. Turn counterclockwise to decrease brightness.

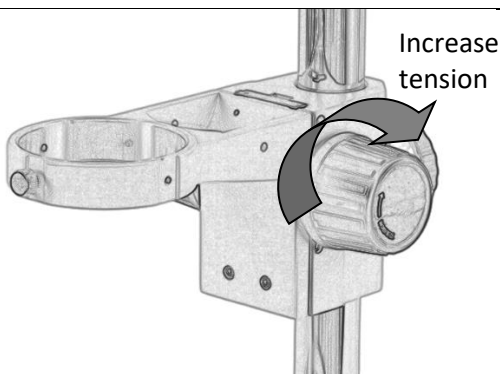


Adjusting the Reflector

The reflector has two sides: one is a polished mirror, the other is a frosted mirror. Both sides reflect light, but the polished mirror provides a stronger reflection.

You can change the reflector type or the reflection intensity by rotating the reflector adjustment knob ①.

The reflector adjustment knob can also be moved from front to back to achieve different lighting effects of the reflector.

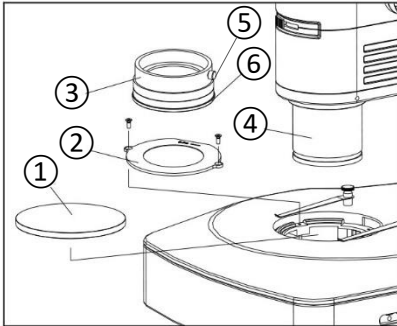


Adjusting the Focusing Tension

To adjust tension, hold both left and right focus adjustment knobs with both hands, hold the left knob (to prevent it from turning), and rotate the right knob clockwise to increase (tighten) or counterclockwise to decrease (loosen) the focus knob tension. Note the arrow on the focus knob that indicates the direction to turn for increased tension.

After tension adjustment has been completed, always rotate both adjustment knobs in the same direction.

OPERATION *(continued)*



Using the Optional Polarizer/Analyzer (not available for all microscopes)

The simple polarizer includes the polarizer and analyzer.

The polarizer is designed to fit the Advanced Diascopic Stand. The analyzer may not fit your microscope, so please consult with your microscope sales representative for a rotatable analyzer that fits your particular microscope.

Remove the stage insert plate ① (see Fig. 8, p. 3).

Insert the polarizer ② with the flat edge closest to the column (or aligned with the spring on the inside of the hole in the base), and screw it in place using the 3mm hex wrench. Replace the stage insert plate.

Slide the analyzer ③ onto the bottom outside diameter of the objective ④ and tighten the analyzer lock screw ⑤.

With the 360° rotating analyzer, you can change the orthogonal state of the polarized light by rotating the analyzer adjustment ring ⑥.

TROUBLESHOOTING

Under certain conditions, performance of this unit may be adversely affected by factors other than defects. If a problem occurs, please review the following list and take remedial action as needed. If you cannot solve the problem after checking the entire list, please contact your local dealer for assistance. Note that some problems may relate to the microscope and not the microscope stand.

OPTICAL

PROBLEM	CAUSE	SOLUTION
The illumination is on, but the field of view is dark.	The bulb is burned out. The brightness is set too low The field diaphragm of the microscope is not open enough or closed Too many filters are in the optical path	Replace it with a new one Set it to the appropriate position Open the field diaphragm Reduce them to the minimum required number
The edge of the field of view is obscured or not evenly illuminated.	Dirt or dust has accumulated on the lens (objective or eyepieces) Light path selection slider is not in the right position The color filter, polarizer or analyzer is not inserted fully	Clean the lens Pull it into the right position Push it in all the way
Dirt or dust is visible in the field of view	Dirt/dust on the specimen Dirt/dust on the eyepiece	Replace with a clean specimen Clean the eyepieces
The image is not clear	The aperture diaphragm is not open correctly The light path selection slider is not in the correct position	Adjust it Push it into the correct position
Visibility is poor ▪ Image is not sharp ▪ Contrast is poor ▪ Details are indistinct	The aperture diaphragm is opened or stopped down too far in brightfield observation The lenses (condenser, objective, eyepieces) are dirty	Adjust the aperture diaphragm properly Clean it thoroughly

MECHANICAL PART

PROBLEM	CAUSE	SOLUTION
The coarse adjustment knob is too difficult to rotate	The tension adjustment ring is tightened too much	Loosen it
The image goes out of focus during observation	Focus tension is too loose	Tighten it

TROUBLESHOOTING *(continued)*

ELECTRICAL SYSTEM

PROBLEM	CAUSE	SOLUTION
The lamp doesn't light	No power to the lamp The lamp burned out	Check the power cord is connected correctly Replace the lamp
The light intensity is not enough	The light intensity control knob is not set properly	Adjust the light intensity control knob
The lamp keeps burning out	The wrong lamp is used There is a short in the power cord	Replace the lamp with the correct one Replace the power cord
The lamp flickers or the brightness is not stable	The lamp will burn out soon The power supply doesn't connect well	Replace the lamp Connect the power supply correctly

MAINTENANCE

Please remember to **never** leave the microscope with any of the objectives or eyepieces removed and always protect the microscope with a dust cover when not in use.

SERVICE

UNITRON® microscopes are precision instruments which require periodic servicing to keep them performing properly and to compensate for normal wear. A regular schedule of preventative maintenance by qualified personnel is highly recommended. Your authorized UNITRON distributor can arrange for this service. Should unexpected problems be experienced with your instrument, proceed as follows:

1. Contact the UNITRON distributor from whom you purchased the microscope. Some problems can be resolved simply over the telephone.
2. If it is determined that the microscope should be returned to your UNITRON distributor or to UNITRON for warranty repair, pack the instrument in its original Styrofoam shipping carton. If you no longer have this carton, pack the microscope in a crush-resistant carton with a minimum of three inches of a shock-absorbing material surrounding it to prevent in-transit damage. The microscope should be wrapped in a plastic bag to prevent Styrofoam dust from damaging the microscope. Always ship the microscope in an upright position; **NEVER SHIP A MICROSCOPE ON ITS SIDE**. The microscope or component should be shipped prepaid and insured.

LIMITED MICROSCOPE WARRANTY

This microscope is warranted to be free from defects in material and workmanship for a period of five (5) years for mechanical and optical components and one (1) year for LED bulb and electrical components from the date of invoice to the original (end user) purchaser. This warranty does not cover damage caused in-transit, misuse, neglect, abuse or damage resulting from improper servicing or modification by other than UNITRON approved service personnel. This warranty does not cover any routine maintenance work or any other work, which is reasonably expected to be performed by the purchaser. Normal wear is excluded from this warranty. No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage or other conditions beyond the control of Unitron Ltd. This warranty expressly excludes any liability by UNITRON Ltd. for consequential loss or damage on any grounds, such as (but not limited to) the non-availability to the End User of the product(s) under warranty or the need to repair work processes. Should any defect in material, workmanship or electronic component occur under this warranty contact your UNITRON distributor or UNITRON at (631) 543-2000. This warranty is limited to the continental United States of America. All items returned for warranty repair must be sent freight prepaid and insured to Unitron Ltd., 73 Mall Drive, Commack, NY 11725 – USA. All warranty repairs will be returned freight prepaid to any destination within the continental United States of America. For all foreign warranty repairs, return freight charges are the responsibility of the individual/company who returned the merchandise for repair.

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