

## Confident Curing



### ALLEGRO SYSTEM SPECIFICATIONS

The Allegro High-Intensity LED (light-emitting diode) dental curing light is used for photo-polymerization of light-cure dental materials.

The light source is Class II.

The light source is Type BF.

Classification against ingress of liquids: The light source is Ordinary Equipment (IPXO).

### SAFETY PRECAUTIONS (Read first before proceeding)

**Warning:** Before connecting and operating the Allegro, read and understand all safety instructions. When used properly, and with normal precautions, the Allegro is a safe and effective light-curing system. The Allegro must only be used as indicated in this instruction manual.

The Allegro Curing Crystals must be disinfected prior to use. See the "Cleaning the Allegro Curing Crystals" section on page 4.

The Allegro Curing Crystals are specifically constructed to provide maximum light output from the Allegro light source. Use of any other light guide will reduce light output.

The Allegro produces high-intensity light energy that can be harmful to the eyes. When the system is in use, the patient, operator, and assistants must wear protective eyewear that blocks blue light energy. To avoid possible injury, do not look directly at the end of the light guide or into the light source. Never shine the light into the eyes. Do not start the light outside of the mouth.

The Allegro should not be used by operators or on patients who may be photosensitive or who are using photosensitive medications.

Before plugging in the AC/DC power supply, verify that the AC line voltage is within the input range of 100V-200V 50Hz-60Hz/160mA specified on the label of the AC/DC power supply. Using AC/DC power supplies other than the one provided with the Allegro will cause damage to the system.

Using battery chargers other than the ones provided with the Allegro will cause damage to the system.

Do not block the vent holes on the upper and lower sections of the handpiece.

Do not saturate any surface with disinfectant liquids or allow liquids to flow into the vent holes and other openings. Wipe with a damp towel and dry completely.

Do not attempt to disassemble the battery, charger, or light source. Only a Den-Mat authorized representative may provide service to the system.

**WARNING: When the system is in use, the patient, operator, and assistants must wear protective eyewear that blocks blue light energy.**

### ALLEGRO SYSTEM CONTENTS

Remove and inspect all components from the shipping container.

- Allegro handpiece
- Allegro battery pack (2 each)
- Allegro battery charger and radiometer
- Allegro battery charger AC/DC Power Supply
- Allegro Curing Crystal 10 mm x 14 mm (1 each)
- Allegro Curing Crystal 8 mm (1 each)
- Allegro TIR (Total Internal Reflector) glass tip 8mm (1 each)
- Safety glasses (2 each)
- Curing test rings (200 piece bag)

**WARNING: When the system is in use, the patient, operator, and assistants must wear protective eyewear that blocks blue light energy.**

### ALLEGRO SYSTEM INSTALLATION

1. Install one of the battery packs into the base of the handpiece and push up until it clicks into place. Batteries are shipped partially charged and will provide limited operation. Allow to fully charge in the Allegro battery charger (the display window indicates FULL) for maximum use. (Refer to Battery Charger Instructions, Page 7.)
2. Install the second battery pack into the battery charger.
3. Plug the AC/DC power supply into the wall electrical outlet and connect the power plug into the battery charger.
4. The Allegro Curing Crystals and TIR Tip must be sterilized prior to use. See the "Cleaning the Allegro Curing Crystals" (page 4) and "Cleaning the Allegro TIR tips" (page 5) for instructions.
5. Insert an Allegro Curing Crystal or TIR Tip into the handpiece. Push in until it clicks into place. The Allegro is now ready for use.

**IMPORTANT: Make sure the tip is pushed in all the way or light output will be reduced.**

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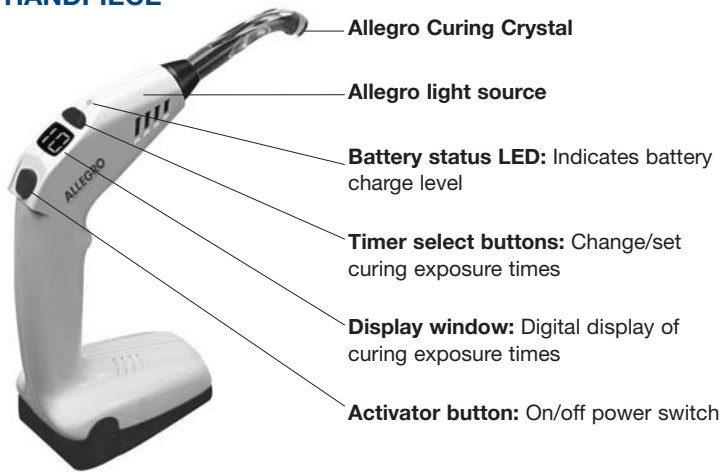
**1-800-445-0345**

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### HANDPIECE



### BATTERY CHARGER

**Battery pack bay:** Insert battery here to charge.

**Display window:** Digital display of battery charge status and light density (mW/cm<sup>2</sup>)

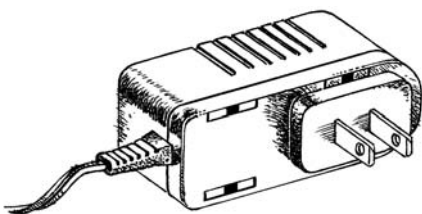
**Light meter (radiometer):** Place tip here to measure light density.



### BATTERY PACK

**Allegro battery pack:** Lithium-ion battery

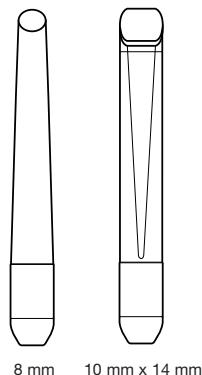
### AC/DC POWER SUPPLY



### CURING TIPS

The Allegro Curing Tips provide an optical path from the light source to the composite. The Allegro Curing Crystal and Glass TIR

Tips are specifically constructed to provide maximum light output from the Allegro light source. Replace acrylic tips if light output decreases.



### EYEWEAR



The protective eyewear provided with the Allegro must be worn by the patient, operator, and assistants when the system is in use. Additional protective eyewear is available through Den-Mat Holdings, LLC. See page 8 for ordering information.

### CLEANING THE ALLEGRO HANDPIECE AND BATTERY CHARGER

Do not autoclave the Allegro handpiece, battery charger, or battery packs.

Clean, using a non-abrasive disinfectant, such as Cavicide, Glutaraldehyde, Isopropyl Alcohol, or other disinfectants containing mostly inert ingredients. Do not spray liquids onto plastic surfaces or into openings in the Allegro handpiece or battery charger.

Do not saturate any surface with disinfectant liquids or allow liquids to flow into the vent holes and other openings. Wipe with a damp towel and dry completely.

### CLEANING THE ALLEGRO CURING CRYSTALS

**DO NOT AUTOCLAVE OR CHEMIClave THE CURING CRYSTALS. USE A LIQUID DISINFECTANT. ISOLATE THE CURING CRYSTALS FROM INSTRUMENTS AND OTHER DEVICES THAT MAY SCRATCH THE SURFACE. SCRATCHES, BLEMISHES, AND FOREIGN MATTER (such as composite material) WILL REDUCE LIGHT OUTPUT.**

**Replace the acrylic tip every 6–8 weeks or if the light output decreases.**

The Allegro Curing Crystals must be disinfected prior to use. Place the Curing Crystals into a disinfectant solution containing Cavicide, Glutaraldehyde, Isopropyl Alcohol, or other disinfectants containing mostly inert ingredients.

### CLEANING THE ALLEGRO TIR TIP(S)

The Glass TIR Tip can be sterilized using standard autoclave procedures for stainless steel instruments (135° C). Use a sterilization bag and leave sealed for future use. Clean the tip with composite solvent. **Do not chemically clean the TIR tip.**

### USING THE ALLEGRO TIR TIP(S)

The Glass TIR Tip exhibits maximum power output when 2 mm away from the composite. Use the 2mm spacers provided with the glass TIR tip to demonstrate this. Place a spacer into the light meter window and then place the distal end of the tip on top of the spacer. Start the light and note the power density (mW/cm<sup>2</sup>) value displayed. Remove the spacer and place the distal end of the tip directly on top of the light meter window at 0 mm distance. Note the power density.

Use the curing test rings to determine the correct exposure times for your favorite composite.

**IMPORTANT: Make sure the tip is pushed in all the way or light output will be reduced.**

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### USING THE ALLEGRO CURING CRYSTALS

Two sizes of curing crystals are included with each Allegro: 8 mm and 10 mm x 14 mm. Because the 10 mm x 14 mm crystal has a much larger surface area, the light intensity is less than the 8 mm version. Curing times may need to be increased when using the 10 mm x 14 mm crystal. Use the light meter on the battery charger (see page 3) to establish the difference in light density between the two crystals and use the curing test rings to determine the correct exposure times for each.

### USING THE CURING TEST RINGS

**It is strongly recommended that you use the curing rings provided with the Allegro to determine the proper curing time for your application.** Complete the following procedures to determine the correct curing time for your favorite composite:

1. Place the composite into the well in the ring, and then level the composite.
2. Position a curing tip above the surface of the ring. Do not touch the composite.
3. Start with a 10-second curing time.
4. Use a dental probe to check the underside for completeness of cure.
5. Repeat the curing cycle if necessary, until the underside of the sample is completely cured.
6. Maintain a log showing the times necessary to cure your favorite composites, including their shades.

Note: For restorations that are deeper than 2 mm, and if you are not using a dual-cured material, an incremental placement technique is recommended.

### USING THE LIGHT METER

The Allegro has a built-in light meter (radiometer) located in the battery charger (see page 3).

The internal light meter measures light output in mW/cm<sup>2</sup>. Start the light by pressing and releasing the activator button. Do not hold the activator button down. After the light is started, place the distal (output) end of the curing tip into the light meter window on the battery charger. Turn the curing tip to the side to make it easier to keep it centered and flush with the light meter window.

The display automatically changes to the light meter mode when light is shined into the meter. Light density is displayed in mW/cm<sup>2</sup>.

The Allegro light meter is not intended for use with other light sources.

If the light meter reading appears low, verify that the tip is pushed all the way into the pistol. Also, inspect the tip for scratches and foreign matter.

### CURING INSTRUCTIONS

Refer to manufacturer product instructions for recommended curing times.

Visually inspect the Curing Crystals and the TIR Tip for scratches, blemishes, and foreign matter prior to use. Remove any foreign matter from the surface of the Curing Crystals or TIR Tip. Measure the light output using the light meter (radiometer) in the Allegro battery charger (see page 3).

It is strongly recommended that you use the curing rings provided with the Allegro to determine the proper curing time for your application. Refer to the "Using the Curing Test Rings" instructions above.

Do not touch the tip of the light guide to the composite material.

### ALLEGRO OPERATION

#### General

The Allegro provides days of exposures with a fully-charged battery. As the battery discharges, the color-changing LED, located above the display on the handpiece, changes from green (full) to yellow (low) to red (discharged). For optimum performance, it is recommended that the battery be changed at the end of each day. Exchange the battery in the charger with the one in the handpiece. To remove the battery, press in simultaneously on the battery release buttons on each side of the battery pack and pull it downward, while pulling up on the handpiece.

#### Allegro is Active During the Day and Sleeps at Night

The Allegro Display window stays on during the day, even when the light is not being used, so that you will always know the curing time selected. The numeric LED uses very little battery power and will not significantly reduce run time.

When the system has been inactive for a period of time, the display turns off. The light "remembers" the last cure time selected and is ready for use the next morning.

#### Change Curing Time

When the battery is first installed into the Allegro handpiece, the system defaults to a ten-second curing time. The number 10 appears in the Display window. Press the left Timer Select (page 3) button to decrease time. Press the right Timer Select button to increase time. Multiple presses of either button will scroll through the timer selections.

05 Seconds—Display counts down with an audio signal at the end.

10 Seconds—Default timer. Display counts down with an audio signal at the end.

15 Seconds—Display counts down with an audio signal at the end.

20 Seconds—Display counts down with an audio signal at the end.

#### Start/Stop Curing Exposure

Press the Activator button (page 3) and release to start the curing exposure. Pressing the Activator button again will turn off and pause the light. The remaining time will be displayed. Press the Activator button again to resume the curing exposure.

#### Battery Status Indicator

A color-changing LED, located above the Timer Select button (page 3), indicates the battery charge status. Green indicates full. Yellow indicates low. Red indicates discharged. When the battery discharge level reaches the red status, three beeps occur when the activator button is pressed, as an alert to change the battery.

#### Sleep Mode

When the system has been inactive for a period of time (such as overnight), the display will turn off to conserve energy. The last curing exposure time setting will be retained. The system is waiting for a command. Pressing the Activator or Timer Select buttons cause the display to light and the command to initiate.

### USING THE ALLEGRO BATTERY CHARGER

Keep one battery in the battery charger. The battery cannot be overcharged. Once the battery is fully charged, the charger shuts down until it is needed again.

It is recommended that the battery be changed at the end of each day. Exchange the battery in the charger with the one in the handpiece. To remove the battery from the handpiece, press in simultaneously on the battery release buttons on each side of the

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battery pack and pull it downward, while pulling up on the handpiece. Install the battery top-down into the well in the battery charger (page 3). Be sure to push the battery all the way onto the charger power plug. When the battery is properly installed into the charger, the letters "CHG" (charge) will appear with a revolving indicator. When the battery is fully charged, the letters "FULL" will appear. When you remove the battery, no letters ( " - - - - " ) appear in the display window.

**If "CHG" or "FULL" does not appear when the battery is installed, remove and firmly reinstall the battery until it clicks into place. The display window must change from " - - - - " to "CHG" to indicate correct operation.**

### ALLEGRO BATTERY PACK

Two battery packs containing lithium-ion batteries are provided with each Allegro. Keep one battery in the charger and the other installed in the hand piece. Do not disassemble the battery. Do not attempt to use any battery other than the ones provided with the Allegro. Recycle or dispose of the battery packs properly and in accordance with regulatory requirements. It is not possible to overcharge the battery.

### RESTORATIVE MATERIALS

#### Description Part Number

#### VIRTUOSO® UNIVERSAL INTRODUCTORY KIT . . . . . #030381950

The ultimate in nanohybrid composites. A truly universal material which can be used for a wide array of clinical applications.

#### VIRTUOSO® FLOWABLE CUSTOM KIT . . . . . #030381800

A low-viscosity, easy-flow restorative material with excellent physical properties.



#### ULTRA-BOND® PLUS MULTI-SHADE KIT . . . . . #032599750

Optimal viscosity for cementation of all porcelain restorations in a convenient, dual-cartridge delivery system.



#### CORE PASTE XP SYRINGE KIT . . . . . #030654110

The recognized standard in core build-up materials in a fast, auto-mixing syringe that can be easily syringed directly into canals.



### ALLEGRO REPLACEMENT PARTS

Description	Item Number
Allegro TIR Tip 8 mm (1) . . . . .	.033959555
Allegro Disposable Curing Crystals 8 mm (2) . . . . .	.033959025
Allegro Disposable Curing Crystals 10 mm x 14 mm (2) . . . . .	.033959015
Allegro Curing Crystal Orange Shield . . . . .	.043959102
Protective eyeglasses (1 pair) . . . . .	.043921901
Curing test rings (bag of 200) . . . . .	.043952114
Allegro battery pack . . . . .	.033959030
Allegro AC/DC power supply (plug) . . . . .	.043959003
Allegro battery charger . . . . .	.033959080 CAL



### SYSTEM WARRANTY

The Den-Mat® Allegro system (light source, charger, and battery pack) is warranted to be free of defects in workmanship, materials, and malfunctions for one year from the date of original shipment when used under normal operating conditions as described in this manual. The warranty applies to the original purchaser only and does not apply to, or cover any third party buyer or user. The warranty does not cover any damage that may have occurred as a result of misuse, improper operation, alteration, adjustments, or neglect.

Within the one year warranty period, if service is required, the system must be returned to Den-Mat Holdings, LLC for diagnostics and repair. Contact the factory to receive Return Authorization prior to shipping. The Return Authorization will include a pick-up notice (Call Tag) for a common carrier to return the merchandise to Den-Mat Holdings, LLC. Freight charges for returns within the warranty period will be paid by Den-Mat Holdings, LLC pending the evaluative results of the failure or damage. Freight charges for returns outside of the warranty period will be paid by the customer. The outside shipping container and any accompanying documents must be clearly marked Repair Return. Use only the original shipping container or other adequate shipping materials to protect the system in transit. All returns will be evaluated for the cause and extent of failure or damage by Den-Mat Service Representatives. Subject to the results of this evaluation, Den-Mat Holdings, LLC will authorize warranty repair or will contact the customer with a price quotation for the cost of repairs for failures and damages occurring as a result of misuse, improper operation, or for merchandise outside of the warranty period.

This is a limited warranty and the liability of Den-Mat Holdings, LLC is to repair or replace the system. Den-Mat Holdings, LLC has no liability to refund any part of the purchase price and no liability for consequential damages, loss of profits, and damages to person or injury by reasons of any defects in said system from any cause whatsoever.

Any buyer who purchases said system acknowledges their familiarity with the terms, conditions, and provisions of this limited warranty and purchases said system agreeing to such terms, conditions, and provisions.

Buyer purchases the Allegro system from Den-Mat Holdings, LLC on the terms, conditions, and provisions of this limited warranty and waives all other rights and claims against Den-Mat Holdings, LLC for any damages or remedies exceeding said limited warranty.

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