

BISCO's

VIPTM

Variable Intensity Polymerizer



Dental Curing Unit

OPERATOR'S MANUAL

Congratulations!!!

You have just purchased BISCO's **Variable Intensity Polymerizer (VIP™)**. This is the most technologically advanced curing light on the market today.

The **VIP** is the only light with built-in variable power settings allowing independent command over time and intensity. This universal light is engineered to provide high intensity light curing in situations demanding rapid, intense polymerization such as sealants and veneers. The **VIP** may also be programmed to deliver multiple curing intensities when desired for composite polymerization.

The **VIP** is programmed with preset exposure times of 2, 3, 4, 5, 10, 20, 30 seconds and a continuous mode up to 255 seconds. The programmed power settings are 100, 200, 300, 400, 500 and 600 mW/cm² allowing the operator to manually select any time and intensity combinations or use pre-programmed values, customizing the curing procedure specific to the composite being used.

The **VIP** is the only curing light available with a set of **Advanced Diagnostic Functions** which allow for preventative maintenance. These features dramatically reduce the need for service and facilitate easy, fast repair. The **VIP** operates the lamp at less than full capacity, extending the service life of the lamp, allowing for continual adjustment of the lamp output and optimizing performance.

The **VIP** incorporates a **Radiometer** and automatically calibrates itself. It can also be used as an *independent radiometer* for other light curing units assuring the operator of proper performance.

For the science behind the development of the **VIP** and the **Pulse-Delay Cure Technique**, refer to the **Scientific Manual** available through BISCO.

*BISCO's **VIP** is the most versatile and complete dental curing light available today!*

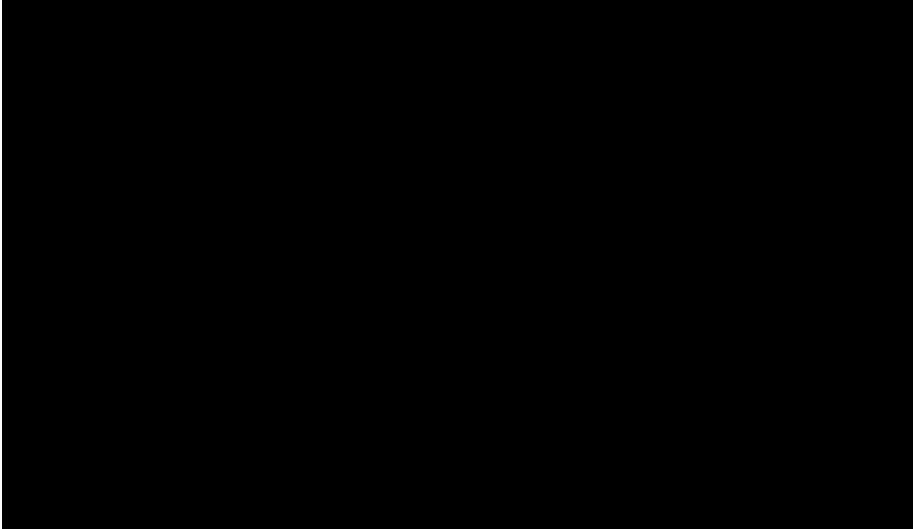
VIP™ OPERATOR'S MANUAL

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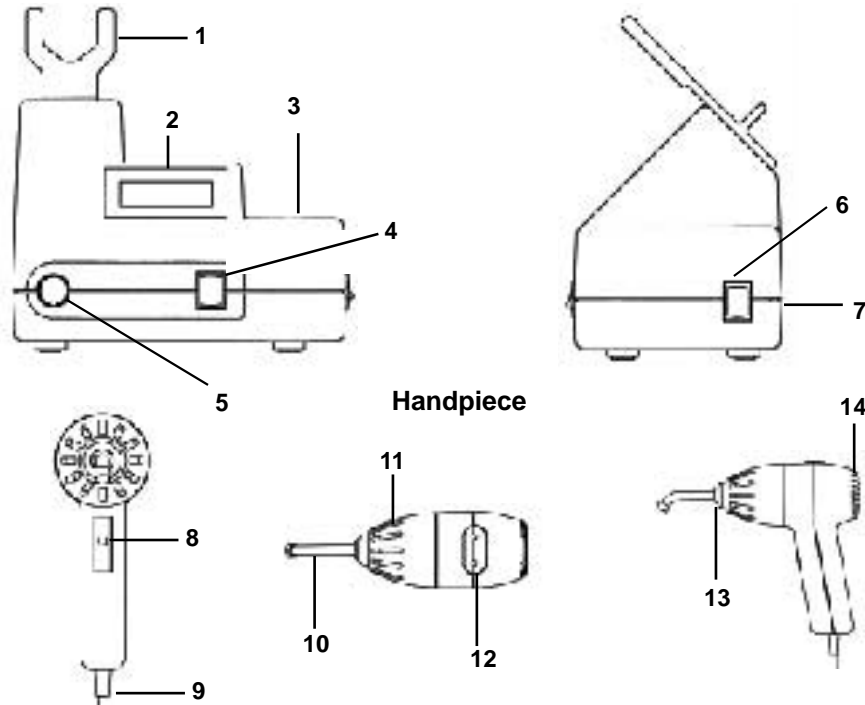
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1. PRODUCT DESCRIPTION - Model VIP™

Base Unit



1. Handpiece Holder
2. Display Window
3. Radiometer Sensor
4. Base Unit Select Switch: Time and Intensity/Program Modes P1 and P2
5. Handpiece Cord Receptacle
6. AC Power Switch
7. AC Power Inlet/Fuse Holder
8. Trigger Button
9. Handpiece Cord
10. Probe
11. Nose
12. Handpiece Select Switch: Time and Intensity/Program Modes P1 and P2
13. Probe Receptacle
14. Fan

2. ASSEMBLY

A) Check that the following parts are present in the shipping carton:

- (1) Bisco VIP base unit and handpiece.
- (1) 12 V/75 W halogen lamp (replacement).
- (1) 11mm dia. angled fiber optic light probe.
- (1) Protective light shield.
- (2) Spare fuses.
- (1) Detachable power cord.
(country specific).
- (1) Quick Start Guide.
- (1) Operations Manual.
- (1) Curing Profile Card



B) Before plugging in the power cord, AC the power switch on the base unit should be off ('O').



C) Connect the handpiece cord to the base unit by plugging in and rotating lock ring approximately 90°.

D) Connect the proper power cord into the receptacle on the back of the base unit. Plug into an outlet with the proper voltage as marked.



CAUTION: *Power input voltage is specified on the label on the back on the base unit.*

E) Insert the desired light probe into the front of the handpiece. It will snap into place.





F) Place the handpiece in the holder as shown.



3. SPECIFICATIONS AND CLASSIFICATION - Model VIP™

TECHNICAL SPECIFICATIONS

- A) AC Supply Connection:** 100-120V~/1.6A, 50/60 Hz
200-240V~/0.8A, 50/60 Hz
- B) Power Input:** 150 VA nominal
- C) Equipment Class:** II 
- D) Protection from Electric Shock:** Type BF 
- E) Protection from Ingress of Liquids:** None
- F) Environment:** Not intended for use where a mixture of a flammable gases, including inhalation anesthetics, are present.
- G) Transport and Storage:**
- Ambient temperature -40°F to 158°F (-40°C to +70°C)
 - Relative humidity 10% to 100%, including condensation
 - Atmospheric pressure 0.5 atm to 1.0 atm (500 hPa to 1060 hPa)
- H) Operation:** Continuous operation
- I) Fuses (2 per unit):**
- 110V version 250V, T 1.6 A, 5 x 20mm Time Lag Type
 - 220V version 250V, T 0.8 A, 5 x 20mm Time Lag Type
- J) Lamp:** 12 Volt, 75 Watt Lamp, Color Temp: 3400°K, Focal length: 26.5 mm, Diameter: 36 mm
- K) Handpiece Cord:** 6 feet
- L) Unit Dimensions:**
- Height 8.0 inches (20.5cm)
 - Length 7.5 inches (19.0cm)
 - Width 4.5 inches (11.4cm)
- M) Unit Weight:**
- Handpiece 10.0 oz. (0.3 kg.)
 - Base unit 4 lb. 2 oz. (2 kg.)
- N) Thermal Safety:** Handpiece thermostat protection 60° C

O) Additional Symbols:



Attention consult accompanying documents



AC

COMPLIANCE SPECIFICATIONS

The Model VIP™ is considered to be a Class B device for Emissions/Immunity and complies with:

EMC-Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC
EN 60601-1-2/05.93

EN 55011/03.91

EN 61000-4-2/03.95 (IEC 1000-4-2/01.95)

EN 61000-4-3/1995 (IEC 1000-4-3/02.95)

ENV 50204/03.95

EN 61000-4-4/03.95 (IEC 1000-4-4/01.95)

EN 61000-4-5/03.95 (IEC 1000-4-5/02.95)

EN 61000-4-6/07.96 (IEC 1000-4-6/03.96)

EN 61000-4-8/09.93 (IEC 1000-4-8/06.93)

EN 61000-4-11/08.94 (IEC 1000-4-11/06.94)

47 CFR Part 15 Subpart B: 1996

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interferences in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

VCCI/04.97

AS/NZS 2064: 1997 (CISPR 11)

Interference-Causing Equipment Standard (ICES-003 Issue 2, Rev. 1)

CNS 13438/0.597

















MEDICAL EQUIPMENT CLASSIFIED BY
UNDERWRITERS LABORATORIES INC.®
WITH RESPECT TO ELECTRICAL SHOCK,
FIRE AND MECHANICAL HAZARDS ONLY IN
ACCORDANCE WITH UL 2601-1, AND
CAN/CSA C22.2 NO. 601.1

PERFORMANCE SPECIFICATIONS

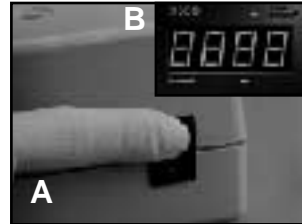
- A) Output Wavelength Range:** 400-500 nm (nanometers)
- B) Output Light Intensity:** 100-600 mW/cm²
(mW/cm²) = milliwatts per centimeter squared)
- C) Curing Radiometer:**
- Sensitivity Range 400-500 nm (nanometers)
 - Intensity Range 100-750mW/cm²
 - Accuracy 100mW/cm²
- D) Calibration:** 100-600 mW/cm² ± 20%
Output
- E) Exposure Time:** 2-30seconds
preprogrammed
0-255 seconds trigger
controlled

4. SAFETY PRECAUTIONS

-  A) **CAUTION!** Read the Operator's Manual before using the VIP™.
-  B) **WARNING!** Do not operate handpiece unless fully assembled with probe installed.
-  C) **WARNING!** The fiber optic light probe must be sterilized prior to patient contact.
-  D) **WARNING!** Do not place light probe directly on or towards unprotected gingiva or skin.
-  E) **WARNING!** Do not look directly into the end of the light probe while operating. Protective eye wear will block the energy and must be worn by the operator, assistant and the patient.
-  F) **WARNING!** Do not expose patients with a history of photosensitivity or those using photosensitive medications to the light emitted from this unit.
-  G) **CAUTION!** Do not attempt to use any other manufacturer's handpiece in conjunction with the base unit other than the one specified for use with the VIP.
-  H) **CAUTION!** Do not restrict air flow through the handpiece.
-  I) **CAUTION!** Do not remove or insert the handpiece cord into the base while the power is on.
-  J) **CAUTION!** Always lock handpiece cord into the connector.
- K) Always place handpiece into holder following each curing procedure.
-  L) **CAUTION!** Do not place the base unit in a location subject to water spray or water dripping. Avoid direct spray on the handpiece. Device is rated ordinary equipment for water ingress protection.
- M) Do not turn the unit off while the fan is running. Allowing the fan to complete the cooling cycle will prolong the lamp life.
-  N) **WARNING!** This product is not suitable for use in environments where flammable gases, including inhalation anaesthetics, are present
- O) Do not use for any purpose other than curing dental composites.
- P) The VIP has been specifically designed to safely and effectively perform for dental applications and to meet worldwide electrical safety standards, including: USA, Canada and Europe.
-  Q) **WARNING!** Turn the power off before removing the front end of the handpiece and changing the lamp.
-  R) **WARNING!** When replacing lamp; lamp may be very hot, even after burning out. Allow sufficient cooling time before attempting removal.
Do not use latex gloves as hand protection for a hot lamp.

5. OPERATING INSTRUCTIONS

- A) Turn unit on by switching the AC power to ('I').
- B) Unit will display **8888** for about 1 second, beep and then go into "standby" mode. It is now ready for use. The last combination of time and intensity will display. If the display is flashing see (E) below.
- C) By pressing and releasing the trigger button the unit will emit a blue light of the displayed intensity (mW/cm^2) for the displayed number of seconds. In the program or menu modes, the display will count the selected exposure time *down* to zero. In the continuous mode, the display will count the exposure time *up* from 0 to 255 seconds or until the trigger is depressed again, then the light will stop.
- D) The VIP should be calibrated everytime the probe is changed in order to ensure proper operation. A built-in radiometer will calibrate any selected intensity including preset values in the program mode. By calibrating at any intensity (other than $100\text{mW}/\text{cm}^2$)* all other intensities are automatically calibrated. Simply place the probe tip over the sensor window located on the right side, top of the base.



By activating the trigger, the unit will measure and automatically adjust the output to match the selected intensity value. The intensity level will also be calibrated by keeping the probe tip at a given distance (i.e. 1-3mm) away from the sensor window. (The unit will not be able to calibrate at $600\text{ mW}/\text{cm}^2$ if the distance between the probe tip and the sensor window is greater than 3 mm.) This is useful when curing within very deep preparations to ensure the proper amount of energy delivery.

- E) While calibrating the unit, if the selected value cannot be achieved, the actual maximum value attainable will flash in the display window. The unit will be operating at a lower intensity. This is possibly due to a defective bulb or filter or there is inadequate optical contact with the sensor window. Intensity decreases with distance from the sensor window so it is important to have intimate contact between the probe tip and the sensor window.

- F) A fan cools the optical assembly in the handpiece. A smart feature of the VIP reduces undesirable fan noise while in use. When the unit is set for exposure times between 2-30 seconds, the fan will not come on until 6-10 seconds after the exposure time is over. This gives the operator time to place the handpiece in the base. The fan will come on for 3 minutes, cooling the unit for the next use. At the end of 3 minutes, the unit will give three short beeps. This also serves as an indicator for the end of the three minute delay for the *pulse-delay cure technique* (See Section 7). The power should not be shut off until the fan has stopped and proper cooling has taken place.

Note: When performing a calibration of the unit the fan will not engage. The lamp can then be calibrated, turned off and used without the fan starting. When the unit is placed in the continuous mode, the fan comes on as soon as the lamp is triggered, and continues for 3 minutes after operation.

- G) The unit has 3 diagnostic features which are displayed during stand-by and normal operation.



L_F_ indicates that the Lamp has Failed, and needs to be replaced.





t_F_ indicates that there is thermal Failure and there is thermal cut-off inside the handpiece due to overheating from blockage of airflow or repeated use in the continuous mode. Check for blocked air flow and allow the fan to run. As soon as the handpiece cools, the thermal cut-off will reset and normal operation may resume.

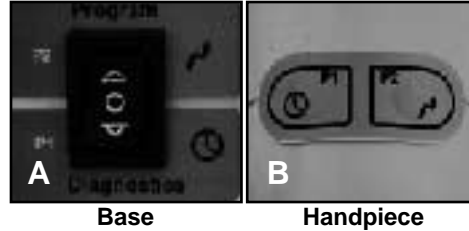


E_F_ indicates an Electrical connection Failure and that the handpiece cable may not be properly connected to the base or a cable wire may be broken. Check for proper connection or See Troubleshooting Section 11.

* 100 mW/cm² intensity is too low to trigger self calibration mode without the potential false calibration as ambient light.

6. USER FUNCTIONS

VIP has predetermined exposure times and intensity levels that can be selected in any combination for use in a continuous, menu or program mode. Intensity levels are available between 100 & 600 mW/cm² in 100 mW/cm² increments. Exposure time durations of 2, 3, 4, 5, 10, 20, 30 seconds and a continuous mode is available. For convenience, the select switches are located on both the base unit (A) and the handpiece (B). Intensity is identified by  and time is identified by .



A) Continuous Mode: Allows the operator to manually control the exposure time from the handpiece trigger up to 255 seconds and manually select an intensity level.

B) Menu Mode: The menu scrolls through both the exposure times and intensity levels available. To select or change exposure time and intensity combinations, press and release the select switches.

C) Program Mode: There are two programmable preset functions that allow the operator to choose two combinations of exposure time and intensity level to be stored for quick retrieval and reliable polymerization. The two program modes are marked with **P1** and **P2** on the select switches.



- The two user programmable presets can be retrieved directly by pressing and holding **P1** or **P2** for 2 seconds.

- The digital readout will display either **P1** or **P2** for one second and then the actual stored values for each.



- A horizontal bar on the readout between the time and intensity display will further specify where the value is stored. If the value is stored in **P1**, the bar will be above the **P1** legend and if the value is stored in **P2**, the bar will be below the **P2** legend.



P1

- The programmed preset values are stored and saved in non-volatile memory, even after the unit is turned off or unplugged.



P2

QUICK FUNCTION GUIDE			
	Continuous Mode	Menu Mode	Program Mode
Time	Manual	Selected	Preset
Intensity	Selected	Selected	Preset
Trigger	Start/Stop	Start/Autostop	Start/Autostop

Continuous Mode: Manually control desired exposure time at selected intensity level. Trigger to start and stop.

Menu Mode: Operate at selected exposure time and intensity level. Trigger to start, automatically stops.

Program Mode: Operate two programs with two combinations of preset exposure times and intensity levels. Trigger to start, automatically stops.



D) Changing Programmed Presets:

VIP comes preprogrammed from the factory with preset values for **P1** (3 seconds @ 200 mW/cm²) and **P2** (30 seconds @ 600 mW/cm²).

1) To change programmed presets; turn the unit off ('O').



2) Press and hold the select switch marked **PROGRAM** on the base unit. At the same time, turn the AC power switch on ('I') until after **8888** is displayed, then release the **PROGRAM** switch. The preset value of time and intensity will be displayed and the horizontal bar above **P1** will be flashing.



3) Select the desired time and intensity values as previously described on page 10 until the desired combination is displayed.



- 4) Activate the handpiece trigger to store these values. The new values are now stored in **P1**, replacing the previously set values. The unit will now automatically advance to display the **P2** previously stored values with the horizontal bar flashing below the **P2** legend.



- 5) Select new time and intensity values for **P2**, then activate the trigger to store these new values. The unit automatically returns to standby mode and is ready for use.



7. PULSE-DELAY CURE TECHNIQUE

- A) Place composite in approximately 2 mm increments to the DEJ (dentinoenamel junction). Light cure each increment for 10 seconds at 500-600 mW/cm².



- B) Place the final increment of composite from the DEJ to the cavosurface margin incorporating the prepared enamel.



- C) Pulse cure this increment in accordance with the **curing profile** (time and intensity value) of the composite.
For example: PYRAMID™ 3 seconds at 200 mW/cm². (See page 14.)



- D) Finish and polish the composite restoration at this time while composite stress relaxation occurs over the next 3 to 5 minutes. As the fan cools the handpiece, 3 beeps will be heard indicating that 3 minutes have expired and final curing can be accomplished.



- E) Perform final high energy cure for 30 seconds at 500-600 mW/cm² (10 seconds each from the buccal, lingual and occlusal surface) to assure complete polymerization of the composite.



8. CURING PROFILES

Many of the features found on the VIP were specifically incorporated for the Pulse-Delay Cure Technique. This method of curing composites aims to reduce the residual stress in composites that is caused by polymerization shrinkage. Strain reduction of up to 37% has been observed. The Pulse-Delay Cure Technique uses an initial low energy dose **P1** (low power and short exposure time), followed by a waiting time of three to five minutes. The waiting period is to be used by the clinician to finish and polish the composite restoration. The initial energy **P1** provides sufficient surface hardness for finishing. The final cure at high energy, **P2** can now be performed.

BISCO has evaluated several composite products for the proper pulse energy **P1**, which produce sufficient hardness of the composite, while still permitting strain relief during the polymerization process. The final curing energy, **P2** is provided by the manufacturer of the composite.

Name of Composite*	P1 Pulse Energy		P2 Energy	
	Time (seconds)	Intensity mW/cm ²	Time (seconds)	Recommended Intensity (mW/cm ²)
Prodigy* (A2) Surefil* (A2) Tetric* Ceram (A2) TPH* (A2) Z100*(A2)	3	100	30 10 buccal 10 lingual 10 occlusal	500
ÆLITEFIL™ (A2) Alert* (A2) Charisma* Epic TPH (A2) Herculite* (A2) Prodigy* (A2) PYRAMID™ DENTIN (A2) PYRAMID ENAMEL (A1) Prodigy (A3-4) Tetric* Ceram (A3-4) TPH (A3-4) Z-100 (A3-4)	3	200	30 10 buccal 10 lingual 10 occlusal	500
Pertac II* (A2) PYRAMID ENAMEL (Trans. & Neutral) Solitaire (A2) ÆLITEFIL™ (A3-4) Charisma Epic TPH (A3-4) Herculite (A3-4) PYRAMID DENTIN (A3-4)	3	300	30 10 buccal 10 lingual 10 occlusal	500

Bisco will continue to add to this list as more information becomes available

* Not a trademark of BISCO

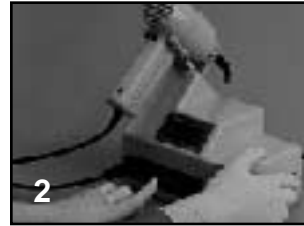
To estimate the **P1** pulse energy (curing time and intensity level) required to polymerize any composite not currently listed in the table above, use the following method. Dispense a small amount (approx. 2 mm) of composite and light-cure it for 3 seconds at 100 mW/cm². If the surface of this composite can be cut with a finishing bur at high speed, adequate initial polymerization has occurred. If the composite is too soft, increase intensity level by 100 mW/cm² increments until the surface is hard enough to finish. This is a quick method of assessing required intensities for adequate composite polymerization.

9. ADVANCED FUNCTIONS

VIP™ incorporates advanced functions including VIP as a radiometer as well as diagnostic functions as an extension of the basic operation.

A) VIP as a Radiometer

- 1) To use VIP as a radiometer enter the Advanced Diagnostics Mode. Turn the unit off. ('O').
- 2) Press and hold the select switch marked **DIAGNOSTICS** on the base unit. At the same time, turn on the AC power switch until after the **8888** is displayed, then release the **DIAGNOSTICS** switch.
- 3) When **r** for radiometer is displayed, the unit will now act as an independent radiometer for external light cure units as well as the attached handpiece. Place the light tip over the sensor window located on the right side on the top of the base. Activate the trigger and the unit will measure the intensity of the light.



Note: *Different light cure units may have different ranges of output wavelengths that may affect the accuracy of readings. They may have different intensity patterns at the output of the fiber optic delivery device. The actual reading may vary as the probe is moved across the window. Readings will vary as the probe is moved up and down and at an angle to the sensor window. If the radiometer scale is overloaded, the reading will display and flash, indicating overrange.*

- 4) To return to normal operation, turn the AC power off, then turn back on and resume with normal operation.

B) Diagnostic Functions

- 1) To use VIP's Advanced Diagnostics Functions, enter the **Advanced Diagnostics Mode**. Turn the unit off. ('O').
- 2) Press and hold the select switch marked **DIAGNOSTICS** on the base unit. At the same time, turn on the AC power switch until after the **8888** is displayed, then release the **DIAGNOSTICS** switch.
- 3) Push and release the base select switch (**2**) once to proceed beyond the radiometer function. The following window displays will appear as the base select switch is pressed and released.



- **L_L_** (Lamp is a Lamp) indicates that the lamp is good. **L_F_** (Lamp has Failed) indicates that the lamp has burned out.



- **t_xx*** indicates the time in hours that the lamp has been on at maximum intensity. **Take care not to activate the trigger at this point or the lamp hour indicator will be reset. Reset after changing the lamp. (See Section 12B, No.5)**



- **H_xx*** provides an indication of the **Headroom**; the amount of reserve power (mW/cm^2) left on the lamp. As headroom drops to zero, the lamp is being driven to its maximum wattage. Reduction in headroom can be due to aging of the bulb, dirty or damaged fiber probes or dirty, damaged optical elements. If the unit is able to be properly calibrated, operation is not affected by reduction in the headroom. This gives the advanced user a way of tracking internal operation and performing preventative maintenance.



- **8888** is a test of the display digits.



- **Fxxx*** is a firmware revision of the microprocessor in control of the system. This may be requested when asking for technical support over the telephone. (F205 may not be the readout of your unit.)

4) To return to normal operation, turn the AC power off, then turn back on and resume with normal operation.

* x indicates any number

10. DISINFECTION

The VIP has an aseptic design with Mylar-coated handpiece select switches. This significantly reduces spaces where bacteria and debris can hide.



- **CAUTION!** The unit must be turned off (**O**) before cleaning and disinfecting.
- The handpiece, base unit and cord should be wiped down with a disinfectant between patients.
- The light probe is autoclavable and must be sterilized after each patient to prevent cross-contamination. It is recommended to use a steam autoclave, using distilled water at a temperature of 250° F (121° C) for 20 minutes.
- Light probes must be autoclaved separately from all dental hand pieces and instruments.
- Chemicals and chemical autoclaves should **not** be used.
- Tap water should not be used in a steam autoclave.
- Do not use phenol base iodophors or iodine complex on light probes.
- Plastic parts should be wiped down for disinfection using glutaraldehyde solution or denatured alcohol.

11. TROUBLESHOOTING

There are no user serviceable parts inside the base. Please refer to the troubleshooting chart below for all other inquires.

PROBLEM	ACTION
No display, no beep.	<ul style="list-style-type: none"> • Check AC power cord is plugged into a live outlet. • Check fuses. • Call BISCO.
No display, beeps.	<ul style="list-style-type: none"> • Call BISCO.
Digital readout is missing display segments or digits when display lights.	<ul style="list-style-type: none"> • Call BISCO.
Display shows: <div style="text-align: center;"> L_F_ E_F_ t_F_ C_F_ r _ _x x x _ x** </div>	<ul style="list-style-type: none"> • Check lamp, replace if necessary. • Check handpiece connection. • Let handpiece cool, check fan, check air flow . • Not calibrated to full intensity. Clean the tip of the light probe and recalibrate. • Unit may be in diagnostics mode. Re-power unit. • Unit may be in program pre-set mode. Re-power unit.
Display shows time and intensity but flashes on and off every second.	<ul style="list-style-type: none"> • Last setting not properly calibrated. Recalibrate, check for dirty probes, filters and lamps.
Settings do not change from select switch.	<ul style="list-style-type: none"> • Try from other select switches. • Call BISCO.
Display changes by itself.	<ul style="list-style-type: none"> • A select switch is stuck. • Call BISCO.
Lamp does not turn on, no beep when using trigger.	<ul style="list-style-type: none"> • Call BISCO.

* x represents any number + bar on display will be blinking

For further technical assistance in the USA call BISCO: 1-800-BIS-DENT.
Outside the USA call 1-800-534-6000

12. MAINTENANCE

A) FUSE REPLACEMENT



CAUTION! Before attempting to change the fuse, turn off the power and make sure the unit is unplugged.

- Use a screwdriver to carefully pry open the fuse holder shelf located on the back of the unit as shown right. Remove both fuses.
- Replace fuses with the same type and value as indicated on the label next to the fuse holder:



FOR 110V OPERATION:

250V, T 1.6A Time Lag 5 x 20mm
P/N V-10111A

FOR 220V OPERATION:

250V, T 0.8A Time Lag 5 x 20mm
P/N V-10112A

- Replace the blown fuse in the fuse holder shelf and push the fuse shelf back into the housing.

NOTE: There are two fuses in the fuse holder. Either one or both may burn out. It is recommended that both be changed even if only one has blown.

B) LAMP REPLACEMENT

Lamp replacement is simple without the need for tools.



WARNING! when replacing lamp:

- Lamp may be hot, even after burning out. Allow sufficient cooling time before attempting removal. **Do not use latex gloves as hand protection for a hot lamp.**
- Do not operate handpiece unless fully assembled.

- 1) Simply unscrew the front nose of the handpiece from the handle.
- 2) Gently pull out old lamp by pulling on the glass reflector with a slight rocking motion. Insert the new lamp into the socket. **Do not touch the bulb itself.**



Replacement bulbs must possess proper optical characteristics (color temperature, beam shape, focal point) and electrical characteristics (voltage and current load) to guarantee specified performance. Using the improper bulb may damage the unit and void the warranty. For guaranteed performance, order part no. V-10105A from BISCO.

- 3) When replacing the lamp, it is always a good idea to always check the filters for cleanliness and integrity. Hold the nose up to a light and look through. The filter should be dark blue with no scratches, cracks or cloudiness.
- 4) Replace the nose on the handpiece and screw back in place. Do not overtighten.
- 5) To reset the lamp hour indicator, enter the advanced diagnostics mode (9B). Proceed to t_xx* and activate trigger. Display will indicate t__0.

13. ACCESSORIES AND REPLACEMENT PARTS

VIP comes with an 11 mm autoclavable probe and 1 light shield. It is also compatible with Demetron® probes.

Part No.	Description
V-10101A	8mm angled (55°) Light Probe
V-10107A	8 mm Protective Light Shield
V-10102A	11 mm angled (55°) Light Probe
V-10108A	11 mm Protective Light Shield
V-10104A	13 mm straight Light Probe
V-10103A	13 mm angled (55°) Light Probe
V-10105A	Replacement Lamp, 75 Watt, 12 Volt
V-10113A	Replacement Handpiece Front with Filters
V-10111A	Fuse 250V, T1.6A (For 100-120V operation)
V-10112A	Fuse 250V, T0.8A (For 200-240V operation)
V-10114A	Replacement Handpiece and Cord
V-10106A	Wall Mount Bracket Kit With Hardware
V-10109A	Right Angle Cord (For 100-120V operation)

14. PRODUCT LIABILITY

BISCO is responsible for the performance, safety and reliability of the VIP unit only if:

- the instructions for use are followed during operation.
- IEC requirements are followed for the electrical installation.
- repairs, adjustments, assembly and modifications of the components are carried out by authorized BISCO personnel.

* x represents any number



BISCO Inc.,
 1100 W. Irving Park Road, Schaumburg IL 60193 USA
 1-847-534-6000 1-800-BIS-DENT
 Outside the USA: 1-847-534-6000
www.bisco.com



Variable Intensity Polymerizer

Dental Curing Light Warranty

BISCO warrants the VIP™ Curing Light to be free from defects from workmanship and materials for a period of two years from purchase date excluding those parts subject to normal wear and tear. This warranty is null and void if damage to the product is due to: (1) servicing or attempt at servicing by personnel not authorized by BISCO to service the product; (2) incorrect operation, misuse or abuse of the product; or (3) non-compliance with operating instructions.

This warranty is fulfilled by repairing or replacing the unit free of charge. **THIS WARRANTY IS THE COMPLETE AND EXCLUSIVE U.S. WARRANTY MADE BY BISCO. BISCO DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BISCO SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND.**

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BISCO's **VIP**™

Variable Intensity Polymerizer



Patents Pending



Specialists in Adhesive
and Composite Technology

BISCO INC.
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In the USA call 1-800-BIS-DENT
or call 1-847-534-6000
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