

OPERATING INSTRUCTIONS AND GENERAL INFORMATION

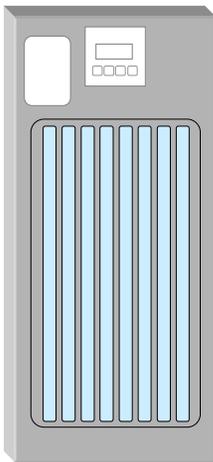
HOME PHOTOTHERAPY



**7 Series
& 2 Series**



UV Series



1 Series



M Series

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SYMBOLS

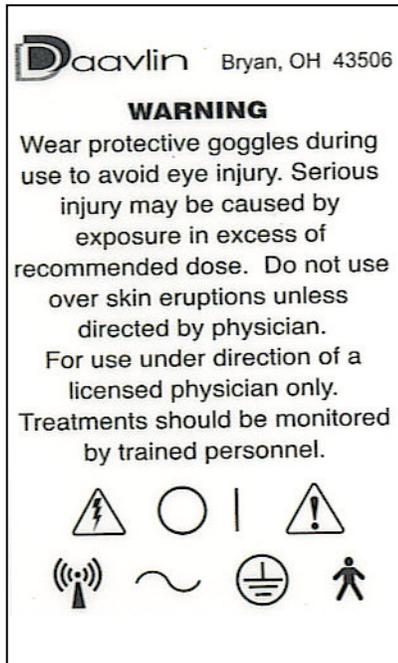
Following is a chart detailing all symbols located on your device and their meaning:

	DANGEROUS VOLTAGE
	ATTENTION, CONSULT ACCOMPANYING DOCUMENTS
	NON-IONIZING RADIATION
	TYPE B EQUIPMENT
	ON
	OFF
	EARTH (ground)
	PROTECTIVE EARTH (ground)
	ALTERNATING CURRENT

WARNING LABEL

A warning label is affixed to your Daavlin phototherapy device in a prominent and easily readable position. The label is of a size and shape similar to the example shown below. Please read the label carefully as it contains important safety information for you.

In addition to the warning label, an identification label indicates the serial number and date of manufacture that is specific to your device.



Identification Label

~ Volts: XXX Amps: XX Hertz: XX
Model: X Series XXX
Serial Number: XXXXX-XXXXX-XXXX
Daavlin Company Bryan, Ohio USA



GENERAL OVERVIEW

This manual covers the following phototherapy equipment:

UV Series
7 Series
2 Series
M Series
1 Series

Your device may be equipped with a variety of different lamps and may be manufactured to a number of different electrical specifications to meet national and international standards. It may also be equipped with either a Flex™ integrating dosimetry control or a Flex timer control. And, in either case, your physician may have prescribed your device with the FlexRx system that limits the total number of exposures that the device will deliver. This manual is applicable for all lamp configurations, electrical specifications and control types.

This section of the manual, the **General Overview**, covers topics such as site location, the initial inspection of the device, lamp type confirmation, eye protection, precautions and phototherapy in general. These topics are common to all devices.

Beginning on page eight (8) you will find **Device Specific Information** on the UV, 7, 2, M, and 1 Series devices.

The next section, beginning on page sixteen (16), **Flex Operating Instructions** provides operating instructions for all devices.

Finally, the last section, **Care of Your Unit**, beginning on page twenty-three (23), contains information concerning the maintenance, cleaning, re-lamping, and calibration (where applicable) of your device along with warranty and service contact details.

We suggest that you first read the sections concerning site selection and general inspection under **Overview** and then the instructions that are **Specific** to your device with regard to unpacking and assembly.

When you first receive the device:

Inspect the box

Any signs of shipping damage should be noted on the shipping receipt that you will be asked to sign by the delivering carrier. If damage is discovered after unpacking the unit, save all packing materials and call Daavlin at 1-800-322-8546 for inspection and repair.

The delivering carrier must be notified of any shipping damage within twenty-four (24) hours to protect your right to an insurance claim.

Locate the following materials

- Time chart
- Power Output Certificate
- Protective Eyewear
- Manual

Inspect the Lamps in your Unit

Your device can be equipped with a variety of different lamps, each having a different effect on the skin. It is important to check that the proper kind of lamps are installed in the device. Consult the list shown in the table below and if there is any question as to whether or not it is equipped with the lamps that you have been prescribed, contact Daavlin immediately. The code numbers shown are generally located at the base of the lamp.

Warning: A burn can result in as little as 15 seconds of exposure to UVB.

Warning: Blue Light can be hazardous to the eyes. Use Daavlin-approved eye-wear.

Lamp Replacement Guide

Typically Used In	UVA UVA1	Narrow Band UVB	Broad Band UVB	Red	Blue (405)
UV & 7 Series	F72T12BL/HO	TL-01/100W	FS72T12HO	N/A	N/A
M & 2 Series	F24T12BL/HO	TL-01/20W	FS24T12HO	N/A	N/A
1 Series	UVA = PLL-36W/09	PLL-36W/01	PLL-36W/-06	PLL-36W/15	PLL-36W/O
	UVA1 = PLL-36W/10				

Select a Site

A site should be chosen within reach of the specified electrical outlet (see Electrical Outlet Requirements within the section for your specific device) and where the unit can be left in place without being in the way of traffic flow. It is important that the unit be properly grounded. Extension cords are not recommended. The site should not be in any area where water or moisture might collect and should be protected from access by children. Exposure to ultraviolet light over extended periods of time may cause carpets, wall coverings and furnishings to fade.

General Precautions

WARNING: TO AVOID EYE INJURY DURING TREATMENT, YOU MUST WEAR THE TIGHTLY FITTING ULTRAVIOLET BLOCKING GOGGLES PROVIDED WITH YOUR DEVICE. IF PSORALENS (PUVA) ARE BEING USED, THE EYES SHOULD BE PROTECTED FROM EXPOSURE TO ULTRAVIOLET (SUNLIGHT) FOR 24 HOURS AFTER TAKING THE DRUG. ULTRAVIOLET BLOCKING GLASSES ARE PROVIDED WITH DEVICES EQUIPPED WITH UVA LAMPS FOR THIS PURPOSE. BLUE LIGHT CAN ALSO BE DAMAGING TO THE EYES. WEAR THE GRAY OR AMBER COLORED PROTECTIVE EYEWEAR PROVIDED.

All other persons should vacate the treatment area during a treatment session to avoid unnecessary exposure to light energy.

WARNING: Consult your physician about protecting other areas of your body that may never have been exposed to sunlight.

General Treatment Guidelines

Always check with your physician before you start your home treatments. Show him or her these instructions. Your physician is the final authority for your treatment. Depending upon your particular circumstances, he or she may modify these directions. Always follow your physician's instructions.

You will need a notebook in which to record the date, time or dose in Joules or milliJoules (dosimetry models only) and duration of each of your treatments along with any other notes regarding your treatment or treatment results.

You will need to purchase lip balm and sunscreen with an SPF (Sun Protective Factor) of 30. Check with your physician to determine whether or not you should use an alcohol or cream based sunscreen.

For your first treatment, unless otherwise instructed by your physician, do not exceed a time of 15 seconds.

If you are red or uncomfortable after any treatment, do not resume the treatment until the redness has subsided. If redness and discomfort are severe, you should discuss this with your physician. Increases of less than 15 seconds may be necessary for some patients. Once initial pinkness has been achieved, you should follow the treatment regimen prescribed by your physician.

After each treatment, record in your notebook the date and time of day of your treatment, the length of each exposure, the dose, if you are using a Flex Dosimeter, and any other appropriate information (e.g. forgot lip balm, put sunscreen on tender area, etc).

Never take more than one treatment in a single day and never more frequently than 12 hours apart. For example, don't take a treatment late at night followed by an early morning treatment.

If after a treatment, a small area feels sunburned, you may protect that area with sunscreen for the next several treatments or until that area appears normal. (Make a note in your notebook.) You should see your physician at the intervals he or she requests when you are actively using the unit. Always take your notebook with you when you see your physician.

DEVICE SPECIFIC INFORMATION

UV Series

Available Lamps Types & Number of Lamps:

Numerals = Number of Lamps N/A = Not Available

UVA	Narrow Band UVB	Broad Band UVB	UVA / Narrow Band UVB
12	12	12	N/A
16	16	16	N/A
24	24	24	12 + 12



UV Series

This section covers topics that are specific to the UV Series.

The Flex Dosimetry or Flex Timer operating instructions are covered on pages sixteen (16) through twenty-two (22).

UV Series Unpacking & Assembly

The UV Series full-body device is shipped upright in a large cardboard container. Exercise caution as the fluorescent lamps can be broken if the unit is not unpacked properly.

Using as many people as available but at least two, move the box into the area where the device will be used. If there are no stairs, and since the unit is on castors, it may be easier to remove it from the box at the earliest opportunity so that you can simply roll it into position. If there are stairs, you may consider hiring a professional moving company to move the device into position.

To unpack the unit, first use metal cutters to cut the banding that encircles the package. Use extreme caution as these bands are under tension and can snap outward when the tension is released. Next, remove the front cardboard cover. Use a heavy-duty screwdriver to remove the staples. Again be careful as the staples are sharp and can cause injury. When the front cardboard cover has been removed, carefully pull the device forward on its castors until it is clear of the box. Take care not to discard the accessory package which contains your protective eyewear.

Once in position, remove the shipping bars. A $\frac{3}{4}$ " end wrench will be required to loosen and remove the bolts that hold the shipping bars in place. There is no further assembly required other than to plug the unit into the appropriate electrical outlet (See Electrical Outlet Requirements below). If your device is equipped with an optional platform, place the platform inside the machine once it is located in its final position.

Circuit Breaker

Each UV Series unit is equipped with a circuit breaker that is located under the frame, at the back right hand side of the machine. Its location is indicated by the circuit breaker label (right). When setting up your unit, ensure that the breaker is in the ON position.

MAIN DISCONNECT CIRCUIT BREAKER

I = ⊗ = ON = RIGHT

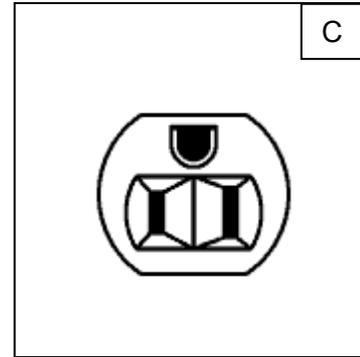
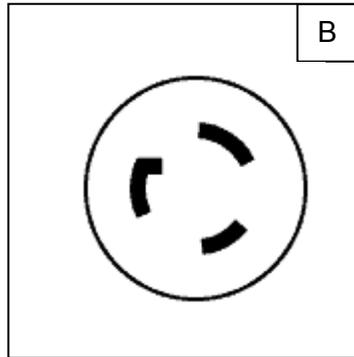
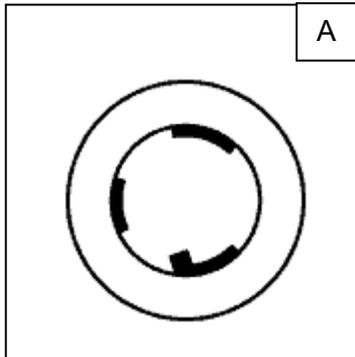
O = ⊙ = OFF = LEFT

UV Series Electrical Requirements

The number of lamps in a unit determines the voltage, amperage, wire size and outlet necessary to safely support the unit's operation. The table and diagrams below define these requirements for each

lamp variation. UV Series that are shipped outside the USA and Canada (230 volt units) will require local installation of a 15-amp plug on the end of the cord that meets local electrical standards.

Model	Amps	Wire Gauge	Diagram	Required Outlet
24 lamp, 120 volt	30 amps	10 AWG	A	NEMA L5-30P
16 lamp, 120 volt	20 amps	12 AWG	B	NEMA L5-20P
12 lamp, 120 volt	15 amps	14 AWG	C	NEMA 5-15P
230 volt	15 amps	14 AWG		<i>locally specified</i>



How to Position Yourself

Enter the unit and close the doors behind you. Center yourself within the unit. As nearly as possible, your torso should not be closer to any one panel than to another. Standing closer to one of the sides may cause localized streaking or burning.

UV Series Lamp Removal and Replacement

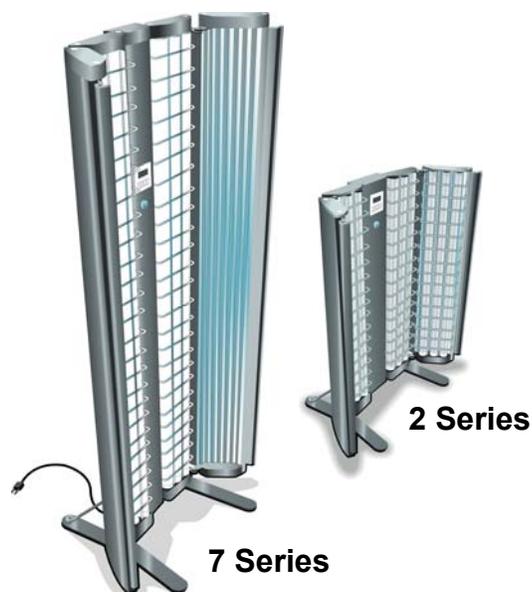
- 1) Consult the Lamp Replacement Guide for replacement lamp specifications.
- 2) Unplug the machine, then using a 1/4" hex driver/socket, remove the screw from the bottom of the grid that is in front of the lamp(s) to be removed.
- 3) Lift the grid out of the holes in the bottom lamp plate, pull the bottom of the grid toward you, then lower the grid out of the holes in the top of the unit and set it aside.
- 4) Grasp the lamp to be removed with both hands and push up until it clears the bottom socket, then remove the lamp. Reverse the process to install lamps and grid.
- 5) Reset the lamp hours age to zero. See instructions on page twenty-two (22).

7 Series & 2 Series General Information

Available Lamp Types & Number of Lamps:

Numerals = Number of lamps N/A = Not available

UVA	Narrow Band UVB	Broad Band UVB	Doors with Lamps	Doors without Lamps
N/A	4	4	N/A	Optional
6	6	6	N/A	Optional
8	8	8	Standard	N/A
10	10	10	Standard	N/A



This section covers topics that are specific to 7 and 2 Series models. The only differences are the number, type, and length of lamps and whether or not there are doors. If your device has a “D” designation, it means that it is equipped with doors but without lamps in the doors. All models available with Flex Dosimetry or Flex Timer control. The operating instructions are covered on pages sixteen (16) through twenty-two (22)

7 and 2 Series Unpacking & Assembly

Since the packing box makes a useful work surface for assembly of your device, choose a place close to where the unit will be installed to unpack it (however, if there are stairs or narrow hallways, it may be easier to move the device after it has been assembled). In either case, be careful, as the fluorescent lamps can be broken if the unit is not unpacked properly.

The grid that covers the lamps is not installed for shipping. When the box is unpacked, the grid will be on top and should be set aside so that it can be installed after the unit is standing.

1. Use a heavy duty screwdriver to remove the staples. Be careful as the staples are sharp and can cause injury. Remove the top of the box and set it aside. Next, break down the lower end of the bottom box, exposing the base of the device.
2. Remove the following parts and accessories from the shipping container:
 - Goggles (1 pair) and Glasses (UVA and visible light units only)
 - Feet (2) – Figure 1
 - Stabilizer bars (2) – Figure 2 (7 Series units with doors only – does not apply to 2 Series)
 - Grid

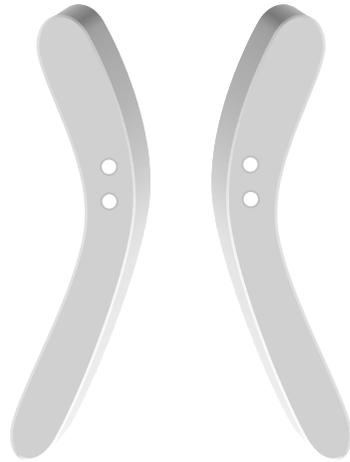


Figure 1

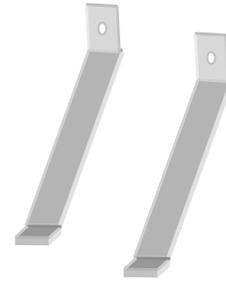
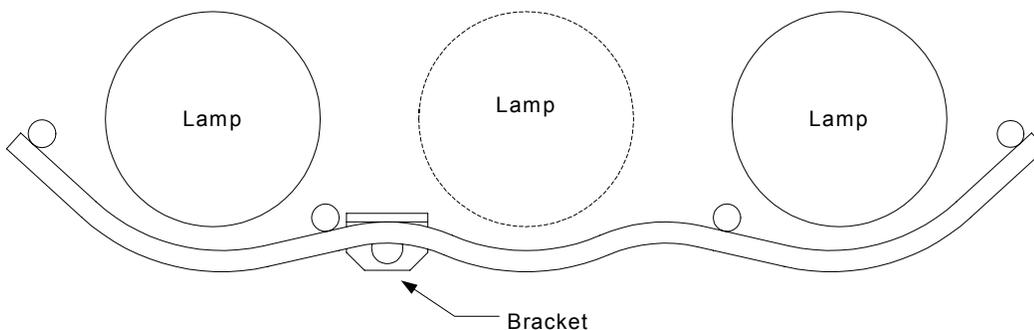


Figure 2

3. Using two people, if available, twist the device 90° and rest it in the box on its side using the foam at the top and center for support. Carefully remove the foam at the bottom of the device so that you can install the feet. The second person should stabilize the device during installation of the feet.
4. The four, 3 inch (7.5cm) screws used to attach the feet are pre-inserted in the bottom of the unit but are not fully screwed in so that they can be easily identified. Use a large Philips head screwdriver to remove them and then attach the lower foot first. Its “longer” side should be towards the front of the device and the slide pads should be on the bottom. The foot should splay outward from the device. Mount the foot using the screws that you removed from the bottom of the device. Repeat the process for the top foot.
5. With the device still lying on its side, stand the device upright. With one person lifting at the top and a second person at the foot to “catch” the unit, gently lift and tip the device forward until both feet are on the ground.
6. Remove the remaining packaging foam and the cellophane wrap.
7. Mount the two stabilizer brackets (7 Series only). The screws for mounting the brackets are pre-inserted into the unit about 14” (35cm) from the bottom of the unit and in each foot. Using a small Philips Head screwdriver, remove the screws then position the brackets and replace the screws.
8. Gently slide the unit into its permanent position.
9. Install the power cord by inserting the female “D” shaped receptacle into the “D” shaped male plug at the back of the device. Then, plug the unit into any grounded, three prong electrical receptacle.
10. Install the lamp grid after the unit has been properly assembled as described above. Hold the grid so that it is oriented toward the lamps as shown below, with the grounding bracket toward the floor.



11. Insert the perpendicular grid wires into the two holes in the top lamp plate and push the grid all the way up. Swing the bottom of the grid in toward the lamps and insert the grid wires into the two holes in the bottom lamp plate. Then, lower the grid until the bracket touches the bottom lamp plate. Using a ¼" hex driver/socket, screw the bracket to the bottom lamp plate using one of the hex head, self-tapping screws that are provided.

7 and 2 Series Electrical Requirements

Both the 7 and 2 Series devices are shipped within the USA and Canada with a standard three prong grounded wall plug. Units designed for other voltages may be shipped with no wall plug, which would then have to be locally obtained and installed. All 7 and 2 Series devices can be plugged into a standard, grounded wall outlet.

Both 7 and 2 Series devices are equipped with onboard fuses. The fuse holders are located just below where the power cord plugs into the unit. Should an onboard fuse blow, call Daavlin service to determine an appropriate replacement.

How to Position Yourself

The recommended distance from the lamps for treatment is 9 inches (22cm). Mark that distance on the floor in some manner. A similar system should be devised if you are using a 2 Series on a tabletop or other non-floor surface area.

Your torso should not be closer to the lamps than this line. Standing closer to the lamps will cause localized streaking or burning. Greater distances will increase the time necessary to receive a therapeutic dose.

7 Series & 2 Series Lamp Removal & Replacement

1. Consult the Lamp Replacement Guide for replacement lamp specifications.
2. Unplug the machine. Then, using a ¼" hex driver/socket, remove the screw from the bottom of the grid that is in front of the lamp(s) to be removed.
3. Lift the grid out of the holes in the bottom lamp plate, pull the bottom of the grid forward, then slide it out of the holes in the top of the unit and set it aside.
4. Grasp the lamp to be removed with both hands and press down until it clears the top socket, then remove the lamp. Reverse the process to install lamps and grid.
5. Reset the lamp hours age to zero. See instructions on page twenty-two (22).

M Series General Information

Available Lamp Types & Number of Lamps:

UVA	Narrow Band UVB	Broad Band UVB	UVA/ Narrow Band UVB	UVA/ Broad Band UVB
10	10	10	6 UVA + 4 UVB	6 UVA + 4 UVB



M Series

M Series Unpacking & Assembly Guide

Assembly Instructions

1. With two people, lift the base from its box (the larger of two boxes) and place it where it is to be used. Be sure to remove all of the accessories, such as the manual, power cord and eyewear before discarding the box.
2. Remove the hood from its box (smaller box) and place it on the base with the arched openings facing front. There is a flange on the bottom of the hood that fits over the upper edge of the fixture. The hood is designed to fit tightly, so it may take some pressure to seat it properly.
3. Electrically connect the hood by plugging the electrical cord extending from the back of the hood into the designated receptacle on the back of the base.
4. Install the power cord by inserting the female "D" shaped receptacle into the corresponding male plug at the back of the device. Then, plug the unit into any grounded service of the appropriate voltage. Note: 120-volt, 60 hertz units are shipped with a grounded, three-conductor wall plug. Units designed for other voltages may be shipped with no wall plug, which would then have to be locally obtained and installed.

Hood Lamps

The hood lamps have an "ON/OFF" switch so that they can be turned off if desired. When this switch is in the ON position, the hood lamps will light when the base lamps turn on.

On combination M Series models that have both UVA and UVB lamps, the hood is equipped with UVA lamps only. The UVA lamps will not operate when UVB is selected.

Special Instructions for Combination Units

With Flex Dosimetry: If your unit has both UVA and UVB lamps and Integrating Dosimetry, there is a separate controller for UVA and UVB. Be sure to enter the desired UVA dose into the controller labeled UVA or the desired UVB dose into the controller labeled UVB.

With Flex Timer: There is a switch in the center of your control panel that sets the device to either UVA or UVB operation. Push the switch up for UVA and down for UVB.

All Combination Units: The UVA lamps will be the first four lamps in the unit. The UVB lamps will be the last four. Therefore, if you are using the UVA lamps, position your hands or feet at the front of the device. If using the UVB lamps, place your hands or feet in the back half of the unit.

M Series Electrical Outlet Requirements

All models require a grounded, three prong electrical outlet rated for at least 15 amps. Each machine is equipped with a power inlet which incorporates two 5x20mm fuses. M Series devices can be built to meet any international electrical standard.

How to Position Yourself

The hands, feet or elbows should be placed through the arched exposure ports in the front shield and laid directly on the plastic guard that covers the lamps. Intensity is highest towards the horizontal center of the unit. Rings or other jewelry may cause scratching of the shield and should therefore be removed.

M Series Lamp Removal and Installation

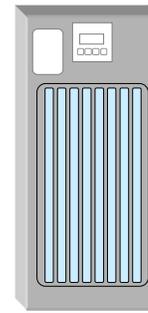
1. Consult the Lamp Replacement Guide on page six (6) for replacement lamp specifications.
2. Unplug the machine and disconnect the power cord for the hood before removing the hood.
3. Remove the hood from the base. The hood lamps are then easily accessible on 120-volt units if those are to be replaced.
4. To remove the lamps in the base, use a flat head screw driver to remove the screw at the back of the unit that holds the acrylic shield in place.
5. Then slide the acrylic forward to remove it from the base.
6. Grasp the lamp to be removed with both hands and push it to the left until it clears the right socket. Then remove the lamp. Reverse the process to re-assemble the unit.
7. Reset the lamp age hours to zero - see instructions on page twenty-two (22).

Note: UVA lamps are always closest to the front in combination machines. In combination devices the hood lamps are always UVA. Be sure to get the correct lamp type in the correct socket when replacing lamps.

1 Series General Information

Available Lamp Types (All units equipped with 4 lamps)

- Narrow Band UVB • Broad Band UVB • UVA • UVA1
- Blue Light • Red Light • Intense White Light (SAD)



1 Series

Unpacking Guide

Open the box at the top and using two hands at each side of the device, pull the 1 Series out of the box, including the foam packers at each end. Remove the foam.

Be sure that you locate the power cord, manual and eyewear before discarding the shipping box.

Plug the “D” shape female fixture into the corresponding receptacle on the lower left side of the device. Plug the unit into an appropriate wall outlet. It is now ready for use.

1 Series Electrical Requirements

The 1 Series can be plugged into any grounded, three prong, household electrical outlet.

Note: 120-volt, 60 hertz units are shipped with a grounded, three-conductor wall plug. Units designed for other voltages may be shipped with no wall plug, which would then have to be locally obtained and installed.

How to Position Yourself

Hand Treatment: Place the device flat on a table and place your hands directly on the plastic lamp guard. They should be as close as possible to the center of the fixture for best results.

Larger Area Treatment: Stand the device so that the lamps are perpendicular to the surface on which the device is standing. Position the part of your body you will be treating eight (8) inches (21cm) away from the lamps.

Lamp Removal & Replacement Instructions

1. Consult the Lamp Replacement Guide for replacement lamp specifications.
2. Unplug the machine. Then, using a 5/64” Allen wrench, remove the two screws on each side of the device.
3. Lift off the top of the device (like removing the top from a gift box). The lamps will be exposed.
4. At the end of each lamp is a clear plastic clasp that holds the lamp in position. Press both thumbs on the outside of the device and use your index fingers to reach to the side of the lamps and pull the sides of the clasp outward until it releases and the clasp can be removed.
5. Push the red button on top of the lamp socket. The base of the lamp will release. With one hand near the base and the other near the clasp at the opposite end, grasp the lamp to be removed and pull both ends upward at the same time until it clears both the clasp and the lampholder/socket.
6. To replace the lamp, reverse the process.
7. Reset the lamp hours following the instructions shown on page twenty-two (22).

Unlocking the Device

To prevent unauthorized use, the device will “self lock” when it has not been used for twenty (20) minutes. To unlock, press any key. The word “CODE” will appear. Press ▲ until the numeral 7 appears, then press ENTER. This is the factory default key code. If you wish to personalize or change your keycode, see the next section.

Setting or Changing the Key Code:

Press MODE, ◀ and ENTER at the same time	Then...
Press ▲ until the display reads 9	Then...
Press ENTER	Then...
Press MODE and ▲ at the same time	Then...
Enter desired Key Code (Set to 0000 to disable)	Then...
Press ENTER	

Flex Dosimetry or Flex Time Control

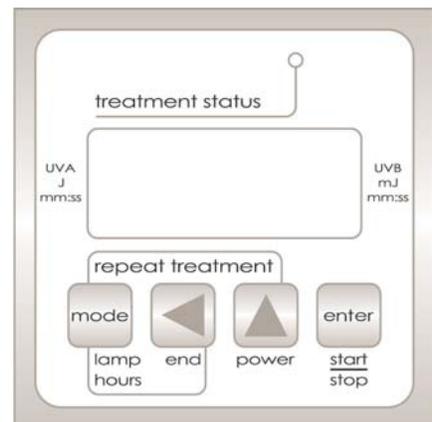
Daavlin phototherapy equipment is available with two types of control system; Flex Dosimetry and Flex Timer. Verify the type of control system you have and proceed to the applicable operating instructions.

Note: If your serial number contains (****-** X -****) then the unit has a dosimetry controller.
 If your serial number contains (****-** T -****) then the unit has a timer only controller.

Flex Dosimetry Instructions

Daavlin integrating dosimetry systems have a built-in power meter that measures energy output. This information is used to determine the exact amount of time that each treatment will last. Unlike timer based systems, the dose is entered in milliJoules (UVB) or Joules (UVA) (Blue Light).

The output of fluorescent lamps varies with age, use and other factors such as room temperature. Measuring for these variations and then integrating them into the dose time is an effective way to ensure the precision of each treatment.



The Backup Time

An important safety feature of Daavlin's dosimetry system is the use of a backup safety time. While the dose is entered in Joules or milliJoules, a backup time must also be entered as a safety check. The treatment will stop when the dose has been delivered, OR, when the backup time has elapsed, whichever comes first. At the end of the treatment, the dose delivered and the time elapsed are alternately displayed so that you will know which limit ended the treatment.

When preparing for a treatment, the back-up time is entered first. To determine an appropriate back-up time, it is necessary to know the power output of the device. Those instructions follow:

If you have a 1 Series and will be treating your hands, elbows or other areas of the body that can be placed directly on the plastic guard of the device, use the instructions directly following. If you will be treating larger areas of your body where it is impossible to have the skin in direct contact with the plastic lamp guard, then, be sure to read the additional instructions on pages 19 and 20.

Power Output Measurement

Power output values of the device as measured at the factory are shown on the *Power Output Certificate* included in your manual. **Note:** It is not necessary to take a power output reading before each treatment. We suggest once every couple of weeks or earlier if the backup time ends your treatment before the full dose has been delivered.

Press	Comments...
MODE	When just a decimal point is displayed, the machine is "asleep" (energy saving feature) Press MODE or any key to "wake up" the device.
▲	Press this button five times until the "5" digit appears, then...
◀	Press this button twice so that 05:00 shows in the display, then...
ENTER	Press once to lock in the time. Then...
MODE	This puts you in the dose entry mode. Then ...
▲	Press this button five times until "0005" appears, then...
◀	Press ◀ until 5000 is displayed if checking a UVB device or 50.0 is displayed if checking a UVA or visible light (blue, red) device.
ENTER	Press twice. The lights will come on. When measuring ultraviolet be sure to apply SPF 30 sunscreen to exposed areas of the skin and wear goggles while monitoring the device.
MODE	The time countdown will be in progress. Allow the machine to run until 30 seconds remains. Stand to the side of the device. Then...
POWER	The system will display the power output of the lamps at the clear plastic lamp guard. A value such as P9.0 (example) will display. Write down the value. When the machine shuts off, press...
END	

Once you know the power output, nine (9) milliwatts in the example above, consult the laminated Backup Time Chart, a partial example of which is included below. The numbers in the top row of the chart (horizontal axis) represent a range of power output values. Find the value that is closest to the power output of your device.

The numbers in the column at the left (vertical axis) represent a range of treatment doses. Find your dose then trace that row to the right until it intersects with the column corresponding to the current power output of your device. The backup time is shown where the two lines intersect. The times are rounded up to the nearest 10-second increment. On the partial time chart shown below, thirty (30) seconds is the backup time at a power output of 9.0 mw and a dose of 280 mJ.

PARTIAL UVB TIME CHART

	mw/ cm2									↓	
	Power output										
	MJ/cm2	2.8	3.0	3.6	4.0	4.5	5.0	6.0	7.0	9.0	
	240	01:50	01:20	01:30	01:20	01:20	01:10	01:00	01:00	00:30	
→	280	02:00	01:30	01:40	01:30	01:30	01:20	01:10	01:00	00:30	
	320	02:20	01:50	01:50	01:40	01:30	01:30	01:20	01:10	00:40	

The UVA and Blue Light Backup Time Charts (not shown) are configured the same as the UVB Backup Time Chart. The doses are listed in Joules and the energy output levels and times are different than the UVB output levels. Each chart is clearly marked.

Determining a 1 Series Backup Time when the device is positioned away from your body:

Since the 1 Series can be used in two ways, there are two power output values of importance. If you are placing your hands, elbows or forearm (for example) directly on the plastic lamp guard, the energy output there is higher. When you take a power output reading, this is the value that is shown on the display. All of the above instructions apply.

However, if you are treating other, larger areas of the body where it is impractical to have your skin in direct contact with the plastic guard, then place the device at a distance of eight (8) inches (20cm) from the area to be treated. The power output there will be 1/3 the value at the plastic guard. Therefore, if the measured output is 9 milliwatts, you would divide the power output by three. In the above example, the “at a distance” power output would be 3 and your backup time would be one minute and thirty seconds instead of thirty seconds.

Setting up a Treatment

(See additional instructions below for the 1 Series)

You will first enter a back up time (steps 1 – 4). Assume the back-up time to be 00:30

1. Press any key so that 00:00 is displayed.
2. Press ▲ until the first digit of the backup time is displayed (“3” in this case).
3. Press ◀ to move the “3” one space to the left.
4. Press ENTER to complete the backup procedure.
 - i. *Now enter the actual dose. Assume 280 milliJoules. Therefore, the first digit is a “2”.*
5. Press MODE to switch to dose mode.

6. Press ▲ until the number “2” is displayed.
7. Press ◀ to move the “2” one space to the left.
8. Press ▲ until the number “8” is displayed.
9. Press ◀ to move the “8” one space to the left and repeat until all desired digits are shown on the display. In this example the last digit is a zero, so once you have moved the “8” into position, the “0” already shows and you can move on to step 10.
10. When the desired dose is displayed, press ENTER.

Put on your goggles and position yourself per the instructions of your specific device.

11. Begin the treatment by again pressing ENTER.

To repeat the same dose for another exposure, press the END key to clear the display, and then press the MODE and POWER keys at the same time and release. This displays and enters the previous dose. Press ENTER to start the timer again.

Note: The system beeps three times to signal the end of the treatment and then flashes the delivered dose on the display alternating with the elapsed time. If the complete dose is not delivered, meaning that the backup time was reached before the dose was fully delivered, this is an indication that the backup times being entered are not long enough. Verify that the sensor is clean, unobstructed and centered in the hole in the reflector. Then, re-take your power output reading and adjust the back-up time. It is normal to have to increase back-up times due to aging lamps and/or because of slow starting lamps, low room temperatures or low line voltage.

Special 1 Series Instructions when the device is positioned away from your body:

When setting up a treatment where it is impractical for the area being treated to be in direct contact with the plastic guard, you should position the device 8 inches (20cm) from the body. Since the power output there is 1/3 lower than at the plastic lamp guard, it is necessary to multiply the prescribed dose by three. Therefore, if your dose was 280 milliJoules, you would have to enter a value of 840 milliJoules along with a backup time for 840 milliJoules.

Special Functions of the Flex Dosimeter

Function	Press	then	Press	then	Press
To wake up device	Any Key				
To pause a treatment	Enter, End or Power				
To continue a treatment	Enter				
To check how much time is left on your treatment	Mode	<i>Press Mode again to revert back to monitoring the dose count up</i>			
To check the power output	Power	<i>(Can only be checked while lamps are on)</i>			
To end a treatment	End Twice				
If you make a mistake entering a dose	<i>Repeatedly press Left Arrow Key until all zeros are displayed</i>				
To check the age (in hours) of your lamps	Mode	<i>plus</i>	◀	<i>(Lamps must be off)</i>	
To treat another section of the body using the same treatment time	End, then Mode	<i>plus</i>	▲	<i>then</i>	Enter
	<i>Press and release both keys at the same</i>				

Special Notes

- It is **not** possible to enter a backup time of 60 seconds. You must enter 1 minute instead.
- A short beep is sounded for every valid key entered. A long beep is sounded when an invalid key is entered.
- If power goes off during a treatment, the system will remember how much of the treatment has elapsed. When power is restored, your device will be on hold. To continue, press START.
- The small orange light above the display will be lighted when a treatment is in process. It will blink when the treatment is paused.

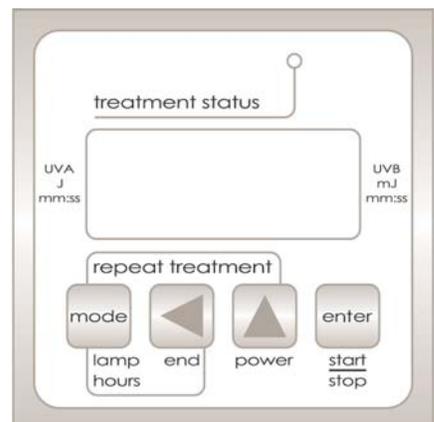
Flex Timer Instructions

Determining a treatment time

(See additional instructions for the 1 Series)

When using time as a dose, there are two treatment methods that can be used. The simplest is to start at a prescribed time and then increase treatment times by a specific time increment or by a percentage, per your physician's protocol. Another method is to use the factory power output levels (shown on the *Power Output Certificate*) to determine estimated "time equivalents" needed to deliver doses in milliJoules (UVB) or Joules (UVA or visible light).

To determine a "time equivalent", consult the laminated Time Chart that is provided and find the power output on the top row (horizontal axis). The numbers in the column on the left (vertical axis)



represent a range of potential treatment doses. Find the dose then trace that row to the right until it intersects with the column corresponding to the factory power output of the device. The time equivalent is shown where the two lines intersect. A partial chart is shown below. For example, if the factory power output is 4.0 mw and the dose to be delivered is 280 mJ, then an appropriate time is 01:30.

Special 1 Series Instructions when the device is positioned away from your body:

When setting up a treatment where it is impractical to have your skin in direct contact with the plastic guard, you should position the device 8 inches (20cm) from the body. Since the power output is 1/3 lower there than at the plastic lamp guard, it is necessary to multiply the prescribed dose by three. Therefore, if your dose was 280 milliJoules, you would have to enter a time equivalent for 840 milliJoules.

PARTIAL UVB TIME CHART

	mw/ cm2				↓	Power output			
	MJ/cm2	2.8	3.2	3.6	4.0	4.5	5.0	6.0	7.0
	240	01:50	01:40	01:30	01:20	01:20	01:10	01:00	01:00
→	280	02:00	01:50	01:40	01:30	01:30	01:20	01:10	01:00
	320	02:20	02:00	01:50	01:40	01:30	01:30	01:20	01:10

The UVA and Blue Light Time Chart (not shown) are configured the same as the UVB Time Chart. The dosages are listed in Joules and the energy output levels and times are different than the UVB output levels. Each chart is clearly marked UVA, Blue Light, Red Light or UVB.

Entering a treatment time

1. Press ▲ until the first digit of the desired time is displayed. If the treatment time is two minutes and thirty-five seconds (02:35), the first digit is a “2”.
2. Press ◀ to move the “2” one space to the left.
3. Press ▲ until the next desired number is displayed (“3” in this case).
4. Press ◀ to move the “3” one space to the left and repeat until all desired digits are shown on the display (for this example enter a “5”).
5. When the desired time is displayed, press ENTER.

Put on your goggles and position yourself per the instructions of your specific device.

6. Begin the treatment by pressing ENTER. Note: The timer will beep three times to signal the end of the treatment and then flash the treatment time on the display.
7. Press END to clear the display.

To repeat the same time for another exposure, press the END key to clear the display, and then press the MODE and POWER keys at the same time and release. This displays and enters the previous treatment time. Press ENTER to start the timer again.

Special Functions of the Flex Timer

SPECIAL FUNCTIONS – FLEX TIMER					
Function	Press	then	Press	then	Press
To Wake up Device	Any Key				
To Pause a Treatment In Progress	Enter, End or Power				
To Continue a Paused Treatment	Enter				
To End a Treatment that is in progress	End				
If you make a mistake entering a time	<i>Repeatedly press ◀ until all zeros are showing in the display</i>				
To Check the age (in hours) of your lamps	Mode	<i>plus</i>	◀	<i>(Lamps must be off)</i>	
To treat another section of the patients body using the same treatment time	End, then Mode	<i>plus</i>	▲	<i>then</i>	Enter
	<i>Press and release both keys at the same time</i>				

Special Notes

- The maximum time that can be entered is 59 minutes and 59 seconds
- It is **not** possible to enter 60 seconds. You must enter 1:00 minute instead.
- The shortest possible treatment time is 1 second.
- A short beep is sounded for every valid key entered. A long beep is sounded when an invalid key is entered.
- If power goes off during a treatment, the system will remember how much of your treatment has elapsed. When power is restored, your device will be on hold. To continue, press START.
- The small orange light above the display will be lighted when a treatment is in process. It will blink when the treatment is paused.



CARE OF YOUR PHOTOTHERAPY UNIT

Recommended Maintenance Schedule

The Daavlin Service Department has Extended Warranty and Maintenance Contracts available for purchase. Below, is a list of common maintenance procedures:

Item / Action	Frequency
Clean all patient contact surfaces	Between each treatment
Dusting of the unit and lamps	Once a month
Fully clean all internal reflectors, lamps and protective acrylic	Annually (behind the lamps)
Unit calibration (dosimetry units)	Every 100 hours or once a year (whichever occurs first) and when lamps are replaced
Replace lamps	Every 300 to 500 hours of usage

Cleaning

We suggest Daavlin's DermaClean wipes or spray as they disinfect and will not harm any ultraviolet or light transmitting surfaces. If using DermaClean spray, spray the cleaner on a soft cotton cloth, then wipe the surface rather than spraying the cleaner directly on the surfaces.

Note: Do not clean the acrylic shield on M or 1 Series devices or reflective surfaces on any device with paper towels as they may scratch the surface.

On devices with exposed lamp areas (7, 2 and UV Series), the lamp area can be cleaned by carefully vacuuming with the grid installed. Occasionally it may be desirable to remove the lamps and grid (or plastic lamp guard on M and 1 Series models) for a more thorough cleaning of the lamps and reflectors. Refer to the Lamp Replacement instructions that are specific to your device on how to remove the grid or acrylic and lamps, as well as other important information on how to ensure that the lamps are safely and correctly replaced.

Lamp Replacement

Lamps may need to be replaced due to burnout or because their energy output has decreased to the point that you may no longer be receiving an effective treatment.

DO NOT REPLACE UVB LAMPS INDIVIDUALLY. ALL UVB LAMPS SHOULD BE REPLACED AT THE SAME TIME TO AVOID UNEVEN TREATMENTS OR BURNS. PLEASE CONTACT THE DAAVLIN SERVICE DEPARTMENT PRIOR TO REPLACING YOUR LAMPS TO OBTAIN IMPORTANT INFORMATION ON HOW THE OUTPUT OF YOUR UNIT WILL BE AFFECTED BY THE CHANGE.

Because of differences between brands, replace lamps with the same brand as originally installed. A lamp replacement guide is provided on page six (6).

Whenever the lamps are changed in your device, it is important to reset the lamp age to zero. Instructions for this procedure follow:

To Reset lamp hours to zero when installing new lamps, take the following steps:

Press MODE, then ◀ and ENTER all at the same time	Then...
Press ▲	Then...
Press ENTER	Then...
Press MODE and ◀ at the same time	Then...
Press END	

Calibration

Daavlin recommends that dosimetry units be re-calibrated with an independent meter at least annually and/or whenever lamps are replaced. This involves taking an output reading with a hand held meter (available for purchase or rent from Daavlin) and checking it with the output reading from the dosimetry system.

Refilling a Light Prescription

Unless otherwise specified by your prescribing physician, Daavlin home phototherapy devices equipped with FlexRx exposure limiting software are shipped from the factory with a forty exposure prescription. Each time the lamps are turned on, the number of available exposures is reduced by one.

When the machine is in sleep mode, the screen will display the remaining number of exposures. To ensure no interruptions in your therapy, we suggest that you contact your physician for a “refill” when five to ten exposures remain. Your physician will present a prescription to Daavlin and we will then contact you with a four digit refill code. When all exposures have been used, the screen will display the word “PASS”. You cannot refill until all exposures have been used.

When your refill code is received, enter the four digit code using the same procedure you would use to enter a dose or time and press Enter. The display will show the new total number of treatments available and the device will be ready for use.



WARRANTY

All Daavlin phototherapy equipment (excluding lamps) is warranted to be free from defects in workmanship and material for a period of three (3) years from the date of installation in your home, under normal use and service. Daavlin will replace or repair any parts that appear to have been defective in material and/or workmanship and, for the term of the warranty, shall bear all costs related to such defect(s) including the cost of parts, labor and shipping. Daavlin may require that smaller units be sent back to the factory for repair.

During the term of the warranty, Daavlin will arrange for a qualified service technician to repair or replace any defective systems or components as covered in accordance with the terms and conditions of this warranty. However, this warranty will be declared null and void if non-qualified technicians perform any repair or maintenance on the device unless prior written authorization has been obtained from Daavlin. Even with Daavlin's authorization, the company shall not be responsible or liable for **any** such work (in or out of warranty).

In the event that warranty service is required, It will be at Daavlin's sole discretion whether subcontractors or Daavlin employed technicians will perform the required warranty service work.

This warranty does not apply to any unit which has been used, repaired or altered outside the factory in any way so as to affect the design, or which has been subject to misuse negligence or accident, or operated in any way other than in accordance with our operating instructions. The warranty does not extend to repairs made necessary by use of parts or accessories not recommended by the manufacturer. This warranty does not cover damage in transit.

Daavlin warrants its lamps for sixty (60) days against defects in material and workmanship and to operate at the time of initial installation in an electrical circuit having the correct characteristics for proper lamp operation. No warranty is made as to useful lamp life or as to reduction in ultraviolet output due to any cause.

Daavlin may require the return of merchandise claimed to be defective for its examination and shall be the sole judge as to whether material is in fact defective under the terms of this warranty.

Daavlin reserves the right to bill for travel time, expenses and service cost for requested "warranty" service trips which result in work not covered by the warranty. This may include, but is not limited to, a tripped circuit breaker, an unplugged machine or a blown fuse.

The foregoing shall be the buyer's exclusive remedy. In no case will Daavlin be liable for consequential damages even if Daavlin has been advised of the possibility of such damages. The foregoing warranties are in lieu of all other warranties expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

How Daavlin Handles Warranty and Service

Service work is divided into two levels of urgency: Major Service Needs and Minor Service Needs.

Major Service: Within three (3) working days, Daavlin will exercise all due effort to make any necessary repairs to a machine that is inoperable, unless otherwise arranged.

Minor Service: Within seven (7) working days, Daavlin will exercise all due effort to make any necessary repairs to a machine that has a minor malfunction, unless otherwise arranged. Such minor malfunctions include but are not limited to inoperative ballasts, lamp holders, beepers, or lamp positions (other than burned out lamps).

The following types of work are examples of "maintenance" and do not fall within the scope of the warranty: Required periodic calibration, replacement of lamps, cleaning and leveling the equipment. Any work performed by Daavlin technicians or subcontractors which falls outside the warranty will be billed at the prevailing service rate at the time of service.

Responsibilities of the Buyer

In the event of a malfunction, the buyer must cooperate in conducting minor diagnostic work when a problem is being reported. This may entail running one or more short operational routines and answering diagnostic questions. Failure to answer diagnostic questions may result in being charged for on-site service calls.

Disposal

Please contact Daavlin at 1-800-322-8546 for disposal instructions for the unit and/or cabinet and all accessories.

Always call the Daavlin Service Department if you think a problem exists before any service work is performed.

Contact Information

USA & Canada	1-800-322-8546
Overseas	1-419-636-6304
Fax	1-419-636-1739
E-Mail	service@daavlin.com
Website	www.daavlin.com

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