



# STUDIO PRO DC POWER PACK FOR STUDIO FLASHES

## OPERATING INSTRUCTIONS

### 1. INTRODUCTION

This DC Power Pack for Studio Flashes is primarily designed for use with the following AC/DC dual power source studio flashes:

**STUDIO PRO 160 AC/DC; STUDIO PRO 320 AC/DC; SLS-2800-AC/DC; SLS-3000-AC/DC;  
SLS-3002ML-AC/DC; SLS-160ML-AC/DC; SLS-4001ML-AC/DC; SLS-5001ML-AC/DC;**

[It works with any other flash that is compatible with the Quantum Turbo Battery Pack.](#)

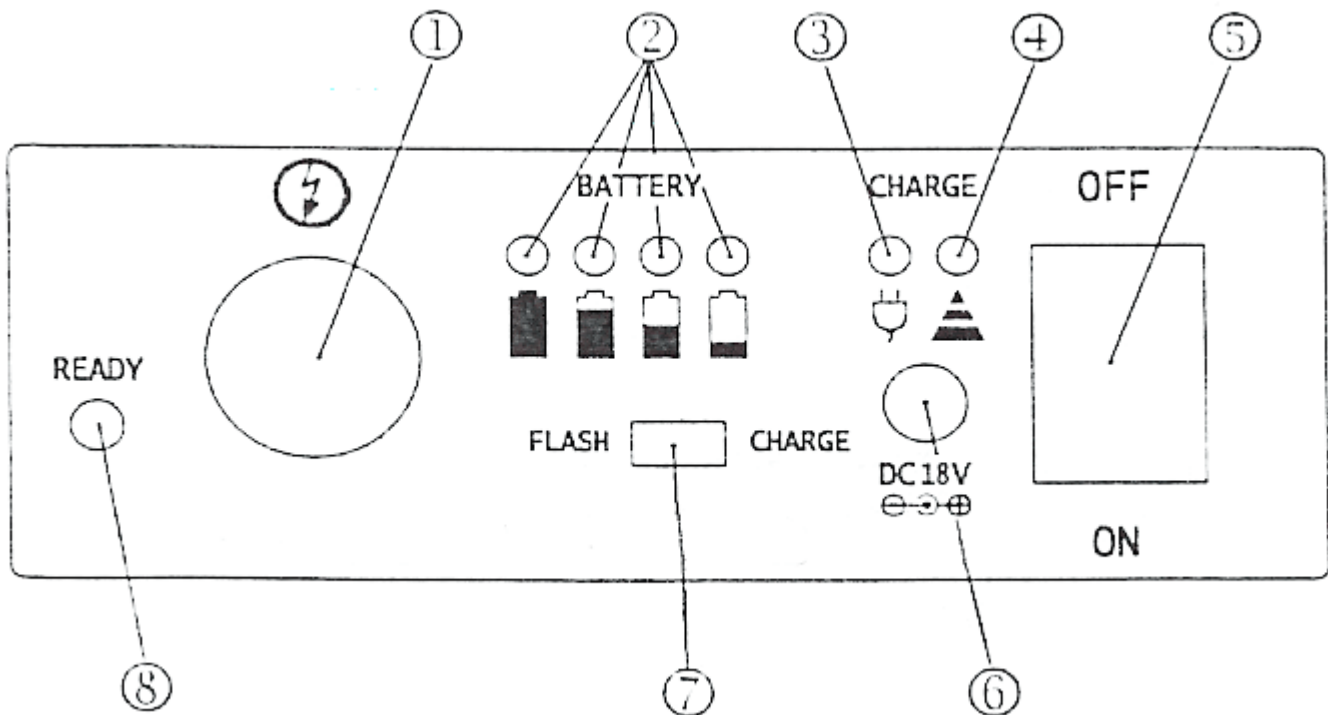
### 2. BASIC FEATURES OF THE BATTERY PACK

- a) The battery pack has a exchangeable rechargeable battery (separate item). It can be recharged with an AC/DC adaptor which provides a DC output of 18V, 600 MA.
- b) The output from the battery pack is approximately DC 305V, 500MA. A connection cord, which plugs into the battery pack on one end and the AC/DC studio flashes on the other, is provided.
- c) A brand new and fully recharged power pack will be able to support approx. 90 – 115 full power flashes of the SLS-5001ML AC/DC studio flash, which will have an energy capacity of about 270ws when used with this battery pack, without the modeling lamp. The approx. number of full flashes that can be supported by a brand new and fully recharged power pack for the various models of studio flashes are as follows:

<u>Model</u>	<u>Approx. Number of Full Power Flashes</u>
SLS-2800-AC/DC	420-450
SLS-3000-AC/DC	270-300
SLS-3002ML-AC/DC	260-300
SLS-160ML-AC/DC	190-220
SLS-4001ML-AC/DC	180-210
SLS-5001ML-AC/DC	90-115
SLS-6160ML-AC/DC	190-220
SLS-6320ML-AC/DC	90-115

Note: The modeling lamp, if there is one, of the studio flashes listed above will be disabled automatically when the studio flash is switched into the DC mode.

d) There are the following indicators, switches and sockets on the front panel of the power pack:



- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| 1. Flash Socket                       | 5. Main ON/OFF Switch             |
| 2. Battery Level Indicator Lamps (4x) | 6. Charger Socket                 |
| 3. Input Circuit Pilot Lamp           | 7. Charger/Flash Selection Switch |
| 4. Input Status Indicator Lamp        | 8. Output Status Indicator Lamp   |

### 3. RECHARGING THE BATTERY PACK

#### 3.1. Initial Charging

Before starting to use the pack, it must be charged for not less than three hours.

#### 3.2. Charging Procedures

- a) Check the front panel to make sure that the Main ON/OFF Switch is off.
- b) Plug the jack of the supplied 18V, 600mA output AC/DC adaptor/charger into the Charger Socket.
- c) Flip the Charge/Flash Selection Switch ON. Then,
  - i) the Input Circuit Pilot Lamp, which is RED in color, will come on to indicate that the input circuit and connection to the charger are both in good working condition; and
  - ii) the Input Status Indicator Lamp, which is GREEN in color, will come on as a steady light to show that the charging function is in progress.
- d) When the battery pack has been fully recharged, the green Input Status Indicator Lamp will blink, instead of remaining steady, to indicate completion of the process.
- e) Flip the Main ON/OFF Switch off. Disconnect the unit from the charger.

Note: The front panel of the power pack may become warm during the charging process. This is normal.

#### 4. OUTPUT TO STUDIO FLASHES

To power a studio flash please follow these procedures:

- a) **Make sure that both the DC Power Pack and the Studio Flash are both OFF**
- b) **Flip the AC/DC selection switch, if there is one, on the Studio Flash to the “DC” side.**
- c) **Connect the DC Power Pack to the Studio Flash (DC power cord is provided)**
- d) **Flip the Charge/Flash selection switch of the DC Power Pack to the “Flash” side.**
- e) **Flip the Main ON/OFF Switch of the DC Power Pack ON. The power switch on the Studio Flash should remain OFF.**

Note: If the input power switch on the studio flash is on when the DC Power Pack is turned ON, the DC Power Pack will NOT charge the Studio Flash. This is a built-in protection feature. In such a case, turn off both the Studio Flash and the DC Power Pack, and then switch on only the DC Power Pack again.

- f) **Output to the Studio Flash begins. The Output Status Indicator Lamp will come on as a steady light indicating that the output is in progress charging the Studio Flash. The first recharge may take a little longer. Subsequent recharges will be quicker.**
- g) **When the Studio Flash has been fully recharged, the Output Status Indicator Lamp will Change from a steady light to blinking.**

Note: The blinking of the indicator lamp actually is the result of the DC Power Pack constantly Recharging the Studio Flash to keep the energy level at the pre-determined level to ensure a correct flash output at all times. This consumes battery power. Thus, if the Studio Flash is not in use, it is strongly recommended to turn OFF the DC Power Pack to save battery power.

#### IMPORTANT NOTES:

##### A) All Battery Level Indicator Lamps Going OFF

As protection against overheating resulting from rapid flashing, the pack will shut itself down after a series of quick successive flashes. The number of flashed depends on the power level being used and the rest time between each flash. (it is approx. 36 quick full power flashes in the case of a SLS-5001ML-AC/DC Studio Flash). When this happens, the Battery Level Indicator Lamps will be turned off. This is not a failure. When the temperature returns to the pre-determined level, the Battery Level Indicator Lamps will come on again. At this point, turn off the power pack and then switch it back on. The pack is now back to normal operation. If the power pack is used again immediately, the number of flashes to the next shut down will be less than the previous one.

##### B) Output Status Indicator Lamp Not Blinking Or Not Coming On

As a safety measure, the pack will inhibit itself from outputting to the Studio Flash if it should detect a no-load condition. If the DC power cord becomes disconnected while the unit is on, the power pack will detect a no-load condition. This would activate the safety circuit, which will cause the Output Status Indicator Lamp either not to come on or not to blink, depending on the state of the charging process when the interruption occurs. When this occurs, switch the power pack OFF and then back ON and the power pack will resume normal operation.

#### 5. BATTERY LEVEL INDICATION

##### 5.1. Battery Level Indicator Lamps

There are four LED lamps on the Front Panel to indicate the approx. levels from full to  $\frac{1}{4}$  of battery power remaining. The full to half indicator lamps are green whereas the  $\frac{1}{4}$  indicator lamp is red. The DC Power Pack must be recharged as early as possible if only the red lamp has come on. Extended usage at low battery power levels may affect the life of the power pack adversely despite the Insufficient Voltage Protection feature (see 6b)

## 5.2. Condition of Indicator Lamps during Studio Flash Recharge Cycle

When the recharge of a Studio Flash is in progress, the Battery Level Indicator Lamps may flicker or even go off. This is a normal phenomenon and should not cause any alarm. When the recharge is complete, the light of the indicator lamps will return to a steady condition and the indicator lamps will restore themselves as a correct reference for the approx. level of battery power remaining.

## 6. PROTECTION FEATURES

This DC Power Pack has the following built-in protection features:

- a) **Zero Load Protection:** The output of high voltage is inhibited when it detects a zero load condition.
- b) **Insufficient Voltage Protection:** When the battery power level is getting close to the lower limit, the power pack will be inhibited to charge the Studio Flash to prevent adverse effects on the life of the battery.
- c) **Over-Charging Protection:** The blinking of the Input Status Indicator Lamp, when the recharge of the DC Power Pack itself is complete, is a manifest of this feature, which prevents damage to the circuit even if the charging voltage is not removed immediately.
- d) **Shock Protection:** The output circuit has been designed such that output to the Studio Flash will not begin unless the switching sequence, as described in Sections 4a-e, are followed. This helps to prevent the possibility of electric shock as the Flash Socket or the end of the connection cord.

## 7. MAINTENANCE TIPS AND PRECAUTIONS

- a) Suspend usage of the pack for 15 to 30 minutes after every 36 successive flashes regardless of the output power of the Studio Flash.
- b) Do not touch the Flash Socket or the end of the cord which connects to the Studio Flash.
- c) Do not attempt to disassemble or repair any part of the electrical circuit inside.
- d) Do not leave the unit in hot and/or humid environment or under direct sunshine.
- e) Do not spill water or any liquid over the unit.
- f) Do not drop the unit.
- g) Use only chargers of the required specifications.
- h) Recharge as early as possible when batter level is low (see 5.1.)

## 8. SPECIFICATIONS

Charge Input Requirement	DC 18V, 600mA
Charger Input Socket	Round coaxial type with -ve and perimeter +ve
Output Voltage/Current	Approx. DC 305V/500mA
Battery Capacity	DC 12V, 2.3Ah at room temperature (may decrease with lower temperatures)
Battery Type	Sealed lead acid type
Accompanying Accessory	Cord for connection to Studio Flash
Physical Dimensions	220mm(L) x 110mm(W) x 47mm(H)
Weight	Approx. 1360 gm. Net