





## Before use

We are pleased you have chosen a broncolor Mobil A2L power pack which is a high-quality product in every respect. If used properly, it will render you many years of good service. Please read all the information contained in these operating instructions carefully. They contain important details on the use, safety and maintenance of the appliance. Keep these operating instructions in a safe place and pass them on to further users if necessary. Observe the safety instructions.

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## IMPORTANT SAFETY INSTRUCTIONS

broncolor flash light systems should be utilised exclusively for professional photo shootings and only by qualified personnel. Before starting up your flash light equipment read carefully all the information in your operating instructions. The safety instructions in the operating instructions must be strictly followed!

- > Read and understand all instructions before using!
- > Remove the transport protection and the packing material
- > Close supervision is necessary when any appliance is used near children. Do not leave the flash light appliance unattended while in use!
- > Flash light contains, similar to sunlight, a specific portion of UV radiation! The undesirable side effects on skin and eyes are considerably reduced by using flash tubes or protecting glasses with UV safety measures! Nevertheless, taking pictures at close distances with unprotected skin and eyes should be avoided! Also avoid eye contact with the light source! The maximum daily UV radiation according to IEC 60335-2-27 / DIN 5031-10 is: 50 J/m<sup>2</sup>. This value should not be exceeded!
- > With due allowance for heat radiation, the distance between the lamp and a person or between the lamp and inflammable respectively heat sensitive surfaces should be at a minimum distance of 1 m!
- > The power pack must be switched off to plug-in and to unplug! The lamp plugs and sockets have mechanical interlocks! When plugging in, ensure that those interlocks engage completely! To unplug, push down the locking spring below the cable guide and lift out the plug from the socket!
- > Prior to replacing flash tubes, halogen lamps, protecting glasses or fuses, disconnect the power pack and the lamp from the power supply! Prior to replacing the halogen lamp or the flash tube, the lamp should cool down for 10 min.!
- > broncolor flash light systems should only be equipped with original broncolor flash tubes, original broncolor packing material, original broncolor accessories, and also original broncolor spare parts!
- > broncolor power packs, lamps and accessories meet an extremely high safety standard! When connecting broncolor lamps to power packs of other brands or broncolor power packs to lamps or accessories of other brands, integrated safety measures may become ineffective! Due to different design features and contact assignment of the lamp plugs of other brands, the user himself/herself may even be at risk. We offer no guarantee and accept no liability for damages which may be caused by this type of usage!
- > Only lamps which are approved for operation with this power pack should be utilised!
- > Only earthed extension cables which are approved for operation with the corresponding lamp should be utilised!
- > To avoid the risk of fire, electric shock or injury to persons utilise exclusively the accessory recommended by the manufacturer!
- > Check that the mains voltage corresponds to the information on the type plate of the unit!
- > The flash light equipment is designed for use in dry conditions and in an ambient temperature from 0°C to 35°C! The flash light equipment has to be protected from wetness, condensation, from dripping and splash water, humidity, dirt, sand, metal chips and exposure to dust!

- > Protect the flash light equipment from electromagnetic fields, shock and vibration!
- > Protect the flash light equipment from heat and frost! If the power pack freezes continuous loss of power output and serious technical damage can result!
- > To prevent accidents, make sure that the battery completely locks into place. Lift the power pack with care.
- > Sudden temperature differences can cause condensation water in the unit! In such situations the equipment must stay for 1 hour in a well ventilated place to acclimatise to the new temperature before startup!
- > Do not operate the units in an environment where there is a risk of explosion!
- > The power pack and the lamps should not be operated in or near water! Attention: high voltage!
- > The power pack and the lamps should not be immersed in water or other liquids! It could cause an electric shock!
- > Remove the transport protection cap on the front side of the lamp and any foam plastic before connecting it to the power pack!
- > For safety reasons, never operate the lamp without the protecting glass in place! UV-coated protecting glasses or UV-coated flash tubes must be utilised as a protection against UV radiation for eyes and skin!
- > Before operation the lamp has to be fastened on a stand or a suspension device! The lamp must be locked by tightening the mounting screw!
- > Only sand-filled fuses of the type indicated on the safety type plate may be used! Sand-filled fuses can be identified by their opaque fuse body! With incorrect fuse protection the halogen lamp may burst!
- > Filters or diffusors should not be fastened directly on the flash tube, halogen modelling lamp or protecting glass!
- > Do not operate appliance with a damaged earthed cable. Cables which are damaged or twisted must be replaced!
- > The battery must only be charged on an earthed socket, or an emergency power generator!
- > If an extension cable is necessary, a cable with a current rating at least equal to that of the appliance should be used. Cables rated for less amperage than the appliance may overheat. When using a cable reel, it must be completely unrolled before use to prevent overheating of the cable!
- > Do not operate the unit inside a bag or any kind of container!
- > The ventilation slits on the unit or on the lamp should not be covered!
- > Pay attention when laying, clearing away or rolling up cables that they do not contact hot surfaces or parts of lamps and that they will not be tripped over by persons!
- > Do not touch the connection socket for mains cable and lamp outlets on the power pack and do not poke in it with metal objects!

## IMPORTANT SAFETY INSTRUCTIONS

- > Flash tubes, modelling light, halogen lamps and protecting glasses heat up to a high operating temperature, this also applies to the front side of the lamps! Therefore the attachments also assume high temperatures! Handle with care! Contact with hot components can cause injuries!
- > Do not come into contact with glass or metal whilst operating the flash light system!
- > Let the unit and its connected lamp cool completely after use and before packing!
- > Always unplug appliance from electrical socket before cleaning and servicing and when not in use! Never jerk cable to pull the plug from the socket. Grasp plug and pull to disconnect!
- > Dropped or damaged units or lamps must be checked by a specialist before reconnection!
- > To reduce the risk of electric shock, never open the power pack and lamps! Dangerous voltages could still remain inside the unit even after it has been disconnected from the mains supply. Therefore, take the unit to an authorised broncolor service station when service or repair work is required. Incorrect reassembly can cause electric shock, even when the unit is closed.

Shipping instructions Mobil A2L:

- > Use original broncolor packing or the travel kit bag for transport of the power pack!
- Shipping instructions lamps:
- > Use original broncolor packing for the transport of the lamps. Before shipping flash tubes, halogen lamp and protection glass pack them with our protective packing material (foam plastic and transport cap). If the protective packaging is incomplete, remove flash tube, halogen lamp and protection glass from the lamp and send them separately!



# 1. STARTUP

## 1.1 Battery operation

### 1.1.1 Startup

Remove protective cardboards from battery contacts before use.

Before switching on for the first time, we recommend that the battery is fully charged (charging time for 90% of full charge is approx. 2 hours). The unit is delivered with the battery charged to about 30 % of full charge. Use the switch "on/off" (15) to power up the unit and check the display "charge state" (14).

### 1.1.2 Changing the battery

Switch off the unit before changing the battery.

Please check the contact surfaces of the battery for soiling to guarantee a good contact. Prior to inserting the battery ensure that the side with the contacts is directed towards the opening of the power pack compartment.

Now slide the battery into the power pack compartment and fasten it by firmly pushing down the power pack, from the top, onto the battery which is standing on the floor. Make sure that the contact springs in the battery compartment are not dirty or damaged. When changing the battery press the locking mechanism at the bottom (22) together using finger and thumb. The two big contact springs slide the battery out so far that the user may grip it.



**Attention: To prevent accidents and damage to the battery, make sure that the battery completely locks into the power pack. Lift the power pack carefully and check that the battery is correctly fitted.**

# 2. ENERGY CONTROL

## 2.1 Mobil A2L

Use the "▼/▲" keys (2) to control the flash energy within a range over 4 f-stops. A value of 10 in the display indicates maximum energy, 6 minimum. Whole numbers are full f-stop intervals, decimals indicate 1/10 f-stop steps. Brief pressure on the "▼/▲" keys (2) runs the power up (or down) by a 1/10 f-stop interval, prolonged pressure by a full f-stop. The display (1) then blinks until charging or discharging has stabilized the new level.



Three different power output distributions (8) are available when 2 lamps are connected: 50 / 50 %, 70 / 30 % and 80 / 20 %. They can be altered with the key "▼/▲" (10).

## 2.2 Battery charge state display

The LEDs (14) indicate the residual charge state of the battery. The green LEDs light when the battery has been 100 % charged, and also during flashing with the unit.

An orange LED warns before the charge state of the battery becomes too low. As soon as this appears, the remaining charge state is 20 %. If the battery voltage sinks too low, the control display (1) shows the signal "A2". The unit remains blocked for further releases until the battery is recharged or replaced with a full one.



## 3. MODELLING LIGHT

The output of the modelling light cannot be set proportionally to the flash intensity and always corresponds to the full power output ratings of the connected halogen lamp.

### 3.1 Battery operation

The "mod" key (12) switches all connected modelling lamps on or off. When switched on, the green LED lights up. This power pack has several operating modes for control of modelling light.

Number of key strokes on "mod"	Display	Duration of modelling light	Comments
1 x	20	20 s	
2 x	40	40 s	
3 x	60	60 s	
4 x	80	80 s	
5 x	on	continuous light	Modelling light permanently on. Power pack output remains at the level previously selected.
6 x	co	continuous light	Modelling light permanently on. Power pack output is reduced to f-stop 6.0 for optimum use of modelling light.

An audible signal sounds every time a key is pressed. The first four modes help to ensure the longest possible battery service life.

Especially for mobile work with this battery-operated power pack, the MobiLED lamp is available with 12 V / 30 W LED modelling light. The lamp has automatic thermal protection to prevent overheating and an additional switch for the modelling light. The switch on the lamp permits selective lighting control with the modelling light.

The Mobil A2L power pack can also be used with conventional bron-color studio lamps (Picolite, Pulso and Unilite lamps). Their modelling light cannot be used with this power pack.



## 4. RELEASE

### 4.1 Photo cell (cell) and infrared receiver (ir)

The photo cell can be switched on or off by using the "cell" key (5), the infrared receiver by using the "ir" key (3). If they are activated the green LED lights up.

### 4.2 Infrared flash release channel

Mobil power packs can be triggered with broncolor infrared transmitters. If the power pack is triggered via infrared, the flash release follows with a time delay of 1/1000 s. The power pack can be triggered as soon as 100 % of the charge are reached.

### 4.3 Sync socket

Synchronous cables art. no. 34.111.00 or 34.112.00 may be plugged into the socket (16) to release flashes via cable.

### 4.4 "test" key

Key (13) allows the power pack to be manually released.

### 4.5 Radio signal receiver

With Mobil A2L units, the radio signal receiver can be switched on and off (4). If they are activated the green LED lights up.

## 5. FLASH READY SIGNALS VISUAL / AUDIBLE

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### 5.1 The visual ready signal

is the green LED (11) at the "test" key (13). It lights up only when the unit is fully charged. After a flash this LED goes out and lights up again when the unit is fully charged once more.

### 5.2 The audible signal (buzzer)

sounds when the power capacitors are at 100 % charge. It may be switched on or off. This is explained in chapter 6.3.

### 5.3 Audible alarm signal

When the flash discharge fails, an audible warning signal of approx. 3 s duration will sound.

## 6. SELECTING ADDITIONAL FUNCTIONS

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### 6.1 Switch "eco" (17)

By using the key "eco" (17) the power pack switches to normal charge. This results in an increased number of flashes per charge and a longer battery service life (see chap. 8).

### 6.2 Automatic switch-off

The power pack switches-off automatically after a selectable delay time. A delay time of 15 min. is factory set.

Setting of the delay time (in min.): Press the "▼/▲" keys (2) simultaneously once. Afterwards, the minute values are set with the same keys. 3 s after setting the display returns to the energy display.

### 6.3 Buzzer

The audible signal sounds when the power capacitors are at 100 % charge. The signal may be switched on or off.

Press the key "eco" (17) for 3 s.

## 7. PROTECTIVE FACILITIES / FAULT INDICATION

### 7.1 Monitoring in the power pack

To protect against overheating, the message "th" will appear on the flash energy control display (1) until the unit has cooled down sufficiently and is again ready for operation.

If the power pack is unable to charge properly the LCD display (1) will show the message "A1". This can happen when there is afterglow of a flash tube or when the battery is defective. The alarm will disappear after the fault has been corrected, and subsequently switching the unit off and on again.

In case the voltage of the battery should sink extensively, the message "A2" will appear on the LCD display (1). The unit is blocked for further triggering until the battery is charged.

Mobil A2L units have an emergency stop switch. This completely separates the battery from the unit when the battery is in danger of becoming flat. In this situation the unit does not react to key operation. The battery must then be charged and reinserted in the unit.

If the alarms "A1" or "A2" continue to appear on the LCD display (1) after changing the flash tube or the battery respectively, it is a must to contact the service station.

The message "A3" on the LCD display (1) indicates a technical defect. The unit must be brought to the service station for a check.

If there is no flash discharge after a flash release (e. g. if a flash tube is not connected in the lamp), an audible alarm signal will sound.

### 7.2 Thermal protection of MobiLED, Mobilite and Mobilite 2

When the lamp temperature rises during operation, the cooling fan is only switched on when necessary. If high temperatures build up due to a long, fast series of flashes (e. g. operation with the Verso power pack), flash triggering will be blocked.

## 8. CHARGING WITH THE BATTERY CHARGER

The power pack can be used with either a lithium or a lead battery. Each type of battery has its own charging socket (19.1 for lead, or 19.2 for lithium). The battery compartment also has a round socket (21) for charging directly at the unit.

The charger (for lead art. no. 36.128.XX, or for lithium art. no. 36.151.XX) charges the battery in three stages, which are indicated by the LED.



Display on charger	Description
LED red	Battery discharged
LED yellow	Battery is on fast charge to approx. 90 % of full charge. Depending on state of charge, this will take about 2 hours (3 hours for a lead battery)
LED green	Battery is charged gently to 100 %. Takes up to about 2.5 hours (4 hours for a lead battery). Battery is then maintained at full charge.

## 9. MAINTENANCE AND BATTERY CARE

The battery [20] used is sealed and does not require any special care. It does not show any particular "memory effect" and does not need to be discharged regularly. Ensure, however, that the battery does not discharge too far down as the unit will switch off automatically when the battery voltage sinks too low. As a leakage current flows even when the unit is switched off, it is highly recommendable to charge the battery after use. If the battery is not in use for a longer period of time, take it out of the unit.

Particularly observe the following important information concerning maintenance and handling of the battery



**Attention: Charge the battery before startup for the first time. We recommend to charge the battery every time after use, even if it is only partly discharged. A long period of time between charging and discharging of the battery can influence its performance, or reduce the service life, respectively. Ensure that the battery does not fully run down.**

### 9.1 Battery care

To guarantee a longer service life of the battery we advise to charge it completely at these specific times:

- > If possible, every time after use
- > Always before longer storing or non-use
- > At least, in 3 month intervals

Even if the battery was partly recharged it can be utilised without problem as it does not suffer from the inconvenient memory effect.

Utilisation after longer storing: The battery should be charged to compensate the loss of its own discharging during storage.

## 9.2 External charger

Please take into consideration that a battery should not be charged for longer than 8 hours. After it must be disconnected from the mains supply. A fully charged battery should not be recharged.

Symptoms of a defective battery:

- > Rapid loss of power after complete charge
- > Noticeable reduction of the number of flashes

## 9.3 Connecting cable

When charging the battery by means of a cigarette lighter with a connecting cable no. 34.113.00, make sure that the car motor is running.

# 10. LAMPS

## 10.1 General

The flash energy is distributed symmetrically or in the selected asymmetry (8) to the lamps connected.

In principle, the Mobil A2L Power Pack can be operated with all lamps in the broncolor range up to 3200 J.

The MobiLED lamp has been developed especially for the Mobil A2L Power Pack to provide an exceptionally light and compact source. In next to no time, the protective cap converts into an umbrella or a standard reflector. The MobiLED has a pan/tilt head for single-hand operation and a built-in umbrella holder. The intelligent cooling fan control only switches on when the temperature is too high. The innovative design allows the MobiLED to be stowed away compactly for transport and storage.



The new continuous light mode of the Mobil A2L allows the MobiLED modelling light to be used as a new light design means. Precisely because the colour temperature of 5500 K is daylight conform, entirely new possibilities are offered for film sequences.

## 10.2 Replacing flash tubes

Before changing the flash tube, the lamp must be disconnected from the power pack. The flash tubes are designed to be plugged in.

To change a flash tube, release the spring ring and remove the protecting glass. The flash tube must be pulled out straight along the lamp base axis. When inserting the tube be sure that it is fully pushed in.

Finally, replace the protecting glass and fasten with the spring ring. The protecting glass is available in the versions "UVE" art. no. 34.339.00 [5500 K] and "UVE matt" art. no. 34.340.00 [5500 K].

## 10.3 Lamp plugs

The lamp plugs and sockets carry mechanical interlocks to prevent inadvertent disconnection. To unplug, push down the locking spring below the cable guide and lift out the plug.

## 10.4 Extension cable for MobiLED, Mobilite and Mobilite 2

The extension cable (3,5 m), available as accessory with the article no. 34.150.00, is especially thin and flexible. It can only be used with the MobiLED, Mobilite and Mobilite 2. Should this cable be used with other lamps the modelling light and fan will not function.

## 10.5 Fuses

Use only sand-filled fuses as indicated on the type plate.

# 11. SPECIAL FEATURES

## 11.1 Cooling fan

The cooling fan of the power pack Mobil A2L operates for 20 minutes after switch off, this guarantees correct cooling down of the electronics.

## 12. TECHNICAL DATA

### Mobil A2L

Flash energy	1200 J
F-stop at distance of 2 m, 100 ISO, reflector P70 with MobiLED	64 1/10
Flash duration t 0.1 (t 0.5)	for 1 lamp: 1/230 (1/680) s for 2 lamps: 1/360 (1/1100) s with symmetrical power distribution
Charging time (for 100 % of selected energy)	fast charge: 0.8 – 2.9 s normal charge: 1.2 – 5 s
Normal charge	to protect the battery
Ready display	visual and audible (can be switched off); signals when 100 % of selected energy is reached
Lamp outlets	2
Power output distribution	symmetrical / asymmetrical 50 / 50 %, 70 / 30 %, 80 / 20 %
Controls	fully illuminated silicone keyboard, resistant to dust and scratches, LCD display
Control range	over 4 f-stops in 1/10 f-stop intervals, with asymmetry up to 7 f-stops
Modelling light	max. 2 x halogen 100 W or 2 x LED 30 W to conserve battery charge selectable switch-off time setting (20/40/60/80 s). Continuous light modes (on/co).
Flash release	Manual release button, sync cable, FCC, IRX 2, selectable photocell or wireless via built-in selectable infrared and radio receiver, RFS and RFS 2 transceiver
Radio release	outdoors up to 50 m (164 ft.) (possible range up to 200 m / 656 ft.)  indoors up to 30 m (98 ft.) (possible range up to 200 m / 656 ft.)
Battery	Lead: 12 V / 12 Ah Lithium: 12 V / 7.8 Ah Li-FePo4
No. of flashes per battery charge	fast charge: approx. 170 normal charge: approx 220      with lithium battery  fast charge: approx. 130 normal charge: approx 170      with lead battery

Stabilized flash voltage	± 0.5 %
Standards	EC Directive 2006/95/EC, according to UL 122
Dimensions	240 x 152 x 294 mm / 9.4 x 5 x 11.6 inch
Weight kg	6.7 kg / 14.7 lbs (with lithium battery), 9.2 kg / 20.3 lbs (with lead battery)
Scope of delivery	Mobil A2L power pack, battery, dust cover, operating instructions
	Subject to change in the interest of product enhancement.

## 13. GUARANTEE

All broncolor power packs, lamps, monolights and accessories have a high quality standard. We offer a 2-year factory guarantee from the date of purchase (for the first owner) on the aforementioned units, except for flash tubes, halogen lamps, protecting glasses, cable, batteries, rechargeable batteries and textiles.

Faults resulting from non-observance of safety instructions, incorrect handling, use of accessories of another manufacturer or unauthorised intervention/modification are excluded from the factory guarantee. We assume no liability for damages resulting from non-observance of the safety instructions, incorrect handling, use of accessories of another manufacturer or unauthorised intervention/ modification.

So as not to endanger the entitlement of guarantee for your unit, we recommend that you keep the original packing material. We assume no liability for transport damages arising from improper packaging. If need be, the goods must be insured through a transport insurance company by the sender.

In case of technical problems please contact immediately the nearest authorised broncolor service station.

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Article numbers, product descriptions and scope of delivery can vary from one country to another. Detailed information are available from your responsible broncolor distributor. Errors and misprints excepted.