**Operating instructions**

# *verso A2*

broncolor
THE LIGHT

www.broncolor.com

**Operating instructions**

**b r o n c o l o r**
**Verso A2**

# Before use

We are pleased you have chosen a broncolor Verso A2 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.

# Contents page

# Important safety instructions

When using your photographic equipment, basic safety precautions should always be followed, including the following:

1. Read and understand all instructions before using.

2. Close supervision is necessary when any appliance is used near children. Do not leave appliance unattended while in use.

3. Care must be taken as burns can occur from touching hot parts.

4. Do not operate appliance with a damaged cable or if the appliance has been dropped or damaged, until it has been examined by a qualified service person.

5. Position the cable so that it will not be tripped over, pulled, or contact hot surfaces.

6. 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.

7. When plugging in and unplugging lamp plugs, the unit must be switched off.

8. 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.

9. Let appliance and connected lamp units cool completely before putting away.

10. This unit should not be immersed in water or other liquids. An electric shock could be caused.

11. To reduce the risk of electric shock, do not open this appliance, but take it to a qualified service person when service or repair work is required. Incorrect reassembly can cause electric shock when the appliance is used subsequently.

12. The use of an accessory attachment not recommended by the manufacturer may cause a risk of fire, electric shock, or injury to persons.

13. This unit may only be used on earthed sockets, or in battery-operation, only with the available accessory unit “Power Dock“.

14. Do not bring metal objects in contact with the contact plug of the Power Dock unit.

# Attention:
# Read before starting up the power pack

- Prior to replacing fuses, halogen (bulb) lamps or flash tubes, discharge the power pack and disconnect from power supply. Disconnect the lamp base from the power pack.

- These units are designed for use in dry areas. Protect them from dripping and splash water and from excessive exposure to dust.

- The units are not suitable for use in an environment where there is a risk of explosion.

- The accessories mounted onto the lamp bases may heat up to high temperatures under specific conditions. Handle with care!

- With due allowance for heat radiation, lamp bases with more than 100 W modelling light may be directed towards inflammable surfaces only at a minimum distance of 1 m.

- For safety reasons, never operate the lamps without the protecting glass in place.

- 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 and protecting glasses with an UV coating. Without these or other protective filters, use with extreme care when shooting.

- Even when disconnected from the power supply, dangerous voltages may remain inside the unit. For this reason units should be opened by authorized broncolor service persons only.

- If the unit Power Dock is not connected with the power pack, the delivered transport cover must be set up. In particular no metal objects should contact the Power Dock pin contacts.

- Do not cover the cooling louvers on the unit.

- **broncolor** power packs and lamp bases meet an extremely high safety standard. When connecting **broncolor** products to other manufacturers' products, 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.

# Controls and displays

## Power pack Verso A2

1. Mains switch on/off
2. Fuse
3. Sync socket
4. Antenna (only in RFS version)
5. Lamp base Outlet 1
6. Lamp base Outlet 2
7. Battery warning display
8. LCD display for flash energy channel 1
9. LCD display for flash energy channel 2
10. Flash energy control channel 1 up/down
11. Flash energy control channel 2 up/down
12. Photocells on/off
13. IR receiver and/or RFS interface on/off
14. Modelling light on/off
15. Visual ready display, green
16. Test key
17. Operating mode modelling light
18. Charging speed (normal / fast)
19. Acoustic ready display (buzzer)
20. Charging dimmer
21. Flash sequence
22. Additional function (aux)
23. Addressing for remote control (only in RFS version)
24. Infrared receiver cell
25. Photocells
26. Fan cooling
27. Connection socket for mains cable
28. Clamp for quick release fastener of the Power Dock


11
9
8
10
7
12
13
14
15
16
17
5
6
cell
ir/rf
mod
test
aut
broncolor
verso A2
made in Switzerland
sync
16A
off
18
19
20
21
22
23
24
25
4
3
2
1


verso A2
broncolor
26
27
28

## Power Dock for power pack Verso A2

29. Cover with carrying handle
30. Clamp for quick release fastener of the Power Dock
31 Connection plug
32. Quick release fastener right
33. Display charge level Power Dock (battery charging)
34. Connection socket for mains cable (to charge the battery)
35. Centring pin
36. Quick release fastener left

# 1. Application Verso A2

All areas of the professional flash photography for indoor and outdoor applications. This unit is designed as a mains supplied (AC-line) studio flash unit, which can be used as a mains-independent unit, using the available Power Dock accessory.

# 2. Start up

## 2.1 Mains operation

### 2.1.1 Mains voltage

The power pack Verso A2 adapts automatically to the respective mains voltage between 240 V and 100 V.

Please make sure, that the halogen bulb lamps (modelling light) of the connected lamp units correspond to the mains voltage.

### 2.1.2 Earthed mains (AC-line)

Connect unit to current supply always using an earthed mains plug.

### 2.1.3 Start up

Connect the included mains cable to the connection socket of the power pack (27) and to the mains supply (mains socket). Use the mains (AC-line) switch (1) to power-up unit. The LCD displays, for the flash energy (8/9) show the activated channels as well as their set values. Because of the automatic lamp detection by the power pack the corresponding channel is automatically activated as soon as one of the three lamp outlets are occupied (5/6). Additionally the green control lamp of the visual ready display lights up (15).

## 2.2 Battery operation

### 2.2.1 Connection Power Dock to power pack Verso A2

1. Check the display “charge level“ (33) on the Power Dock. If the saved energy of the Power Dock is less than 50 %, it is advisable to charge it using the included mains cable (charging time approx. 3 hours for approx. 80% of the charge) or to replace it by another Power Dock unit. When using for the first time, we recommend to fully charge the Power Dock.

2. Loosen the two quick release fasteners on both sides of the Power Dock (32 / 36) and remove the cover (29).

3. Unplug the mains cable from the power pack.

4. The connection socket (31) for the contact plug and the three holes for the centring pins (35) of the Power Dock are located on the bottom of the power pack Verso A2. Make sure that the contact plug of the Power Dock is clean, to guarantee a faultless contact.

5. Place the bottom of the power pack Verso A2 on top of the upper side of the Power Dock. Then connect the power pack Verso A2 to the Power Dock. The connection socket for the mains supply (27) is thereby closed by a sliding lock. Then hook in the quick release fasteners (32 / 36) of the Power Dock to the corresponding holders of the power pack (28) pressing them gently to close.

6. Switch on power pack using the mains switch (1).

### 2.2.2 Start up

Use the mains (AC-line) switch (1) to power-up unit. The LCD displays for the flash energy (8 / 9) show the activated channels as well as their set values. Due to the automatic lamp unit detection of the power pack the corresponding channel is automatically activated as soon as one of the three outlets (5 / 6) is occupied. Additionally the green control lamp of the visual ready display lights up (15).

Verso A2 is equipped with an acoustic warning system in respect of the charge state of the battery. If the remaining battery energy has reached 50%, it will be indicated by an audible warning signal (7) and the flashing of the display. On reaching the energy level of 10% a new audible warning signal is emitted and the battery warning signal display starts to flash permanently. If the battery charge is fully consumed the Verso A2 sends a warning signal and after 5 sec. both the power pack and the Power Dock are switched off. The battery package of the Power Dock must be recharged.

### 2.2.3 Automatic switch-off of the power pack

To protect the battery, the power pack is provided with the option “automatic switch-off”. If desired, the waiting time can be set between 10 min. and 99 min. When reached, the power pack switches off automatically (see chapter 8). Independent from this setting, the power pack switches to economy mode 1 min. after the last operation, which is visible from the slightly dimmed flashing display. Flash release is still possible on economy mode.

# 3. Energy control

## 3.1 Changing the flash energy

Use the “up/down” keys (10 / 11) to control the flash energy (flash intensity) of lamp base channel 1 and 2 respectively the 3 lamp base outlets (5 / 6). Whole numbers are full f-stop intervals, decimals indicate 1/10 f-stop intervals. Brief pressure on the keys “up/down” runs the power up (or down) by a 1/10 f-stop interval, prolonged pressure by a full f-stop.

The maximum flash energy goes up to level 10, the minimum to level 3 on channel 1, resp. up to level 9 and down to level 3 on channel 2. The maximum asymmetry is therefore 6 f-stop intervals.

## 3.2 Individual energy distribution (asymmetry)

The flash energy is distributed between the three lamp base outlets as follows:

Channel 1 controls lamp base outlet 1

- Lamp base outlet 2 and 3 not in use = 100 % (1200 J) on outlet I
- Lamp base outlet 2 and/or 3 in use= 50 % (600 J) on outlet I

Channel 2 controls lamp base outlet II and III

- Lamp base outlet 2 or 3 in use= 50 % (600 J) on used outlet
- Lamp base outlet 2 and 3 in use= 25 % (300 J) per outlet

The control range of the flash energy extends

- on channel 1 (without use of channel 2): over 7 f-stops between 1200 J down to 9,5 J
- on channel 1 and 2 or channel 2: over 6 f-stops between 600 J down to 9,5 J

Each channel can be controlled individually, that means, if both channels are used, the unit operates like two individual power packs of 600 J each.

## 3.3 Stabilisation of the colour temperature

The power pack Verso A2 is equipped with a circuit providing an approximate stabilisation of the colour temperature. Thereby the colour temperature can be constantly maintained over a range of 4 f-stops within +/- 100 K.

# 4. Modelling light

## 4.1 General

The “**mod**" key (14) switches on the modelling lamps for all connected lamp bases. When switched on, the green LED lights up. Lamp bases also have an additional modelling lamp switch.

**Attention:** Please note, the voltage of the modelling lamp must correspond with the mains voltage.

## 4.2 Proportionality

In mains operation the brightness of the modelling light can be set proportionally to the flash intensity. It is explained in chapter 7, how to set the individual operating modes (modelling light proportionality).

To assure proportionality when operating units with different power output ratings, the units have various proportionality levels. Proportionality is guaranteed if the identical prop level has been set for all power packs. The higher the digit, the brighter the modelling light.

The following operating modes are possible:

"P" Proportional modelling light with broncolor power packs up to 1200 J (Verso A2). This operating mode (highest proportional level) is recommended, when during a working operation only power packs of this power level are used.

"P1" Proportional modelling light with broncolor power packs up to 6400 J

"P2" Proportional modelling light with broncolor power packs up to 3200 J

"P3" Proportional modelling light with broncolor power packs up to 1600 J

"P4/5" If a power pack is operated at a low output level, the halogen modelling light will be, as known, relatively weak and yellowish. To counteract this problem, two additional modelling light proportionality levels are available: P4 for 800 J and less, P5 for 400 J and less. Thus the brightness of the modelling light can be increased.

"HI" All lamp bases operate at full modelling light power independent of flash output.

"LO" Lighting level is reduced for all lamps independent of the flash output to reduce power consumption and extend the service life of the halogen lamps.

Pressing the "mod" key (14) (1 sec. long) when the modelling lamp is on, will give direct access to the “HI” mode. To return to the previous mode briefly press "mod" again.

Highest possible proportionality settings when combining units of different output:

| | Nano 2<br>Verso A2<br>Topas A2<br>Grafit 2, A2<br>Mobil | Nano A4<br>Topas A4<br>Grafit A4 | Topas A8 Evolution |
|---|---|---|---|
| Nano 2<br>Verso A2<br>Topas A2<br>Grafit 2, A2<br>Mobil | P3<br>(or “P“ using only Verso A2 / Nano 2) | P2 | P1 |
| Nano A4<br>Topas A4<br>Grafit A4 | P2 | P2 | P1 |
| Topas A8 Evolution | P1 | P1 | P1 |

Example 1: A power pack Verso A2 is operated together with a power pack Topas A8 Evolution. The modelling light is proportional when both are set to mode "P1".

Example 2: A power pack Verso A2 is operated with a Nano 2. The modelling light is proportional and most intense when both are set to mode “P“.

## 4.3 Modelling light in battery operation

In battery operation the lamp bases Pulso G and Unilite can be equipped with the following halogen lamps:

Maximum power of modelling light with mains voltage 200 - 240 V:

Halogen 1 x 650 W / 2 x 300 W / 3 x 150 W

Maximum power of modelling light with mains voltage 100 - 120 V:

Halogen 2 x 300 W / 3 x 150 W

If lamp bases with a higher total rating are connected, they switch off.
The unit Power Dock is equipped with a converter, which converts the 36V voltage of the battery package, depending on the local available voltage, automatically into a mains voltage of 200 – 240 V resp. 100 – 120 V. The mains voltage can be modified manually if desired (see chapter 8).

To control the modelling light and to protect the battery, the Verso A2 has variable settings of the on time of the modelling light between 1 min. and 20 min. (see chapter 8).

*Exception:* When using the lamp base with halogen lamps of 1 x 650 W or 2 x 300 W, the setting of the on time is max. 7 min.

*Attention:* In case of an overloading, the LED key “mod” (14) will start blinking and the modelling light will extinguish till the end of the cooling process.

### 4.4 Modelling light switch on lamp base

The switch, on the lamp bases, permits selective lighting control with the modelling light. To avoid damage to the lamp filament, always switch off the modelling light before moving the lamp base.

# 5. Release and remote control

### 5.1 Photocell (cell)

The photocell can be switched on or off by using the "**cell**" key (12). Is the function activated the green LED lights up. The sensitivity of the photocell can be reduced if necessary. (see chapter 8).

After a flash series an active photocell is blocked, and the green LED starts blinking. By pressing the “cell” key, the block is cancelled. When triggering via the “cell” or infrared receiver (IR), ensure that the infrared receiver of the unit is not obstructed by obstacles.

### 5.2 Infrared receiver (ir/rf)

The infrared receiver and, if available the RFS interface, can be switched on and off by using the “**ir/rf**“ (13) key. As option you can set both functions (IR and RFS) respectively only one of those which should be switched on or off with this key (see chapter 8). Is one or both activated, the green LED lights up.

When triggering via infrared receiver (IR), ensure that the infrared receiver of the unit is not obstructed by obstacles.

### 5.3 Infrared flash release channel

The power pack Verso A2 can be triggered with the broncolor infrared emitter IRX 2. If the power pack is triggered via infrared, the flash is released after a transmission delay of 1/1000 s.

### 5.4 RFS interface

The RFS interface of the Verso A2 units in the RFS version can be switched on or off. The procedure is described in chapter 8.

### 5.5 Remote control channels

The remote control can only be used with the power packs Verso A2 RFS and is effected by radio over the separate channels (studio workstations). The procedure is described in chapter 7.

### 5.6 Power pack addresses

The assignment of addresses by radio to each unit is only possible with the power packs Verso A2 RFS. This allows individual operation within the same studio workstation. The definition of the unit addresses is described in chapter 7.

### 5.7 Sync socket

Synchronous cables art. no. 34.111.00 or 34.112.00 may be plugged into the socket (3) to release flashes via cable.

### 5.8 "Test" key

The key **"test"** (16) allows manual release of the power pack (see chapter 6.1), when the green LED lights up.

# 6. Flash ready signals visual/audible

### 6.1 The visual ready signal

is the green LED at the "**test**" key (16). It lights up only when the unit is fully charged to the set flash energy. After a flash the LED goes out and lights up again when the unit is fully charged once more. Triggering is only possible after a full charge. The brightness of the visual ready signal can be reduced if necessary (see chapter 8).

### 6.2 The audible signal (buzzer)

sounds when the power capacitors are at 100% charge of the set flash energy. It may be switched on or off (see chapter 8).

### 6.3 Audible fault signal

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

# 7. Setting additional functions

The “**aux**“ key (22) is used to select additional functions. Repeated actuation of the key toggles through the following display modes:

| | |
|---|---|
| - Select proportionality level of the modelling light | LED “prop“ blinks (17) |
| - Fast charge on / off (on/--) | LED “fast“ blinks (18) |
| - Buzzer on / off (on/--) | LED “buz“ blinks (19) |
| - Dim charge on / off (on/--) | LED “dim“ blinks (20) |
| - Define sequences (serial flashes) | LED “seq“ blinks (21) |
| - Studio address / set unit address | LED “unit“ blinks (23) |
| - Return to standard display | no LED blinks |

After the setting has been performed, the standard display can be re-activated by pressing the **“aux“** key (22) or automatically after a waiting time of 4 seconds.

To set the additional functions select the respective LED (example: function “buz“). The digital display of channel 1 (8) will then show the actual value which can be changed with the “up/down“ key (10). If a setting is entered which deviates from the basic setting value, the respective LED will remain lit as a reminder after the display returns to standard (exception: function “prop“). If the unit is switched off and on again, it will be in the “standard display” mode. Previously set additional functions are retained.

## 7.1 Set proportionality level of the modelling light (prop)

The proportionality level of the modelling light can be selected by briefly pressing on the “up/down“ key (10) of channel 1. With repeated actuation of the key the following modes can be set, each shown respectively on the digital display (8): LO, P, P1, P2, P3, P4, P5, HI.

## 7.2 Fast charge (fast) on / off (on / --)

The mode “fast charge“ can be selected by briefly pressing on the “up/down“ key (10) of channel 1 (on / --). To avoid overloading the mains supply, the “dim“ function remains on permanently during fast charge (see chapter 7.4) and cannot be deactivated. The LED “DIM” lights up as soon as the modelling light is switched on ( “mod” key )

*Attention:* The mode fast charge is only suitable for certain lamp units (see chapter 12) because of the large charge power.

## 7.3 Buzzer (buz) on / off (on / --)

The ready buzzer sounds when the power capacitors are 100% charged up. The ready buzzer is switched on or off (on/--) by briefly pressing the “up/down“ key (10) of channel 1. The warning signal will remain audible even if the ready buzzer is switched off.

## 7.4 Set charging dimmer on / off (dim)

The dim function can be switched on or off (on/--) by briefly pressing the “up/down“ key (10) of channel 1 (on / --). If the dim function is switched on, the modelling light will dim (at mains/AC-lines, operation) respectively extinguish (at battery operation) when charging takes place. This feature can be used as a visual flash monitor and to reduce the current load on weak mains (AC-lines). To avoid overloading the mains supply, the “dim“ function remains permanently on during fast charge (see chapter 7.4) and can not be deactivated. This also applies to operation with the Power Dock (battery operation).

## 7.5 Sequences (seq) (serial flashes)

This function permits to set a defined number of flash discharges from 1 to 50. By briefly pressing the flash energy control “up/down“ key (10) of channel 1, select the desired number of flashes. With a long pressure on the flash energy control “up/down“ key (10), change the settings in intervals of ten.

Each release signal triggers the selected number of flashes. A running sequence can be stopped by briefly pressing the **“aux“** (22) key or by switching the unit off and on again. This function is deactivated, when the number of flashes are set to “0” or the power pack is switched off.

## 7.6 Studio / unit address (unit)

The power pack Verso A2 is also available as an unit version with integrated RFS interface (**R**adio **F**requency **S**ystem). The function “unit“ (23) allows to assign to each RFS unit an individual unit address and a studio workstation (remote control channel) .

*Assignment of unit address:*

Select the LED “unit” with the **“aux“** key (22). On the LCD display of channel 2 (9) the letter “U“ appears. On the LCD display of channel 1 (8) the set unit address appears. By briefly pressing the flash energy control keys “up/down“ (10) of channel 1 the desired power pack address can be assigned. With a long pressure on the flash energy control keys “up/down“ the setting changes in intervals of ten. It is possible to assign per studio workstation up to 20 different unit addresses (“01“ to “20“). For the correct functioning of the remote control via radio, each unit must be assigned with its own unit address.

*Assignment of studio workstation:*

When re-pressing the **“aux“** key the letters “CH“ will appear on the LCD display of channel 2 (9). On the LCD display of channel 1 (8) the set studio number will appear. By briefly pressing the flash energy control keys “up/down“ (10) of channel 1 the desired studio number can be assigned. With a long pressure on the flash energy control keys “up/down“ the setting changes in intervals of ten. It is possible to assign up to 10 workstations (“01 to 10”). All units, which are to be triggered using the same camera, must have the same studio number.

# 8. Basic settings ex works

The basic settings ex works can be viewed and in some instances changed with the following procedure:

When the unit is switched on press the keys "**mod**" (14) and "**aux**" (22) at the same time for approx. 5 sec. (the blinking of the LED array “prop“ / "fast" / “buz“ / "dim" / "seq" / "unit" shows the programming mode).

On the LCD display of channel 2 (9) the selected function number will appear, and on the LCD display of channel 1 (8) the actual value respectively the actual setting within the selected function number is shown. Both values can be altered by using the flash energy control keys “up/down“ (10/11). With a long pressure on the flash energy control keys “up/down“ the setting changes in intervals of ten.

Within the function numbers 1 to 5 and 11 the settings can be changed with the flash energy control keys “up/down“. The function numbers 0, 6, 9 and 10 can be shown in different pairs of those multi-digit values.

Return to normal operation by pressing (1 sec) the **“aux“** key or by switching off and on again the unit or automatically after a waiting time of 20 sec.

| **Function number** | **Meaning and possible settings** |
|---|---|
| 0 | Program index: Standard display (**XX.**xx)<br>Program number: By pressing flash energy control key “down“ (xx.**XX**)<br>The power pack is equipped with 3 microprocessors and a fourth one in the Power Dock unit. By pressing the energy control key “up” several times, the 4 program indices can be selected. |
| 1 | Definition function “ir/rf“ (see chapter 5)<br>Setting ex works: LCD display shows the value "3"<br>= IR receiver and RFS interface (if available) activated.<br>Display value “1“ = only RFS interface activated.<br>Display value “2“ = only IR receiver activated. |

## 8. Basic settings ex works (continuation)

| Function number | Meaning and possible settings |
|---|---|
| 2 | Definition of limitation of the on time of modelling light<br>Setting ex works: 3 min.<br>By pressing the flash energy control keys “up/down“ set the time duration between 1 min. and 20 min. (see chapter 13 for details and exceptions). |
| 3 | Mains voltage modelling light with battery operation (see chapter 4.3)<br>The unit selects the mains voltage of the modelling light automatically. The mains voltage can be selected manually if desired: by pressing the flash energy regulation keys “up/down“ set the desired mains voltage.<br>Display value “11“ = Mains voltage 110 V<br>Display value “22“ = Mains voltage 220 V |
| 4 | Automatic switch-off in battery operation (see chapter 13)<br>Power pack switches off automatically after a selectable waiting time. Setting ex works: 10 min.<br>By pressing the flash energy regulation keys “up/down“ select the desired time duration between 10 min. and 99 min. Setting 0 = automatic mode deactivited |
| 5 | Sensitivity of photocell (see chapter 5)<br>Setting ex works: "on"<br>This function reduces the sensitivity of the photocell. If this function is activated, the LCD display shows the value “--“. |
| 6 | Flash counter<br>Figure group in the digital display: **XX**xxxx<br>= standard display<br>Figure group in the digital display: xx**XX**xx<br>= after activating the energy control key “down“<br>Figure group in the digital display: xxxx**XX**<br>= after activating the energy control key “down” |
| 7 | Delivery date: month |
| 8 | Delivery date: year |
| 9 | Series number of the unit:<br>Figure group in the digital display: **XX**xx |
| 10 | Series number of the unit:<br>Figure group in the digital display: xx**XX** |
| 11 | Brightness ready signal (see chapter 6)<br>Setting ex works: “on“<br>This function reduces the brightness of the ready display. If the function is activated, the LCD display shows the value “--“. |

# 9. Protective facilities / Fault indication

## 9.1 Display “th“

When working with long flash sequences and fast charging times, charging of the power pack may be blocked to protect the flash tube from overloading and to allow a cool-down period of 30 seconds. This is indicated when a signal is audible for a longer time and the blinking “th” appears on the LCD display of channel 1 (8). The fan continues to operate, thus accelerating the cooling effect.

If excessively high temperatures build up inside the unit despite the fan cooling effect, the charge mode will be blocked for a certain period of time and a long audible signal will be emitted.

During the cool-down period “th“ ( not blinking ) appears on the LCD display of channel 1 (8). The fan continues to operate, thus accelerating the cooling effect.

*Attention*: Do NOT switch off the power pack during cooling!

If the power pack is switched off too early, it is likely, despite a long break, that only a few flashes are possible when switching the unit on again, because the processor has not been able to follow the entire cooling process.

## 9.2 Display “A1“

The unit is equipped with an automatic afterglow block. If the flash tube exhibits afterglow (for example at the end of its service life), this block will stop further charging to prevent consequential damage. A1 will show on the display of LCD display channel 1 (8). In this status, the ready lamp (15) is no longer green. The block can be cancelled by switching the unit off and on again.

## 9.3 Fuse

The fuse (2) is located on the front panel of the unit. In the event of an electrical malfunction in the power pack, the circuit breaker will automatically interrupt the power source. Sand-filled fuses with value 16 T may only be used (sand-filled fuses can be identified by their opaque fuse container). Using wrong fuses can seriously damage the power pack.

## 9.4 Monitoring of the modelling light

If the power pack Verso A2 was previously operated on a mains voltage of 100 V – 120 V and then connected to a mains voltage of 200 V – 240 V, an acoustic signal will sound when switching on the unit, and the modelling light will blink at a safely reduced voltage. This function serves as a reminder, that the modelling lamp must be replaced and to avoid bursting of the lamps.

*Attention:* Make sure that the lamp base used is equipped with a halogen bulb lamp which complies with the local power supply ratings!

Switch the unit off and on again to return to standard operation.

### 9.5 Acoustic and optical flash monitor

At the end of their service life, flash tubes often have triggering interruptions. This fault is indicated by an audible, intermittent signal. In addition to this, the LCD display ( 8 / 9 ) blinks, and indicates the channel to which the corresponding lamp is connected.

*Attention:* Check the functional efficiency of the flash tubes and replace if necessary!

The blinking LCD display can be deactivated by pressing the key **“aux”** (22) or the key “up/down” for regulation of the energy control ( 10 / 11 ).

# 10. Service/repair

Your broncolor power pack is a precision device which will work for many years without malfunction if you take proper care of it. If nevertheless malfunctions do arise, please do not attempt to open the unit to repair it yourself. Even when the unit is switched off, dangerous voltages may remain within the interior of the device. Always leave service and repairs to the broncolor after-sales service.

# 11. Accessory Power Dock

### 11.1 General

Verso A2 RFS can be operated as a mains-independent (AC-line) power pack. The available accessory unit Power Dock (art. no. 36.124.00) comprises a high-performance battery package with an integrated charger, an independent processor for battery management, and monitoring of modelling light as well as a power circuit, which produces the necessary voltage for the operation of the modelling light. The unit is connected to the bottom of the power pack (see chapter 2.2.1).

### 11.2 Charging battery

The mains cable for charging the Power Dock is stored in the cover (34). Connect the mains cable to the connection socket (34) of the Power Dock as well as to the mains supply. The charging mode of the battery has two levels, which are displayed by the flashing charge display (33).

Level 1: The battery is charged in fast charge mode up to approx. 80% of full charge. Duration, depending on state of charge, up to 3 hours.

Level 2: The battery is being recharged slowly to 100% (duration up to approx. 1 hour) and then kept on charge.

***Attention:*** Do not operate the Verso A2 with the Power Dock during charging.

### 11.3 Care of the Power Dock

The battery 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 package never runs down. The bottom bar (10% of battery capacity) should always be visible. Therefore, Verso A2 and Power Dock 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 fully charge the Power Dock after use. Additionally, the charge situation must be controlled every two months and the battery package has to be fully recharged.

If the charge display does not show a fully charged battery package and the value does not change within the next 1 – 2 hours even though connected to the mains cable, the battery must be controlled by a local broncolor service station.

# 12. Lamp bases

### 12.1 Mains operation

Mains operated, in the "normal charging mode" ( see chapter 7.2 ), Verso A2 is compatible with the broncolor lamps as from 1972. Currently not valid for the following lamps bases:

- Small lamp Picolite
- Special effect lamp Boxlite 40
- Special effect lamps Striplite 60 / 120 Evolution
- Special effect lamps Lightbar 60 / 120 Evolution
- Small lamp Mobilite.
- Lamp base Primo

In the "fast charging mode" (see chapter 7.2) the power pack has a very high charging capacity. Therefore each connected lamp base has to be equipped with a flash tube with high power rating. In this mode the Verso A2 must be operated at present only with the following lamp bases:

- Lamp base Pulso G with flash tube 3200 J [1)]
- Lamp base Pulso F4 with flash tube 3200 J [1)]
- Lamp base Unilite with flash tube 3200 J [1)]
- Special effect lamp Pulso-Spot 4
- Special effect lamp Litestick

[1)] Operation only permitted with flash tube 3200 J from date code **0614**

## 12.2 Battery operation

With battery operation Verso A2 is compatible with the following lamp bases:

- Lamp base Pulso G
- Lamp base Unilite
- Special effect lamp Ringflash C / Ringflash P
- Special effect lamp Litestick

**The following information refers to the lamp bases Pulso G, Unilite, Pulso Twin und Pulso 8:**

## 12.3 Replacing flash tubes

*Attention:* Prior to changing any flash tube, disconnect the lamp base from the power pack!

Lamp bases use plug-in flash tubes.

Normally the flash tube 1600 J has the UV-coating directly on the flash tube. In this case the protecting glass used must be uncoated. The protecting glasses and the flash tubes 1600 J are available in the versions UVE coated (5500 K) and uncoated (5900 K). On request, the Pulso G and the Unilite lamp bases can be supplied with an uncoated flash tube and a coated protecting glass.

For thermal reasons, the flash tubes 3200 J as well as the flash tubes for Picolite are available only as uncoated tubes. Therefore those lamps must be used with a UV-coated protecting glass.

### 12.3.1 Pulso G/Unilite lamp base

The protection glass has a line mark and the glass rim has three notches. When pulling off the protection glass from the locking device of the lamp base, the line mark must be at the top. To change the flash tube, carefully pull off the protecting glass. Pull straight, without tilting. Afterwards pull the flash tube straight along the lamp base axis. When inserting the tube, check that the ceramic base is fully pushed back in. Then the protecting glass has to be re-inserted in front of the modelling light and flash tube. When pushing the protection glass into the locking device of the lamp base, the line mark must again be at the top. After the protection glass has latched into place, it must be turned slightly, to avoid it becoming detached. Because the Pulso G and Unilite lamp base can be operated with 1600 J flash tubes as well as with 3200 J flash tubes, a corresponding warning sign is supplied with each flash tube. Please stick this warning sign on the lamp base plug when inserting the flash tube.

### 12.3.2 Pulso Twin and Pulso 8 lamp base

The flash tube and protecting glass of the Pulso 8 (6400 J) and Pulso Twin ( 2 x 3200 J) form one module. The flash tube is only available with a built-in protection glass. When exchanging the flash tubes or replacing the modelling lamp, hold the flash tube carefully on the protecting glass and pull out in axial direction. When inserting the flash tube, check that the ceramic base is fully pushed back in.

## 12.4 Replacing halogen lamps

The halogen lamps are also plug-in or screw-in. Taking the service life into consideration, the halogen lamp should not be handled with bare hands. Exchange of the halogen lamp is practically identical to that of the flash tube.

The Pulso G-, Unilite- and Picolite- lamp bases can be operated on the local mains (AC-line) voltage (100V–240 V), when a halogen lamp is used which corresponds to the voltage.

## 12.5 Cooling fan

A cooling fan in the lamp base cools the flash tube and modelling lamp. It also runs when the modelling lamp is turned off.

## 12.6 Thermal protection

The lamp bases are fitted with an automatic thermal protection. Should the lamp base overheat (e.g. by impeding the flow of cooling air), the modelling light is shut off. Nevertheless you may continue producing flashes. The Picolite, however, has an additional thermal protection which limits the number of flashes.

## 12.7 Lamp base plugs

The lamp base plugs and sockets have mechanical locking devices to prevent inadvertent disconnection. When plugging in, ensure that the locking device engages completely. To unplug, push down the locking spring below the cable guide and lift out the plug. The power pack must be switched off to plug-in and to unplug.

## 12.8 Reflectors

Pulso and Unilite lamp bases have a bayonet fitting to attach reflectors. The Picolite small lamp has a built-in reflector.

## 12.9 Fuses

Only sand-filled fuses of the type indicated on the type plate may be used; otherwise the halogen lamp may burst.

# 13. Technical data

| | Mains operation | Battery operation |
|---|---|---|
| Flash energy | 1200 J | 1200 J |
| f-stop at 2 m (6 ½ ft.) distance 100 ISO, reflector P70 | 45 7/10 | 45 7/10 |
| Flash duration t 0.1 (t 0.5) at 230 V | 1200 J: 1/500 s (1/1500 s)<br>Pulso Twin: 1/900 s (1/2500 s)<br>600 J: 1/900 s (1/2500 s)<br>300 J: 1/1200 s (1/3500 s) | 1200 J: 1/500 s (1/1500 s)<br>Pulso Twin: 1/900 s (1/2500 s)<br>600 J: 1/900 s (1/2500 s)<br>300 J: 1/1200 s (1/3500 s) |
| Charging time in fast charge mode<br>(for 100% of selected energy) | 0,2 - 0,8 s (200-240 V)<br>02, - 0,9 s (110-120 V)<br>0,3 - 1,0 s (100 V) | 0,3 - 1,5 s<br>(fully charged battery) |
| | Can be switched to normal or fast charging mode. | |
| | Automatic adaptation to respective mains voltage<br>(Voltage fluctuations up to +/- 10% do not cause any restrictions) | |
| Ready display | Visual and audible (can be switched off); signals when 100% of selected energy is reached | |
| Lamp base outlets | 3 | |
| Power output distribution | Individual (asymmetrical) | |
| Controls | Illuminated silicone keyboard, resistant to dust and scratches, LED as well as two LCD displays | |
| Control range of flash energy | Channel 1 (without using channel 2):<br>Over 7 f-stops in 1/10 f-stop intervals (1:128)<br>Channel 1 and 2 or channel 2:<br>Over 6 f-stops in 1/10 f-stop intervals (1:64) | |
| Maximum asymmetry | 6 f-stop increments<br>Channel 1: Level 9 / Channel 2: Level 3 | |
| Modelling light | 200 - 240 V:<br>Halogen max. 3 x 650 W<br>100 - 120 V:<br>Halogen max. 3 x 300 W<br>Proportional to flash energy and “full“ and “low“ settings. Proportionality adjustable to other broncolor power packs and monoblocs and their various output ratings. | 200 - 240 V:<br>Halogen max. 1 x 650 W<br>2 x 300 W<br>3 x 150 W<br>100 - 120 V:<br>Halogen max. 2 x 300 W<br>3 x 150 W<br>Variable settings of the on time to protect the rechargeable battery between 1 min. and 20 min.<br>*Exception:*<br>Setting of the on time max. 7 min. if used with 1 x 650 W or 2 x 300 W. |

## 13. **Technical data** (continuation)

| | | |
|---|---|---|
| Additional functions | - Sequences (flash series) up to 50 flash releases<br>- Sensitivity of the photocell can be reduced<br>- Visual ready display can be dimmed<br>- Simplified programming of the studio and unit addresses<br>- Option automatic switch-off of the power pack in battery operation (settings from 10 min. to 99 min.) | |
| Flash release | Manual release button, photocell (can be switched off), infrared receiver (can be switched off), sync cable, FCM 2, FCC, IRX2 | |
| No. of sync sockets | 1 | |
| Dimensions (Lx W x H) | 290 x 185 x 315 mm (11.4 x 7.3 x 12.4“) | |
| Weight power pack | 7,5 kg (16.5 lbs) | |
| Weight Power Dock | 12,3 kg (27.1 lbs) | |
| Stabilized flash voltage | +/- 0.5% | |
| Power requirements | 200-240 V / 50 Hz: 10 A<br>110-120 V / 50-60 Hz: 16 A<br>100 V / 50 Hz: 16 A | |
| Number of flashes per fully charged battery | | Fast charge: approx. 350<br>at full output<br>Normal charge: approx. 450<br>at full output |
| Standards | UL 122, EC standard 73/23, 89/336 and 99/5 | |

# 14. Verso A2 RFS / Verso A2 plus

Verso A2 is also available as an unit version with integrated 10 channel RFS interface (**R**adio **F**requency **S**ystem). Each channel (Studio) can control up to 20 units. This interface allows remote control respectively flash releases by radio via transmitter RFS as well as by means of a transceiver RFS via PC or Macintosh computer.

### 14.1 **Modification to Verso A2 RFS**

There is the possibility, to modify the Verso A2 power packs later on with a RFS interface. The modification will be made by the customer service centre of our broncolor agency in your country.

## 14.2 Verso A2 plus

Because of the laws in some countries, the use of the broncolor radio system is not allowed. Therefore the Verso A2 power pack is also available in the version Verso A2 plus (that means with cable remote control). Besides the cable connection between the power pack and the computer, the application with RFS is almost identical.

***Attention*:** there is no camera transmitter available for Verso A2 plus!

## 14.3 Technical data

| | **Verso A2 RFS** | **Verso A2 plus** |
|---|---|---|
| Number of flashes per charged battery | Transmitter RFS, transceiver RFS (10 channels)<br>Besides the mentioned options in chapter 6 | analogue chapter 6 |
| Operational distance outdoors | Up to 50 m | Length of the connection cable from the computer to the unit:5 m<br>Length of the connection cable between the units: 2,5 m |
| Operational distance in closed rooms | Up to 30 m | See above |
| Range | Up to 300 m | See above |
| Standards | UL 122, EC standards, 73/23, 89/336 and 99/5<br>ERM EN 300 220-1,-3<br>EMC EN 301 489-1,-3<br>EN 60950<br>EN 50371<br>FCC Part 15<br>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:<br>(1) This device may not cause harmful interference and<br>(2) This device must accept any interference received, including interference that may cause undesired operation.<br>Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. | |

Subject to change in the interest of product enhancement.

CE

Printed in Switzerland 02.06

Bron Elektronik AG
CH-4123 Allschwil
Schweiz (Switzerland)