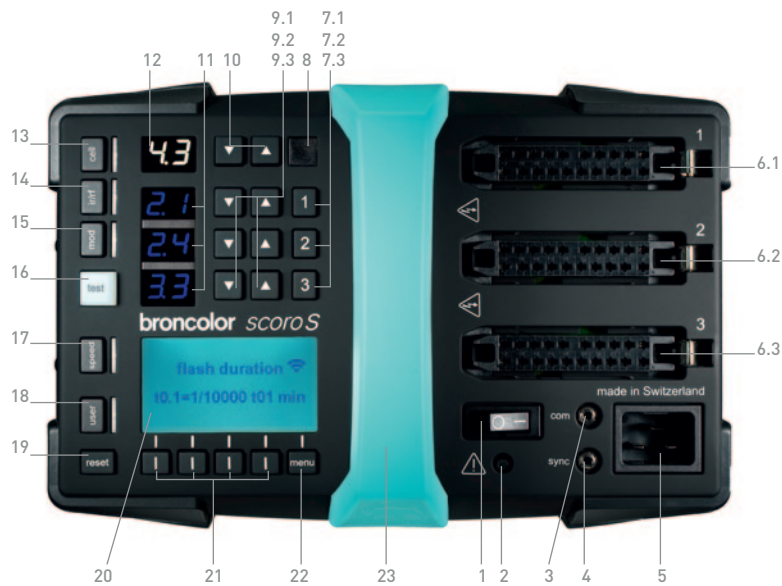# Scoro

Scoro S WiFi / RFS 2

Scoro E WiFi / RFS 2

Operating instructions | Bedienungsanleitung | Mode d'emploi

Scoro S

Scoro E

Controls and displays

1. Mains switch
2. Circuit breaker
3. Connection socket for computer
4. Sync socket
5. Connection socket for mains cable
6.1 Lamp outlet 1
6.2 Lamp outlet 2
6.3 Lamp outlet 3*
7.1 Lamp key 1, on/off
7.2 Lamp key 2, on/off
7.3 Lamp key 3, on/off*
8. IR receiver cell and photocell*
9.1 Power selector lamp 1 "▼/▲"
9.2 Power selector lamp 2 "▼/▲"
9.3 Power selector lamp 3 "▼/▲"*
10. Master power selector "▼/▲"
11. Digital power distribution display per lamp
12. Digital master power display
13. Photocell on/off
14. IR receiver and/or RFS-interface on/off
15. Modelling light on/off
16. Test key and "ready" indicator blue, fault display red
17. Speed key (for fast charge and flash duration)*
18. User key*
19. Reset key*
20. LCD display
21. Selection keys (function analogue to display in LCD)
22. Menu key
23. Handle with integrated antenna

* Scoro S only

Bedienungs- und Anzeigeelemente

1. Netzschalter
2. Sicherungsautomat
3. Computeranschlussbuchse
4. Synchronbuchsen
5. Anschlussdose für Netzkabel
6.1 Leuchtenbuchse 1
6.2 Leuchtenbuchse 2
6.3 Leuchtenbuchse 3*
7.1 Leuchtenanschluss 1, ein/aus
7.2 Leuchtenanschluss 2, ein/aus
7.3 Leuchtenanschluss 3, ein/aus*
8. IR Empfängerzelle und Fotozelle*
9.1 Energieregelung Leuchte 1 "▼/▲"
9.2 Energieregelung Leuchte 2 "▼/▲"
9.3 Energieregelung Leuchte 3 "▼/▲"*
10. Hauptenergieregelung "▼/▲"
11. Leuchtzifferanzeige für Blitzenergieverteilung pro Leuchte
12. Leuchtziffer Hauptenergieanzeige
13. Fotozelle ein/aus
14. IR-Empfänger und/oder RFS-Interface ein/aus
15. Einstelllicht ein/aus
16. Test-Taste & Bereitschaftsanzeige blau, Störungsanzeige rot
17. Speed-Taste (für schnelle Lade- und Blitzabbrennzeiten)*
18. User-Taste (Benutzer Taste)*
19. Reset-Taste (Rücksetz Taste)*
20. LCD-Display
21. Auswahl-Tasten (Funktion analog Anzeige im LCD-Display)
22. Menu-Taste
23. Griff mit eingebauter Antenne

* nur Scoro S

Eléments de commande et d'affichage

1. Interrupteur principal
2. Disjoncteur
3. Prise de raccordement pour ordinateur
4. Prise de synchronisation
5. Prise pour raccordement câble réseau
6.1 Prise de torche 1
6.2 Prise de torche 2
6.3 Prise de torche 3*
7.1 Interrupteur torche 1, en/hors service
7.2 Interrupteur torche 2, en/hors service
7.3 Interrupteur torche 3, en/hors service*
8. Cellule réceptrice IR et cellule photo-électrique*
9.1 Réglage de la puissance torche 1 "▼/▲"
9.2 Réglage de la puissance torche 2 "▼/▲"
9.3 Réglage de la puissance torche 3 "▼/▲"*
10. Réglage principal de la puissance "▼/▲"
11. Affichage numérique de la répartition lumineuse par torche
12. Affichage numérique principal de la puissance
13. Cellule photo-électrique marche/arrêt
14. Cellule réceptrice IR et/ou interface RFS marche/arrêt
15. Lumière de mise au point marche/arrêt
16. Touche "test", indicateur de disponibilité bleu, indicateur de défaillance rouge
17. Touche "speed" (pour temps de charge et durée d'éclair courts)*
18. Touche "user" (touche utilisateur)*
19. Touche "reset" (touche de réinitialisation)*
20. Affichage LCD
21. Touche de sélection (fonction d'affichage identique à l'affichage LCD)
22. Touche "menu"
23. Poignée avec antenne intégrée

* seulement Scoro S

Before use
We are pleased you have chosen a broncolor Scoro 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.

Contents	Page
Important safety instructions ⚠	6

IMPORTANT SAFETY INSTRUCTIONS ⚠

broncolor flash light systems should be utilised exclusively for professional photo shootings by qualified personnel. Before starting up your flash light equipment carefully read 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/m². 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 or 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 combustible and 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 lamp bases 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!

> 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 start up!

> Do not operate the units in an environment where there is a risk of explosion!

> The power pack 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 before connecting it to the power pack!

> For safety reasons, never operate the lamp base 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 diffusers 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 unit must only be connected to 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!

> The unit is suitable for operation with a motor generator provided that the voltage lies within all the load conditions (including capacitive load) and within the tolerance limit of 200–264 V or 95–135 V! From experience this means that only electronic stabilised motor generators are to be utilised! When operating on unstabilised motor generators, voltage peaks of 300 V and more have been observed! This can lead to damages for which we assume no liability!

> Do not operate the lamps inside a bag or a box!

> The ventilation slots 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!

IMPORTANT SAFETY INSTRUCTIONS ⚠

> Do not touch the connection socket for mains cable and lamp outlets on the power pack and do not poke in them with metal objects!

> Flash tubes, halogen modelling 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 base 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 or 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 Scoro:
> Use original broncolor packing for the 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!

We thank you very much that you have chosen a "Scoro" 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 informations contained in these operating constructions carefully and keep the manual in a safe place for all users to retrieve the best from the power packs.

1. START UP

1.1 Mains voltage
As a standard feature, all the Scoro power packs are supplied as multi-voltage units.
The Scoro power packs automatically adapt to the respective mains voltage.
Scoro power packs deliver for all operating voltages (85 – 240 V) constant 1600 J or 3200 J.

⚠ **Attention: Ensure that the operating voltage of the modelling lamp corresponds to the local mains supply (max. 650 W on 200 – 240 V or 300 W on 100 – 120V).**

### 1.2 Earthed mains (AC-line)
Always connect unit to current supply always using an earthed mains plug.

1.3 Start up
Use the mains (AC-line) switch (1) to power up the unit. During the charging process, the digital master power display (12) flashes, after which, it becomes continuous (see section 8, "Displays visual / audible").

2. LCD DISPLAY AND MENU SYSTEM

It has never been so easy to activate that many settings with so few keys; thanks to the LCD display. The display is a significant tool, and therefore it is important that, firstly, you become well acquainted with the structure of the menu system.
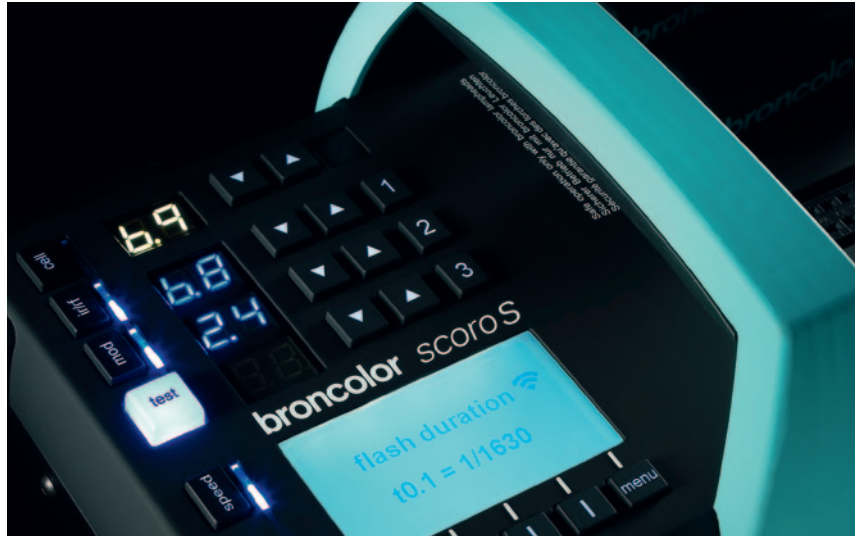
The brightness of the user interface can be automatically or manually* dimmed dependent on the ambient light. See LCD setting function "Brightness display" (section 13.19).

2.1 LCD display menu system
Directly after switching on the unit a start display appears for approximately 5 s with information about the unit and the owner. Afterwards the unit changes automatically to the normal operating mode. By default, the flash duration (t 0.1) is shown permanently. In addition, depending on whether the flash duration or the colour temperature have been altered*, the display will adjust and the current value will be indicated.
Scoro E shows additionally the performance in Joules of the connected lamp heads.

When delay (dly), sequence (seq), interval (int), alternate (alt) are activated as well as the studio and unit address (if desired), the corresponding functions will be shown on the main page. The functions shown in the display give an overview of the most important activated additional functions of the power pack*.

The main menu is called up with the key "menu" (22). At the same time, at the bottom edge of the display, a user guide appears, showing the selection keys (21 & 22) each with their supplementary functions ("▼/▲", "+/−", "select", "cancel", "quit", "help"). To return to normal mode, press the key "menu" (22). Each set value is displayed in a box at the top of the LCD.

The desired unit functions are selected with the keys "▼/▲" and confirmed with the key "select". The selected function is visually highlighted with a bar.

After selecting the desired function, one reaches the second level. There, the options are visible within the chosen function, which can then be selected with the keys "▼/▲", or "−/+". The previously stored setting is always indicated in a box at the top line. The function on which the cursor is currently positioned is marked with a bar. **The new setting will only be set after the "select" key has been pressed again.** The key "quit" or menu (22) leads back to the respective higher level. Therefore, it is also possible to quit the submenu without storing a new setting.

2.2 Auxiliary function
The key "help" activates an info-text for the respective setting. A practical short description of the addressed functions is stored there. To return to the main menu press the key "menu" (22).
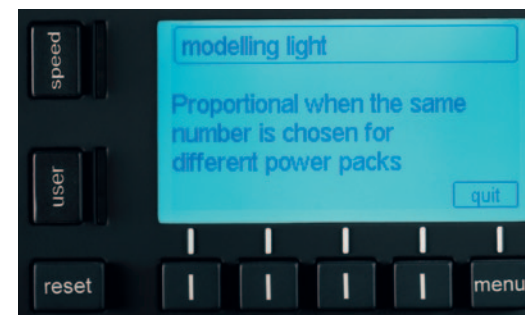
3. ENERGY CONTROL

Use the "▼/▲" keys (9.1,9.2,9.3*) to control the flash energy (flash intensity) on each individual outlet (1, 2 & 3*) within the respective range of f-stops. The entire energy, however, cannot exceed 1600 J respectively 3200 J. A value of 10 in the digital master power display (12) indicates maximum intensity, 1.0 respectively 0.1 minimum intensity (3 joules).

Whole numbers are full f-stops, decimals indicate 1/10 of a whole f-stop. Brief pressure on the keys "▼/▲" (9.1, 9.2, 9.3*, 10) runs the power up (or down) by a 1/10 f-stop level, prolonged pressure by a full f-stop. The digital display (12) then blinks until charging or discharging has reached the newly selected level and the "test" key light (16) goes out. An acoustic signal announces that the new energy level has been achieved.

Overview Power Range of Scoro E und S

3200 S		1600 S		3200 E		1600 E	
Energy	f-stop	Energy	f-stop	Energy	f-stop	Energy	f-stop
3200 J	10	1600 J	10	3200 J	10	1600 J	10
1600 J	9	800 J	9	1600 J	9	800 J	9
800 J	8	400 J	8	800 J	8	400 J	8
400 J	7	200 J	7	400 J	7	200 J	7
200 J	6	100 J	6	200 J	6	100 J	6
100 J	5	50 J	5	100 J	5	50 J	5
50 J	4	25 J	4	50 J	4	25 J	4
25 J	3	12 J	3	25 J	3	12 J	3
12 J	2	6 J	2	12 J	2		
6 J	1	3 J	1				
3 J	0.1						

3.1 Individual energy distribution (asymmetry) & flash cut-off
Scoro power packs incorporate an electronic flash cut-off system for all 3 channels. The units have two respectively three individual lamp outlets which can be controlled, with neutral colour (Enhanced Colour Temperature Control) over the whole range, and with asymmetry up to 6 f-stop intervals and independently of each other. The unit allows power selection in 1/10 and whole f-stop intervals.

3.2 Colour temperature control / Asymmetry (in case flash duration t 0.1 is optimal)*
All Scoro S units are equipped with an enhanced ECTC-process which ensures that no colour temperature shifts or double exposure can occur during individual power distribution. On partial power, the colour temperature of the set energy can be influenced by relative shifts in intervals of 200 K upwards or downwards (see section 13.5, "Colour temperature"). The control range of the colour temperature adjustment is increased when on reduced power.

Due to the direct dependence of colour temperature and flash duration, t 0.1 is automatically adjusted.

4. LAMP OUTLETS

The lamp outlets of the Scoro units are marked with the numerals 1 – 2 respectively 1 – 3. Lamp plugs and sockets have a mechanical locking device to prevent them from accidentally coming loose. When plugging in, ensure that the front part of the plug is inserted first, and after that the rear locking device locks completely into place. To release, press down the locking device spring under the cable guide and lift out the plug from the socket. The power pack must be switched off whilst plugging in and unplugging.

Each outlet may be switched individually (7.1, 7.2, 7.3*). The digital power distribution displays (11) indicate the set energy of each individual lamp. The digital master power display (12) indicates the total energy control range of all the connected or activated lamps.
In addition Scoro E shows the energy performance in Joules per connected lamp head.

It is unnecessary to disconnect a lamp when not in use, simply deactivate it by using the lamp outlet on/off switch. Energy can be asymmetrically allocated to the individual lamps until the maximum energy has been achieved. If an additional lamp is connected, and should the other lamps already be using the maximum energy, no more energy can be allocated to the newly connected lamp. By reducing the already set total energy, additional energy can be allocated to a further lamp.

4.1 Meaning of the digital displays (11)

Example with energy level "8.7":

> **"8.7" blinks**   flash monitor has detected a misfire
> **"—"**   lamp connected but switched off
> **" "**   no lamp connected
> **"-o"**   no energy allocation possible
>   (the entire energy has already been used up by other lamps)

5. MODELLING LIGHT

The "mod" key (15) switches on the modelling lamp for all connected lamps. When switched on, the blue LED next to the "mod" key lights up. The lamps have also an additional modelling lamp switch. Furthermore, it is possible to operate the modelling light proportionally (section 6.1) and adapt it to the various maximum outputs of broncolor power packs.

Pressing the "mod" key (15) (for 1 s) when the modelling lamp is on, will give direct access to the "full" mode. To return to the previous mode briefly press "mod" again.

⚠ **Attention: Please ensure that the modelling lamp voltage corresponds with the local mains (AC-line) voltage.**

5.1 Proportionality

The modelling light brightness can be set proportionally to the flash intensity.

Stages prop1, prop2, prop3, prop4 and prop5 are used to adapt the modelling light brightness of power packs with different output. The setting "modelling light proportional" duly allows for the output set, the number of lamps as well as a possible asymmetrical energy distribution of the Scoro power packs.

Proportionality is guaranteed if the identical operating mode has been set for all power packs. The higher the digit, the brighter the modelling light.

The following operating modes are possible:

"propmax"   When working with only a single power pack (in asymmetrical operation); using the setting "propmax", the modelling light of the lamp with the highest flash energy operates at full output, and the other lamps will be proportionally dimmed, in accordance with their power settings.

"full"   All lamps with full modelling light, independent of flash output, type of power pack and output distribution.

"low"   Lighting level reduced for all lamps to reduce power consumption and extend the service life of the halogen lamps.

"prop1-prop5"   These levels allow adapting the Scoro units to the proportionality of other broncolor power packs.

Note: If a power pack is used with less power, it is known that the halogen modelling light is relatively weak and yellowish. To solve this problem, all broncolor power packs may be operated with higher modelling light proportionality.

⚠ **Attention: The Scoro software automatically indicates in the LCD selection text the possible proportionality levels, and warns of sudden altered power settings made by the user. Important: The modelling lights of all the connected lamps are proportional when all the power packs (independent of their output) have the same proportionality level. This only applies when all the modelling lights have the same wattage.**

5.2 Reduced modelling light

To avoid overloading the mains supply (AC-line), the 100–120 V versions of the power packs reduce the modelling light intensity during charging. You can clear this factory-installed feature if the power rating of the mains supply (AC-line) is sufficient - see setting possibilities of the dimmer in section 13.12. When working on poor-quality mains supplies (AC-line) you can also slow down the charging rate with the additional function "charge time" – this reduces the risk of blowing the supply fuses (section 13.11).

During fast charging of Scoro, the modelling light is dimmed, with the exception of the lamp with the highest power, to avoid overloading the mains supply, even when no reduction/dimmer was set (section 13.12).

5.3 Modelling light switch on the lamp

The switch on the lamp is used to switch the modelling light on and off. To avoid damage to the lamp filament, always switch off the modelling light before moving the lamp.

6. RELEASE

6.1 RFS 2 Interface (Radio Frequency System)
Scoro power packs are supplied with built in RFS 2 radio release. The antenna is not visible as it is integrated into the handle. RFS 2 can be switched on or off with the key "ir/rf" (14). A flash control is activated via RFS 2 and IR by default. The definition of the IR/RFS key is entered in the LCD display under the position "Flash control" (section 13.13). The following settings are possible: IR/-, -/RFS 2, IR/RFS 2. Switching off the RFS 2, simultaneously deactivates all the RFS 2 functions from the camera transmitter.

For RFS 2 flash control, the channel (studio address) must correspond with the Transceiver's RFS 2 channel. The channel (studio address) is defined in the LCD display under "studio address" (section 13.15).The lamp (lamp address) is defined in the LCD display under "lamp address" (section 13.15).

With the RFS 2 Transceiver you can define and adjust the individual lamp outlets on the flash units as you wish. To make these adjustments, please follow the procedure given in the operating instructions for the RFS 2 Transceiver.

The RFS 2 Transceiver is not included in the power pack's scope of supply.

6.2 "test" key
This key (16) allows manual release of the power pack. Flash release is possible as soon as 70 % of the set energy is available.

The visual ready signal (16) however, lights up only when 100 % is available.

6.3 Photocell (cell)
The photocell can be switched on or off using the "cell" key (13). If it is activated, the blue LED next to the key lights up. After the first flash of a sequence, the active photocell will be deactivated and the blue info-LED next to the "cell" key (13) blinks. By pressing the "cell" key it is reactivated.

6.4 Sync socket
The synchronous cables art. no. 34.111.00 and 34.112.00 may be plugged into the sync socket (4) to trigger flashes via cable.

6.5 Flash triggering via infrared receiver (ir)*
The IR receiver can be switched on or off with the key "ir/rf" (14). If the function is activated, the blue LED next to the key lights up. A flash release is activated via RFS and IR by default. The definition of the IR/RF key is entered in the LCD display under "Flash control"(section 13.13). The following settings are possible: IR/-, -/RFS, IR/RFS.

Scoro power packs may be triggered by broncolor infrared transmitters. If the power pack is triggered via infrared, the flash release follows with a minimal time delay of approximately 0.8 msec.

6.6 Servor*
All broncolor infrared remote controls (servor) can cause inadvertent flash triggering. In this case, switch off the "IR" function (see section 13.13).

* Scoro S only

7. ☼ BRONCONTROL APP AND WIFI SETTINGS

In order to control your Scoro power pack you can download the app "bronControl" free of charge. You can find the app under the search term "bronControl" in the particular app store of Google, Apple and Microsoft. The app is available for smartphones, tablets and computers.

7.1 Operating modes

7.1.1 Operation in "private" mode (factory setting)

If the WiFi mode is activated on more than one Scoro WiFi / RFS 2, these units all link up automatically to form a private network. A smartphone, tablet or a computer must then be connected to this network in order to control it. To use this, activate the WiFi function on your device. It will then automatically search for available WiFi networks. Connect your device to the Bron-Studio network.

Factory setting:
- SSID: Bron-Studio XY
- Password: bronControl

Now start the bronControl app on your device and choose the appropriate Bron-Studio network.

For further instructions about operation, please use the help function ¨?¨ in the app.

7.1.2 Operation in "enterprise" mode

If there is an existing WiFi network (router), the unit can be integrated into this network using a smartphone, tablet or computer. To achieve this, in the ¨bronControl¨ app, under settings, go to ¨Network Settings¨ and enter your router's settings in ¨enterprise¨ mode. Make sure the units are set to the correct studio address. Scoro saves the last type of connection and tries to connect to the last network the next time it starts.

7.2 Menu settings
on/off/reset

on
WiFi module is activated. The unit tries to connect to a network.

off
WiFi module is deactivated.

reset
WiFi mode is reset on factory setting.

7.3 WiFi display on unit

Blinking   WiFi is activated, but not connected to a network
Permanently on   WiFi is activated and connected to a network

8. DISPLAYS VISUAL | AUDIBLE

8.1 The visual ready signal

This is the blue LED at the "test" key or ready display (16). It lights up only when the unit is fully charged or discharged. After triggering a flash, this LED goes out, and lights up again when the unit is fully charged once more.

The visual ready signal is easy to read even from larger distances. The brightness (dark/bright) can be altered by the user (see LCD menu "Brightness test" section 13.16).*

8.2 The audible ready signal

An acoustic signal (beep) sounds when the power capacitors are 100 % charged, or discharged. The signal may be switched on or off, and the volume may be regulated. The corresponding setting options are explained in LCD menu "Audio ready signal" (section 13.17).

When Scoro power packs are assigned an individual address, the acoustic signal can be programmed with an individual acoustic (beep) tone.

8.3 Visual fault signal

In case of a technical fault or activation of the flash monitoring, the test release key/ready signal (16) lights up red. Should the lamp plug not be correctly engaged, this will be indicated by the red test release key and the blinking digital display of the corresponding channel (11).

At the end of their service lives, flash tubes often misfire. This fault is indicated by the test release key of the Scoro power packs that lights up red. Additionally, the digital display (11) of the channel to which the lamp concerned is connected, blinks.

⚠️ **Attention: Check to see if the flash tube is in working order, and change if necessary.**

The blinking digital display of the channel concerned can be deactivated by pressing the key "lamp connection on/off" (7.1, 7.2, 7.3*).

If the fault indication is not caused by the lamp, the power pack must be switched off and on again. Should the test release key remain red, please contact a broncolor service station.

8.4 Audible fault signal

When the flash discharge fails, a warning signal (two-sound tone) of approx. 0.5 s duration will sound and the display (11) of the relevant lamp will flash.

8.4 Audible fault signal

When the flash discharge fails, a warning signal (two-sound tone) of approx. 0.5 s duration will sound and the display (11) of the relevant lamp will flash.

8.5 Audible messages
Clicking tone:
> Key sound (setting of volume is explained in section 13.18).

"Beep" tone:
> End of charging or discharging (setting of volume is explained in section 13.17).

"Double-beep" tone:
> Energy limit top or bottom when controlling energy via RFS/RFS 2 transmitter.
> Reset key pressed for 2 s (resetting of additional functions).
> Reset key pressed for 10 s (reset to factory settings).

"Two-sound" tone:
> Technical fault. Ready signal (16) lights red.
> Flash monitoring. The display of the lamp which has not fired lights up.
> Beginning and end of a thermal blocking procedure. Display in LCD.
> A suggestion appears on the LCD when setting changes are not possible with the previous specifications.

9. SPECIAL FUNCTIONS

9.1 Speed key*

Flash duration t 0.1 and charge time are reduced by pressing the speed key (17). Therefore, Scoro power packs are optimised for the shooting of moving objects and/or fast image sequences. As soon as the speed key is activated, the corresponding LED lights blue and the maximum flash energy is reduced from 1600 J to 1200 J, and the energy is reduced from 3200 J to 2400 J. In speed operation, the colour temperature is fractionally colder, however, consistent over the energy adjustment range.

The display of the maximum output (12) can be adjusted with the function "max. display" (see section 13.21).

9.2 User key*

When the user key (18) is "on" it activates the initial settings of a further operator. With this, Scoro A power packs can be individually configured for two users in which all the relevant functions and settings are separately stored, thus providing independent preference capabilities for multiple users.
Those functions, which are stored in standard or user mode, are shown in the two columns "mem" (memory) and "Standard/User" in chapter 13.

9.3 Memory functions*

In standard and user mode, there are each four own memories available. All the unit settings can be stored therein (see LCD function "memory 1 – 4" section 13.20). Selecting one of the four memories redirects to an information window in the LCD, in which the most important data of the corresponding memory are indicated. Pressing the "recall" key reinitializes the data in the memory. Pressing the "store" key overwrites the memory contents with the latest unit settings.

Those functions, which are stored in standard or user mode, are shown in the two columns "mem" (memory) and "Standard / User" in chapter 13.

9.4 Freemask / Alternate release*

With the Freemask function of Scoro S it is possible to generate a freemask. For this purpose two power packs are released asynchronously, for the background and the object to be isolated (section 13.8).

Alternate release enables to realise even faster shooting sequences. Alternate release also enables shorter sequences, up to four times faster, even with higher energy (see LCD function "Alternate", section 13.9). With the same function it is possible to reduce the interval of stroboscopic sequences down to a minimum of 0.01 s (section 13.6).

9.5 Easy mode*

You can minimize the operating display due turn on the easy mode. Please read the following instructions:
> Press the user key (18) for 5 s. The menu skips to the program setting "easy mode".
> Activate or deactivate the easy mode by pressing "on" respectively "off".
> Turn off and turn on the unit. The easy mode is now activated.

9.6 Reset key Scoro S
> Brief pressure on the reset key (19) advances the cursor directly to the main page. When pressing the menu key (22) the cursor returns to the beginning of the main menu.
> Pressing this key for approximately 2 s resets the flash additional functions. This is confirmed by a double-beep tone.
> Pressing this key for approximately 10 s resets all the functions to the factory settings. This is confirmed by a double-beep tone.

9.7 Reset Scoro E

Press the test key (16) for 4 s. The unit will reset all the functions to the factory settings.

9.8 Submenu Scoro E

To reach the submenu of the Scoro E please press the menu key (22) for 4 s. The correspondent functions will be more explained in chapter 14.

10. PROTECTIVE FACILITIES

10.1 Cooling

The cooling fan switches to a higher speed for a certain time after a few flashes.

10.2 Thermal overheating display

To protect against overheating after extended flash series, the unit will automatically switch off. At that stage, the following message will appear on the LCD display: "alarm: thermo" and the approximate time required for cooling. The cooling time is shortened if the unit remains connected and switched on.

10.3 Circuit breaker

In the event of an electrical malfunction, the circuit breaker (2) will automatically disconnect the power pack from the power source. The unit can be restarted by pressing the circuit breaker button. If it disconnects again immediately the power pack must be serviced by an authorised service station.

11. LAMP COMPATIBILITY

Almost all broncolor lamps are electrically compatible with the Scoro power packs. The most popular lamps, such as the Pulso and Unilite range, as well as Ringflash (C & P) may be used with the Scoro without any limitations. Particularly for the small lamps, there are thermal limitations which must be taken into consideration when using them with the Scoro power pack (see corresponding max J / min specifications. on the lamps).
For a detailed compatibility list please visit our website www.broncolor.com -> Downloads -> Compatibility Charts

12. 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. Therefore, always let our broncolor service station carry out repairs or service work.

Section	Function	Description of function	Selection possibility	Default value	Mem	Standard/User
13.0	WiFi	WiFi settings	on/off/reset	off		
13.1	Lamp outlets 1-3	Display of the activated lamp outlets in joules or percentage.	> joules ("J") > percentage ("%")	J	√	√
13.2	Modelling light	Choice of the modelling light level. See section 5.1.	> propmax > full > low > prop1 – prop5	prop3 for Scoro 1600 E/S prop2 for Scoro 3200 E/S	√	√
13.3	Sequence (seq)	Allows to define a flash series or the pre-selection of a defined number of flashes to be triggered together with the shortest possible intervals; provided that the "interval" function is not activated. After the flash series has been triggered, the photo-cell becomes deactivated. To prevent overheating after extended flash series (to protect the flash tubes), the unit will automatically shut off.	> off > +/– (number of flashes per series)	off	√	√
13.4	t 0.1 (flash duration)	Choice of flash duration t 0.1. The setting range is dependent on the selected power.	1600 S: 1/265 – 1/10'000 s 3200 S: 1/132 – 1/10'000 s	t 0.1/optimal color temp.	√	√
13.5	Colour temperature	Selection of colour temperature adjustment with simultaneous display of flash duration (see 13.4), on the main page. The setting range is dependent on the selected power.	> 400 K up to + 800 K	optimal color temp.	√	√
13.6	Interval (int)	Allows to define the time between each flash. By briefly pressing the +/– key, the setting is effected in 0.01 s steps. Prolonged pressure alters the values in 0.1 – 2 s steps. 50 s are the maximum for intervals.	> off > +/– (time between two flashes per series)	off	√	√
13.7	Delay (dly)	Delay triggering, this can be delayed in the range of 0.01s – 50.00 s.	> off > +/– (time between trigger signal and first flash)	off	√	√
13.8	Freemask (fm)	If 2 units are selected in the freemask menu: By asynchronous flashing with two power packs, an object can be isolated. For this purpose, one of the power packs must be set on "active", the other one on "wait". Hence, it is possible to make quasi two same pictures within a very short time while having set the correct camera shutter speed.	> number of units (2) > sequence (off, active, waiting)	2 off	√	√
13.9	Alternate (alt)	If more than 2 units are selected in the freemask menu: "ping-pong release" of up to 4 power packs. Here, using up to 4 power packs, you can determine the triggering sequence of these power packs, i.e. only one power pack is triggered per flash trigger signal while the others are waiting, or are being recharged. This function realises even faster flash sequences.	> number of units (3 – 4) > sequence (off, active, waiting)	off 3 – 4	√	√
13.10	Aux. backup	Auxiliary backup stores additional functions (sequence, flash duration t 0.1, colour temperature, interval, delay and alternate) when switching off or in case of a power grid cut.	> on > off	off		√

Section	Function	Description of function	Selection possibility	Default value	Mem	Standard / User
13.11	Charge time	Choice of charging time slow / fast. "Slow" for longer charging times as option for weak power grids and motor generators.	> fast > slow	fast	√	√
13.12	Dimmer	The modelling light is reduced (dimmed) during charging. This option provides protection in case of overloaded power grids or as a visual flash control.	> on > off	> on (100 – 120 V) > off (200 – 240 V)	√	√
13.13	Flash control	Selection of flash release: Radio and / or infrared.	> IR / RFS 2 (infrared & radio) > IR / -- (infrared only) > -- / RFS 2 (radio only)	IR / RFS 2		√
13.14	Cell sensitivity	Selection of photocell sensitivity.	> low > high	high		√
13.15	Studio Setup	To determine studio address or RFS 2 channel. The same channel must be set at the RFS 2 transmitter	1 – 99	1		√
		To determine lamp address (1/2/3). The same lamp address must be set at the RFS 2 transmitter	1 – 40	1		√
		Studio display: Studio and lamp addresses can be displayed on the main page of the LCD display.	> on > off	off		√
13.16	Brightness test	Brightness of the test key and visual ready display can be altered.	> dark > bright	bright		√
13.17	Audio ready signal	An acoustic ready signal sounds when the power capacitors are 100 % charged. The volume of the signal can be defined. With "standard" mode, each unit has the same signal. With "address" mode, the acoustic signal adapts itself to the unit number.	> volume: (off, low, medium, high) > mode (standard, address)	> "standard" mode > medium volume		√
13.18	Volume key sound	Setting of volume of acoustic tone when pressing the keys. 4 differents settings are available.	> off > quiet > medium > loud	quiet		√
13.19	Brightness display	The brightness intensity of all backlighting LEDs and LCD displays can be varied. 3 pre-defined settings are available and a variable function for automatic adjustment to the ambient light.	> high > medium > low > auto	auto		√

Section	Function	Description of function	Selection possibility	Default value	Mem	Standard/User
13.20	Memory 1–4	Stores and recalls the set unit functions. The marked positions are stored in the "Mem" column.	Each with store or recall	Last saved data		√
13.21	Max. display	Standardization of f-stop display of Scoro S whilst operating with power packs of different output levels. As max. power Scoro S indicate number 9. Further in "speed mode", the power reduction can be calculated with the power display, this means 9.6 for 2400 J for Scoro 3200 S, or 8.6 for Scoro 1600 S, respectively.	> maximum output level 9.0 or 10 (Scoro 1600 S) > speed max. 9.6 or 10 (Scoro 3200 S), or. 8.6 or 9.0 (Scoro 1600 S) on max. output level	10 9.6		√
13.22	Flash sequence	Fixed strobo-setting with the fastest possible flash sequence. This concerns all connected lamps.	> on > cancel	off		
13.23	Daily counter	Counts the number of flashes triggered since last reset of daily counter. A brief pressure on the "reset" key sets the counter back to 0.	> reset	Number of flashes since last reset of daily counter		
13.24	Flash counter	Counts the number of flashes triggered over the entire lifespan of the unit. It cannot be reset.	none	Number of flashes triggered since delivery ex factory		
13.25	Serial number	Individual serial number of the unit. Keep available in case of servicing/repair.	none	Serial number		
13.26	Program version	Current program version. Can be updated by our service department.	> Scoro > charge	Program versions		
13.27	Country	Static country code for specific service data.	none	Country code		
13.28	Delivery date	Distributors delivery date.	none	Date (mm/yy)		
13.29	Language	To simplify operation, you can choose between various languages. In numeric English the figures of the functions correspond to the LCD menu of the sub-sections of section 11. For example: "23 flash sequence" corresponds to the LCD menu from section 13.22 of the operating instructions	> English > German > Spanish > French > Italian > Swedish > Chinese > Japanese > Korean > Indonesien > Numerical/English	English or distributor setting		√

Section	Function	Description of function	Selection possibility	Default value	main menu	submenu
14.0	WiFi	WiFi settings	on/off/reset	off	√	√
14.1	Modelling light	Choice of the modelling light level. See section 5.1.	> propmax > full > low > prop1 – prop5	prop3 for Scoro 1600 E/S prop2 for Scoro 3200 E/S	√	
14.2	Sequence (seq)	Allows to define a flash series or the pre-selection of a defined number of flashes to be triggered together with the shortest possible intervals; provided that the "interval" function is not activated. After the flash series has been triggered, the photo-cell becomes deactivated. To prevent overheating after extended flash series (to protect the flash tubes), the unit will automatically shut off.	> off > +/– (number of flashes per series)	off	√	
14.3	t 0.1 (flash duration)	Choice of flash duration t 0.1. The setting range is dependent on the selected power.	1600 E: 1/265 – 1/8'000 s 3200 E: 1/132 – 1/8'000 s	t 0.1/optimal color temp.	√	
14.4	Charge time	Choice of charging time slow/fast. "Slow" for longer charging times as option for weak power grids and motor generators.	> fast > slow	fast	√	
14.5	Studio Setup	To determine studio address or RFS 2 channel. The same channel must be set at the RFS 2 transmitter	1 – 99	1		√
		To determine lamp address (1/2/3). The same lamp address must be set at the RFS 2 transmitter	1 – 40	1		√
		Studio display: Studio and lamp addresses can be displayed on the main page of the LCD display.	> on > off	off		√
14.6	Audio ready signal	An acoustic ready signal sounds when the power capacitors are 100 % charged. The volume of the signal can be defined.	> on > off	> on		√
14.7	Volume key sound	Setting of acoustic tone.	> on > off	> on		√
14.8	Serial number	Individual serial number of the unit. Keep available in case of servicing/repair.	none	Serial number		√
14.9	Program version	Current program version. Can be updated by our service department.	> Scoro > charge	Program versions		√
14.10	Country	Static country code for specific service data.	none	Country code		√
14.11	Delivery date	Distributors delivery date.	none	Date (mm/yy)		√
14.13	Language	To simplify operation, you can choose between various languages. In numeric English the figures of the functions correspond to the LCD menu of the sub-sections of section 11. For example: "23 flash sequence" corresponds to the LCD menu from section 13.22 of the operating instructions	> English > Chinese > German > Japanese > Spanish > Korean > French > Indonesien > Italian > Numerical/English > Swedish	English or distributor setting		√

	Scoro 1600 S WiFi / RFS 2 | 31.046.XX	Scoro 3200 S WiFi / RFS 2 | 31.047.XX
	Normal mode	Normal mode
Flash energy	1600 J	3200 J
f-stop at 2 m , 100 ISO, reflector P70	64 2/10	90 2/10
Flash duration t 0.1 / t 0.5 fastest max. energy	1/10'000 s / 1/14'000 s 1/265 s / 1/760 s	1/10'000 s / 1/14'000 s 1/132 s / 1/390 s
Charging time 230 V (min.- max. energy) 120 V 100 V	0.02 – 0.6 s 0.02 – 1.0 s 0.02 – 1.1 s	0.02 – 1.3 s 0.02 – 2.0 s 0.02 – 2.2 s
	Switchable to slow charge	
	Speed mode	Speed mode
Flash energy	1200 J	2400 J
f-stop at 2 m, 100 ISO, reflector P70	45 9/10	64 9/10
Flash duration t 0.1 / t 0.5 fastest max. energy	1/10'000 s / 1/14'000 s 1/535 s / 1/1'600 s	1/10'000 s / 1/14'000 s 1/285 s / 1/860 s
Charging time 230 V speed modus 120 V (min.- max. energy) 100 V	0.02 – 0.4 s 0.02 – 0.6 s 0.02 – 0.7 s	0.02 – 0.8s 0.02 – 1.2 s 0.02 – 1.4 s
Ready display	Visual and audible (can be switched off), activated when 100 % of the selected energy is reached	
Lamp outlets	3 outlets with flash cut-off and ECTC	
Power distribution	Symmetrical and individually asymmetrical	
Control elements	Dust and scratch-resistant, illuminated silicone keypad, setting by radio remote control	

	Scoro 1600 S	Scoro 3200 S
Control range for flash energy	over 10 f-stops	over 11 f-stops
	in 1/10 or whole f-stop intervals. LCD display in joules / percentage.	
Colour temperature	ECTC technology (Enhanced Colour Temperature Control) for constant or specifically adjustable colour temperature	
Modelling light	Halogen max. 3 x 650 W at 200 – 240 V Halogen max. 3 x 300 W at 100 – 120 V Proportional to flash energy, also full and low settings. Proportionality can be adapted to other broncolor power packs and to monolights.	
Additional functions	t 0.1, sequence, delay, interval, colour temperature, alternating, stroboscopic, memory and many more	
Flash release	Manual release button, photocell, infrared, RFS 2 receiver (may be switched off), sync cable, IRX 2	
No. of sync sockets	1	1
Computer connection for remote control (RFS only)	1	1
Stabilised flash voltage	+/– 0.3 %	+/– 0.3 %
Power requirements 230 V 120 V 100 V	16.0 A 15.0 A 15.0 A	16.0 A 15.0 A 15.0 A
WiFi	802.11 b/g/n, Encryption: Open/WPA/WPA2	
Dimensions without handle	28.8 x 19 x 29.5 cm 11.3 x 7.5 x 11.6"	28.8 x 19 x 40 cm 11.3 x 7.5 x 15.7"
Weight*	9.8 kg / 21.6 lbs	12.8 kg / 28.2 lbs

		Scoro 1600 E WiFi / RFS 2 | 31.066.XX	**Scoro 3200 E WiFi / RFS 2 | 31.067.XX**
Flash energy		1600 J	3200 J
f-stop at 2 m , 100 ISO, reflector P70		64 2/10	90 2/10
Flash duration t 0.1 / t 0.5 **fastest** **max. energy**		1/8'000 s / 1/12'000 s 1/265 s / 1/760 s	1/8'000 s / 1/12'000 s 1/132 s / 1/390 s
Charging time **(min.- max. energy)**	**230 V** **120 V** **100 V**	0.06 – 1.0 s 0.06 – 1.4 s 0.06 – 1.5 s Switchable to slow charge	0.06 – 1.7 s 0.06 – 2.4 s 0.06 – 2.6 s
Ready display		Visual and audible (can be switched off), activated when 100 % of the selected energy is reached	
Lamp outlets		2 outlets with flash cut-off and ECTC	
Power distribution		Symmetrical and individually asymmetrical	
Control elements		Dust and scratch-resistant, illuminated silicone keypad, setting by radio remote control	
Control range for flash energy		over 8 f-stops	over 9 f-stops
		in 1/10 or whole f-stop intervals. LCD display in joules / percentage.	
Colour temperature		ECTC technology (Enhanced Colour Temperature Control) for constant colour temperature	
Modelling light		Halogen max. 2 x 650 W at 200 – 240 V Halogen max. 2 x 300 W at 100 – 120 V Proportional to flash energy, also full and low settings. Proportionality can be adapted to other broncolor power packs and to monolights.	
Additional functions		t 0.1, sequence	

Flash release		Manual release button, photocell, RFS 2 receiver (may be switched off), sync cable	
No. of sync sockets		1	1
Computer connection for remote control (RFS only)		1	1
Stabilised flash voltage		+/– 0.5 %	+/– 0.5 %
Power requirements	**230 V** **120 V** **100 V**	16.0 A 15.0 A 15.0 A	16.0 A 15.0 A 15.0 A
WiFi		802.11 b/g/n, Encryption: Open/WPA/WPA2	
Dimensions without handle		28.8 x 19 x 29.5 cm 11.3 x 7.5 x 11,6"	28.8 x 19 x 40 cm 11.3 x 7.5 x 15.7"
Weight*		9.6 kg / 21.2 lbs	12.6 kg / 27,8 lbs

* incl. dust protection cover, power cord and manual

17. ENVIRONMENTAL PROTECTION INFORMATION

When no longer in use, this product may not be deposited in the normal household waste but should be brought to a collection point for the recycling of electrical and electronic appliances.

The materials are recyclable as marked. By re-use, recycling or another form of using old appliances you are making an important contribution towards the protection of the environment. Please ask your local authorities for the appropriate disposal point.

18. 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.

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

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.

Pulso G
1600 J: 32.115.XX
3200 J: 32.116.XX

Balloon
33.161.00

Reflector "Beauty Dish"
Reflektor "Beauty Dish"
Réflecteur "Beauty Dish"
33.111.00

Litestick
32.451.00 (5500 K*)

Picolite
32.021.00

Ringflash C
32.462.XX

Pulso Adapter for Picolite / Mobilite 2
Pulso Adapter zu Picolite / Mobilite 2
Adaptateur Pulso pour Picolite / Mobilite 2
33.501.00

Honeycomb grids for Ringflash C, 3 pieces
Wabenraster zu Ringflash C, 3 Stück
Grilles en nid S d'abeilles pour Ringflash C
33.219.00

Attachment with 3 honeycomb grids and 2 aperture masks
Vorsatz mit 3 Wabenrastern und 2 Lochmasken
Adaptateur avec 3 nids d'abeilles et 2 masques à trou
for / zu / pour Picolite / Mobilite 2
33.204.00

Boxlite 40
32.341.XX (5500 K)

Fresnel spot attachment for Picolite / Mobilite 2
Fresnel-Spotvorsatz zu Picolite / Mobilite 2
Adaptateur spot Fresnel pour Picolite / Mobilite 2
33.631.00

Projection attachment for Picolite
Projektionsvorsatz zu Picolite
Adaptateur de projection pour Picolite
33.641.00

Para 88 P Kit
33.483.00

Para 88 Reflector
33.482.00

Picobox for Picolite
Picobox zu Picolite
Picobox pour Picolite
33.128.00

*guarantees neutral colour reproduction, garantiert eine neutrale Farbwiedergabe, assure une reproduction neutre des couleurs

broncolor®
THE LIGHT

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