

Operating instructions



Minicom 40 / 80

www.broncolor.com

Operating Instructions

brncolor Minicom 40 / 80

Before use

We are very pleased you have chosen a broncolor Minicom compact unit which is a high-quality product in every respect. If used properly, it will render you many years of good service.

Please read the information contained in these operating instructions carefully. They contain important details on the use, safety and maintenance of the appliance. Keep these operating instructions in a safe place and pass them on to further users if necessary. Observe the safety instructions.

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Important safety instructions

This unit is designed for professional photography and is to be handled by skilled staff only. When using your studio flash 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. For safety reasons, never operate the appliance without the protecting glass in place.
8. Always unplug appliance from electrical socket before cleaning and servicing and when in use. Never jerk cable to pull plug from socket. Grasp plug and pull to disconnect.
9. Let appliance cool completely before putting away.
10. When putting away and winding up cables, take care they do not get in contact with hot parts of the appliance.
11. To reduce the risk of electric shock, do not immerse this appliance in water or other liquids.
12. 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.
13. To avoid a risk of fire, electric shock or any injuries to persons, use only accessories which are recommended by the manufacturer.
14. Connect this appliance to an earthed socket.

Attention:

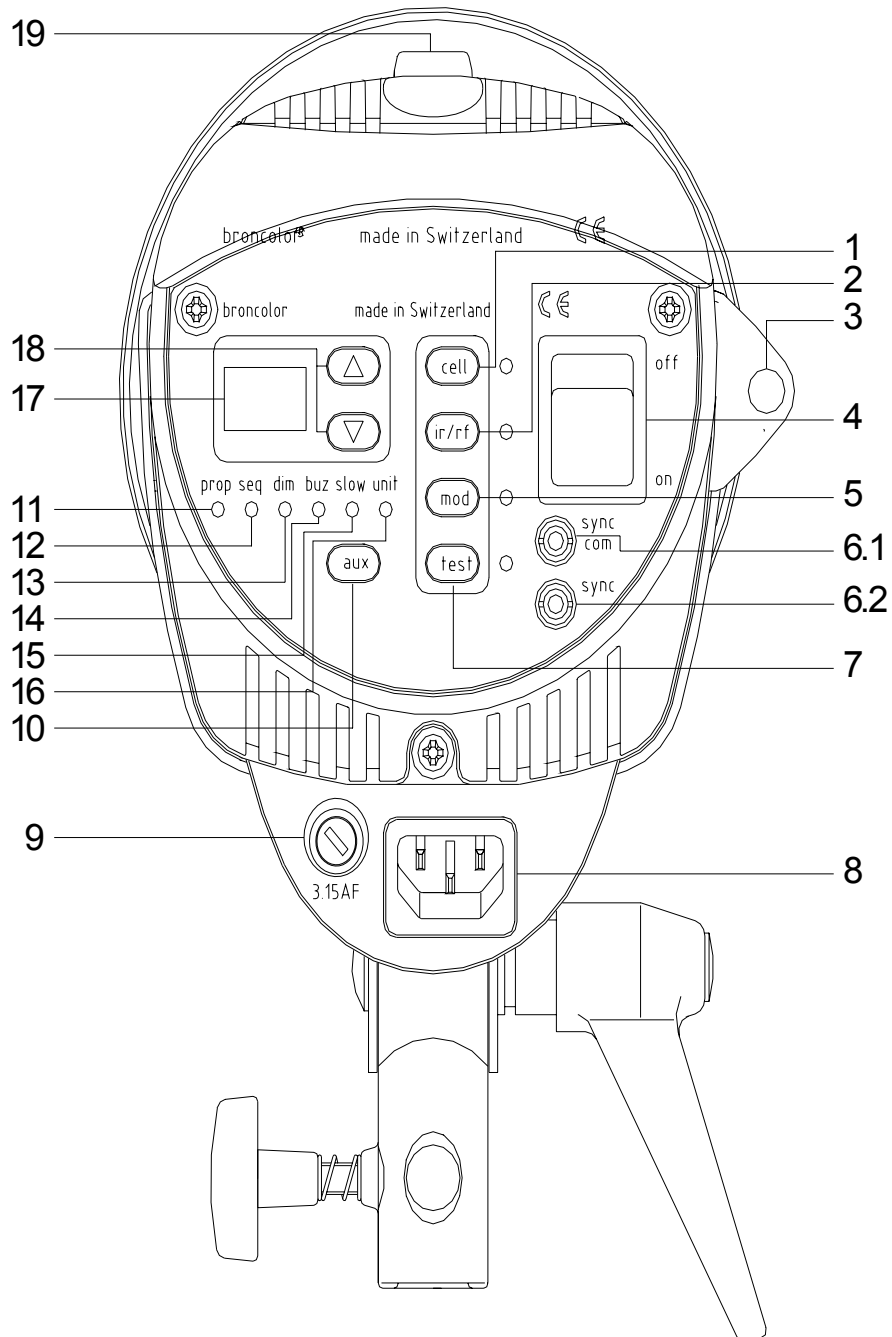
Read before starting up the compact unit

- Prior to replace fuses, modelling lamp or flash tubes, discharges the unit and disconnect it immediately from power supply. Prior to replacing the modelling lamp or flash tube, let the unit cool down for a period of 10 minutes.
 - The unit is designed for use in dry conditions. Protect it from water and from excessive exposure to dust.
 - The unit is not suitable for use in an environment where there is a risk of explosion.
 - The accessories mounted onto the compact unit may heat up to high temperatures under specific conditions. Handle with care.
 - With due allowance for heat radiation, units with more than 100 W modelling light may be directed against inflammable surfaces only at a minimum distance of 1 meter.
 - For safety reasons, never operate the unit without protecting glass in place.
 - Flash light contains, similar to sunlight, a specific portion of UV light. The undesirable side effects on skin and eyes are considerably reduced by using flash tubes and glass covers 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 shops.
 - Do not block the cooling louvers on the unit
 - Only fuses of the type indicated on the safety label may be used. This is especially important for the halogen lamp which can explode when used with the wrong fuse.
- Only use sand-filled fuses. They can be identified by their opaque fuse container.

Controls and displays

1. Photocell on/off
2. IR-receiver and/or RFS-Interface on/off
3. Umbrella holder
4. Mains switch on/off
5. Modelling light on/off
- 6.1 Sync socket (when required, usable as connection socket for computer link)
- 6.2 Sync socket
7. Test release, ready display green
8. Connection socket for mains cable
9. Fuse
10. Auxiliary functions (aux)
11. Operating mode modelling light
12. Flash sequence
13. Charging dimmer
14. Buzzer
15. Slow charge
16. Appliance address (for Minicom 40 RFS / Minicom 80 RFS)
17. Digital flash energy display
18. Energy control up/down
19. IR-receiver and photocell

Front panel for Minicom 40 / 80



1. Application Minicom

This mains supplied studio flash unit is designed for professional photography only. In countries with earthed mains systems, use a three-wire extension cable when required.

2. Start up

2.1 Mains voltage

The compact units Minicom 40 and Minicom 80 are available in two different versions:

a) As a bi-voltage-unit, of which the technical data are optimised for a mains voltage of 200 - 240 V. If this version is operated with a mains voltage of 100 – 120 V, the following restrictions result:

Mains voltage 120 V: doubling of the charging time

Mains voltage 100 V: doubling of the charging time as well as reduction of the maximum flash energy of 250 J (Minicom 40) respectively 500 J (Minicom 80), extension of the flash duration by 20 %

b) As a bi-voltage-unit, of which the technical data are optimised for a mains voltage of 120 V. If this version is operated with a mains voltage of 200 – 240 V or 100 V, the following restrictions result:

Mains voltage 230 V: doubling of the charging time

Mains voltage 100 V: Extension of the charging time by 20% as well as a reduction of the maximum flash energy of 250 J (Minicom 40) respectively 500 J (Minicom 80), extension of the flash duration by 20 %

Attention: The operating voltage of the modelling lamp must correspond to the mains voltage.

2.2 Earthed mains

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

2.3 Start up

In the proximity of the halogen lamp, the unit, depending on the accessories used, can acquire high temperatures. For this reason, we recommend to touch the unit only on the rear handle or on the stand adapter. Due to the intense heat radiation when a modelling light is in operation, keep the unit at a minimum distance of 1 meter from flammable surfaces.

- 1.) Remove the transparent plastic cap by turning and releasing the unlocking slide at the same time. Insert modelling lamp and flash tube as per instructions in chapter 8. Put on the protecting glass as well as the desired light shaper and turn in any direction.
- 2.) Please check that the mains supply corresponds to the information on the label of the unit. Connect unit to earthed mains.

- 3.) Switch on the unit with the mains switch (4). During charging, the digital flash energy display (17) flashes, afterwards the value is indicated continuously. Additionally the green control lamp of the ready display (7) is illuminated.
- 4.) Set the desired flash energy by means of the energy control keys "up / down" (18).
- 5.) Switch IR-receiver, photocell or RFS-interface on or off depending on the exposure situation.
- 6.) If required, plug in synchronous cable in one of the sync sockets (6.1) or (6.2).

3. Energy control

Use the „up/down“ keys (18) to control the flash energy (flash intensity) within a range of 4 f-stops. A value of 10 indicates maximum intensity, 6 the minimum. Whole numbers correspond to whole f-stops, decimal places to tenth f-stop steps. There is the option, to extend the control range up to 5 f-stops (see chapter 11), where in the underneath range a slightly higher exposure-tolerance has to be expected. Brief pressure on the energy control keys "up/down" (18) changes the setting by a 1/10 interval, prolonged pressure by 1/1 f-stop interval. The energy display (17) then flashes until charging or discharging have stabilized the new level of energy.

4. Modelling light

4.1 General

The Minicom units are equipped with a halogen modelling lamp. The modelling light is switched on by the key "mod" (5). When switched on, the green diode lights up. To protect the lamp filament from damage, it is advisable to switch off the modelling lamp when handling the compact unit.

In chapter 7 you can find the instructions how to set the different operating modes (modelling light proportionality).

Attention: The operating voltage of the modelling lamp must correspond to the mains voltage.

4.2 Proportionality

The brightness of the modelling light can be set proportionally to the flash intensity. To assure proportionality also when units with different power output ratings are operated together, the units have various proportionality levels. Proportionality is guaranteed if the identical prop level has been set for all units. The higher the digit, the brighter the modelling light.

The following operating modes are possible:

"P" This level can be set if either only Minicom 40 or only Minicom 80 are in use (most intense proportional modelling light). That means, the modelling light is proportional to the energy level 300J respectively 600J.

- “P1“ Proportional modelling light with broncolor power packs rated 6400 J.
- “P2“ Proportional modelling light with broncolor power packs rated 3200 J.
- “P3“ Proportional modelling light with broncolor power packs rated 1600 J.
- “P4“ This proportionality level is optimised for an output level of 800 J. Recommended modelling light when using Minicom 80 in combination with Minicom 40.
- “P5“ If an unit is operated at a lower output level, the modelling light will be relatively weak and yellowish. To counteract this problem, the Minicom compact units are equipped with the additional modelling light proportionality level “P5“. It is optimised for the output level 400 J and less. Thus the brightness of the modelling light can be increased.
- “HI“ The unit operates at full modelling light, independent of flash output.
- “LO“ The unit operates at lower lighting level, independent of flash output, to reduce power consumption and extend the service life of the halogen lamps.

Pressing the “mod“ key (5) for 1 second when the modelling light is on, will give direct access to the “HI“ mode. To return to the previous mode briefly press the “mod“ key.

4.3 Replacing the halogen lamps

Before replacing the halogen lamp, it is essential to discharge the unit by flashes, immediately afterwards, disconnect it from the power supply.

The halogen lamps are plug-in types. First the protecting glass has to be pulled off carefully in an axial direction (avoid tilting). The protecting glasses for the compact unit Minicom have a marking line and the glass rim has 2 grooves. When removing the protecting glass from the unit the marking line must be situated at the top. Taking into consideration the service life, the halogen lamp should not be touched with bare hands. To exchange the lamp, it must be pulled out of the plug socket in an axial direction.

When inserting, ensure that the lamp is fully pushed back in. When engaging the protecting glass into the locking mechanism of the Minicom compact unit, the marking line must be situated at the top. After having engaged the protecting glass, it must be slightly turned, to prevent accidental loosening.

5. Release

The flash release is enabled when 75% of the selected energy is available. Please note however, that the ready indicator is activated only at 100% charge (Kap. 6). The release is possible by means of a sync cable, infrared, photocell, or “test“ key.

When releasing via the photocell or the IR-receiver, ensure that the receiving cell of the unit is not obstructed by obstacles.

The appliance has a synchronous circuit with a low onload voltage to protect your camera contact. The synchronous circuit may not be connected in parallel with products of other manufacturers which operate with high synchronous voltage.

5.1 Photocell

The photocell can be switched on or off by using the "cell" key (1). If it is activated the green LED lights up. After a flash sequence, an active photocell will be blocked and the green LED blinks. By pressing the "cell" key, the photocell is reactivated.

5.2 Infrared receiver / RFS-interface (ir/rf)

The IR receiver and, if available, the RFS interface can be switched on and off with the key „ir/rf“ (2). Optionally it can be established, if with this key, every time, both functions (IR and RFS) or just one of the two can be switched on or off (see chapter 11). Is one or both functions active, the green display lights up.

5.3 Infrared flash release channel

The Minicom compact units can be released with broncolor infrared transmitters. When the unit is triggered via infrared, the flash release is effected with a time delay of 1/1000 s.

The IR receiver integrated in the unit is used for a wireless release by with following units:

- IRQ transmitter
- IRX 2 transmitter
- FCM 2 lightmeter and contrast photometer
- FCC colour temperature measuring unit

5.4 Sync sockets

The synchronous cables, art. no. 34.111.00 respectively 34.112.00, may be plugged into the sync sockets (1) or (2) to release flashes via cable

5.5 "Test" key

This „test“ key (7) allows manual release of the compact unit Minicom. The respective LED lights up when the flash voltage corresponds exactly to the selected value. During charging and discharging the LED goes out and the flash energy display (17) blinks.

6. Ready display visual /audible

6.1 **The visual ready display** is the green LED at the „test“ key (7). It lights up only when unit is at 100% charge. After releasing the flash this LED goes out until the unit is fully charged again.

6.2 **The audible ready signal** „buzzer“ sounds when the unit is at 100 % charged. It may be switched on or off (chapter 7).

6.3 **Audible fault signal**

When the flash discharge fails, a warning signal of approx. 3 s duration will sound and the flash energy (17) of the compact unit will flash.

7. **Setting additional functions**

The “aux“ key (10) is used to set the additional functions. With repeated actuation of the key the following modes can be selected:

- Setting proportionality level of the modelling light LED “prop“ blinks (11)
- Define sequence (serial flashes) LED “seq“ blinks (12)
- Charging dimmer switch on / off LED “dim“ blinks (13)
- Buzzer switch on / off LED “buz“ blinks (14)
- Slow charge switch on / off LED “slow“ blinks (15)
- Setting appliance address / studio address LED „unit“ blinks (16)
- 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 (10) or automatically after a waiting period of approx. 30 seconds.

To select the additional functions and appliance settings, choose the respective LED (e.g. „charging dimmer switch on/off). The digital display (17) will then show the actual selected value which can be changed by the energy control keys „up/down“ (18). If a setting is entered which deviates from the standard setting value or a function is activated, 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 **Setting proportionality level of the modelling light (prop)**

The proportionality level of the modelling light can be selected by briefly pressing the energy control keys „up/down“ (18).

With repeated actuation of the key the following modes can be set, each shown respectively on the digital display (17): LO, P, P1, P2, P3, P4, P5, HI.

7.2 **Sequence (serial flashes) (seq)**

This function allows to set a defined number of flash discharges from 1 to 50. By briefly pressing the energy control keys „up/down“ (18) the required number of flashes can be selected.

With a long pressure on the energy control keys “up/down”, the setting changes in intervals of ten. Each release signal triggers the selected number of flashes. A current sequence can be aborted by a long pressure on the energy control keys “up/down” or by switching off and on again the unit. The function is switched off, by setting the number of flashes to „0“.

7.3 Charging dimmer / boost function (dim)

The „dim“ function can be switched on or off (on/--) by briefly pressing the energy control keys “up/down” (18). When switching on the “dim” function with the modelling light on (green LED of the “mod” key (5) lights up), the modelling light switches off while charging takes place. This feature allows visual flash control, to fade out the modelling light during flash sequences or to reduce the current load on weak mains.

If the “dim” function is activated when the modelling light is switched off (green LED of the “mod” key (5) is off), the boost function will be activated. In this mode, the modelling light remains on as a visual flash monitor during charging.

7.4 Buzzer switch on/off (buz)

The ready buzzer signals when the unit is at 100 % charge. The buzzer is switched on or off (on/--) by briefly pressing the energy control keys “up/down” (18). The warning signal also functions with the buzzer switched off.

7.5 Slow charge switch on/off (slow)

In case of weak mains power supply lines, charging time may be extended to approx. double the standard value. The slow charge mode is switched on or off (on/--) by briefly pressing the energy control keys “up/down” (18).

7.6 Studio / appliance address (unit)

The compact units Minicom are also available as versions with built-in RFS Interface (Radio Frequency System). For remote control respectively flash release via radio, an individual appliance address and a studio desk top (remote control channel) can be assigned to each RFS unit by means of the function “unit” (16).

To carry out the settings, dial the LED „unit“ using the „aux“ key (10). The digital display (17) shows the letter “U”, followed by an appliance number between 1 and 8. By briefly pressing the energy control keys “up/down” (18), the required value can be selected. When pressing again the “aux” key, the digital display shows the letter “C”, followed by a studio number between 1 and 8. By briefly pressing the energy control keys “up/down”, the required value can be selected.

8. Flash tube

The flash tube is coated to ensure an optimal colour temperature. For your security, only original flash tubes must be used. For safety reasons, never operate a unit without protecting glass in place.

8.1 Replacing the flash tube

The flash tube is a plug-in type. To replace the flash tube, discharge the unit by flashes, disconnect it from power supply and let it cool off for ten minutes (to discharge the flash capacitors)

- 1.) The protecting glasses for the compact unit have a marking line and the rim of the glass has 2 grooves. When taking off the protecting glass of the unit the marking line must be situated at the top. Pull off the protecting glass carefully in an axial direction. (Avoid tilting).
- 2.) Press the spring radially inward and pull the flash tube out of the socket in an axial direction (do not touch the flash tube with bare hands)
- 3.) Insert the new flash tube and press the spring radially inward. When inserting ensure that the ceramic socket is fully pushed back in. The spring serves as well as contact and prevents accidental loosening of the flash tube.
- 4.) Replace the protecting glass. When engaging the protecting glass into the locking mechanism of the Minicom compact unit the marking line must be situated at the top. After having engaged the protecting glass it must be slightly turned to prevent accidental loosening.
- 5.) Connect the unit to the power supply, now it is ready for use again.

9. Protecting glass

For safety reasons, never operate a unit without protecting glass in place.

10. Fuse

The fuse (9) is located on the rear of the unit. Sand-filled fuses with value 3.15 AF may only be used (sand-filled fuses can be identified by their opaque fuse container). Using wrong fuses is dangerous; it may cause the halogen lamp to burst. Original broncolor replacement lamps are therefore delivered with the correct fuse.

11. Basic settings ex work

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

When the unit is switched on, simultaneously press the “mod” (5) and “aux” (10) keys for approx. 5 seconds (the LED array “prop” / “seq” / “dim” / “buz” / “slow” / “unit” blinks to indicate that you are in the programming mode).

Additionally the LED of the “mod” (5) key is lit. The digital display (17) shows the function number 0. The other function numbers can be selected by pressing the energy control keys “up/down” (18).

By briefly pressing the “aux” key, the digital display shows the actual value respectively the actual setting within the selected function number. The LED of the “mod” key does not light up in this mode. Within the function numbers 1, 2, 3 and 9, the settings can be changed with the energy control keys “up/down”.

Concerning the function numbers 0 and 4 – 8, the different pairs of these multiple digit values can be shown by means of the energy control keys “up/down”.

Return to normal operation by pressing (1 s) the “aux” key, by switching the unit off and on again or automatically after a period of 20 seconds.

Function number	Meaning and possible settings
0	<u>Program version:</u> Standard display <u>Program number:</u> after pressing the energy control „down“ key
1	<u>Control range flash energy:</u> Setting ex work: "off" (--). Display "on" the control range of the flash energy is extended on to 5 f-stops (10 - 5.0).
2	<u>Sensibility of the photocell:</u> Setting ex work: "on" This function reduces the sensibility of the photocell. If the function is activated the digital display shows the value “off”.
3	<u>Definition function „ir/rf“:</u> Setting ex work: digital display shows the value "3" = IR receiver and RFS Interface (if available) activated. Display value “1” = only IR receiver activated Display value “2” = only RFS Interface activated.
4	<u>Flash counter:</u> Figure group in the display: xxxxXX = standard display Figure group in the display: xxXXxx = after pressing the energy control „up“ key Figure group in the display: XXxxxx = after pressing the energy control „up“ key
5	<u>Series number</u> of the unit: Figure group in the display: xxXX
6	<u>Series number</u> of the unit: Figure group in the display: XXxx
7	<u>Production date</u> of the unit: Figure group in the display: xxXX = month
8	<u>Production date</u> of the unit: Figure group in the display: XXxx = year
9	<u>Reduction of the modelling light:</u> Setting ex work: “off” (--) The activation of this function is recommended on power mains with great fluctuations. The voltage for the modelling lamp is reduced (light output ./ 1/3 f-stop), which results in a longer service life of the halogen lamp. If this function is activated, the digital display shows the value “on”.

12. Protective facilities / Fault indication

12.1 Cooling fan

The cooling of flash tube, modelling lamp and internal electronics is effected by a cooling fan. It also runs when the modelling light is turned off. The cooling works on two levels, the fan runs smoothly when small flash sequences are effected. With longer flash sequences, the cooling fan switches to the higher level.

12.2 Display “th”

If excessively high temperatures build up inside despite the fan cooling, the charge mode will be blocked and a long audible signal will be generated. The modelling light is blocked as well for about 6 minutes. The digital display shows the indication “th” during the cooling period. The cooling process is accelerated by the fan which is still in operation.

Attention: Do not switch off the unit during the cooling period! If the unit is switched off too early, only a small number of flashes can be effected until the next blackout, when switching on again the unit, despite a long break, because the processor could not completely pursue the cooling process.

12.3 Display “A1”

The unit is equipped with an automatic afterglow blackout. If the flash tube exhibits (e.g. at the end of its service life) afterglow, this blackout will block further charging to prevent consequential damage. This status is also discernible by the ready display, which is no longer green. The blackout can be cancelled by switching the unit off and on again.

12.4 Display “A2”

This indication is shown, when the unit is overcharging. Switch off the unit and switch it on again after a few minutes. If this fault continues to exist, please contact an after-sales service centre

12.5 Acoustic flash monitoring

At the end of their service life, flash tubes often have triggering interruptions. This fault is indicated by an audible, intermittent signal. The signal disappears when the flash tube flashes properly again or the unit is switched off.

12.6 Monitoring of the modelling light

If the compact units Minicom are connected to 200 V – 240 V mains voltage, after previously having been operated on 100 V - 120 V mains voltage, they will release an audible signal and the modelling light will blink at a safely reduced voltage. This function serves as a reminder that the modelling lamp must be exchanged, and also to protect against damage of the lamp. Switch the unit off and on again to return to standard operation.

13. Car battery converter

If no mains power is available the 12 V-car battery converter can be used to charge the unit (**only for 230 V units**). The modelling light cannot be used in this operating mode (excessive load on the battery) and must be removed.

- Switch off the modelling light and remove the halogen lamp
- Connect the converter with the + and – connector clamps to the 12 V car battery.
- Connect the unit to the converter and switch on the unit and the converter
- Switch off the converter during pauses after flash work. Charge battery if needed by allowing the car engine to run.

Two compact units Minicom can be connected to one converter. Approx. 200 flashes of 300 J respectively 100 flashes of 600 J are possible with a fully charged battery.

14. Mounting

The stand adapter is located below the housing. The adapter is designed for standard broncolor[®] bolts (12 mm) and Manfrotto[®] pins (16 mm).

Make sure the unit is firmly attached to the stand before operating. The click-stops of the locking handle can be adjusted by pulling it out.

There are three possibilities for suspended mounting:

- a) The bracket of the compact unit is mounted upwards. To this purpose, dismount the bracket by removing the locking lever as well as the two retaining screws at the side of the unit. Turn over the bracket by directing the stand support upwards. Afterwards insert the bracket in the lower guide rail of the housing and re-insert the locking lever as well as the two retaining screws. In this case the enclosed locking pin must be screwed into the lower part of the stand adapter. This is not required for stand mounting. In this kind of suspended mounting, compared with the following option, the front panel of the unit is still readable (instead of hanging upside down) and the cooling efficiency is not reduced.
- b) It is also possible to tilt the compact unit to enable mounting of the bracket with upwards directed stand support. Also in this case the enclosed locking pin must be screwed into the lower part of the stand adapter.
- c) An alternative bracket for suspended mounting is available under art. no. 35.228.00. The above mentioned instructions are also valid for this application.

Attention: A safety cable must be installed whenever the unit is suspended.

15. Umbrella holder

Diffusing and reflex umbrellas are used in conjunction with the umbrella reflector (art. no. 33.496.00). The umbrella bar is inserted into the special holder in the stand adapter.

16. Accessories

By using the Pulso-bajonet the whole range of broncolor reflectors is at your disposal. You will find the complete overall view in the broncolor system catalogue „creative work with light and with system”.

17. Service / repair

Your broncolor compact unit 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.

18. Technical data

	Minicom 40	Minicom 80
Flash energy	300 J (100 V: 250 J)	600 J (100 V: 500 J)
F-stop in 2 m distance 100 ISO, reflector P50 // P70	32 5/10 // 22 5/10 (100 V: 32 2/10 // 22 2/10)	45 5/10 // 32 5/10 (100 V: 45 2/10 // 32 2/10)
Flash duration t 0.1 (t 0.5)	1/900 s (1/2500 s) with mains voltage 110 – 240 V Flash duration with mains voltage 100 V: ca. 20% longer	1/420 s (1/1500 s) with mains voltage 110 – 240 V
Charging time (for 100% of the selected energy)	230 V / 50 Hz: 0,3 – 0,9 s 120 V / 60 Hz: 0,3 – 1,2 s 100 V / 50 Hz: 0,3 – 1,5 s Can be switched to slow charge mode Attention: The above mentioned charging times do not apply to units being operated on alternative mains voltages.	230 V / 50 Hz: 0,4 – 1,4 s 120 V / 60 Hz: 0,4 – 1,9 s 100 V / 50 Hz: 0,4 – 3,0 s
	The technical data for these units are optimised for a certain mains voltage (200-240 V or 120 V). If the unit is operated with a alternative mains voltage the charging time increases. When operating the unit with mains voltage of 100 V the maximum flash energy reduces to 250J (Minicom 40) respectively to 500J (Minicom 80).	
Controls	Illuminated digital display, LED-display as well as dust and scratch-proof illuminated silicone keyboard	
Control range of flash energy (Japan: 1/3 f-stop less)	Over 4 f-stops in 1/10 f-stop increments (1:16); Can be extended to 5 f-stops (1:32)	
Modelling light	Halogen max. 300 W Proportional to the flash energy as well as „full” and “low” settings. Proportionality adjustable to all broncolor flash systems and the different output levels. Attention: The operating voltage of the modelling lamp must correspond to the mains voltage.	
Flash release	Manual release button, photocell (can be switched off), infrared receiver (can be switched off), sync cable FCM 2, FCC, IRX2, IRQ	
Ready display	Visual and audible (can be switched off) signals when 100% of selected energy is reached	
Flash monitoring	Visual: Dim and boost function for modelling light Audible: Buzzer	
Additional function	- Sequences (serial flashes up to 50 flashes) - Sensibility of the photocell may be reduced	
Number of sync sockets	2	
Stabilized flash voltage	+/- 1,5%	
Cooling	Fan	
Standards	EC standards 73/23, UL 122	
Power requirements	200-240 V / 50-60 Hz: 6 A 100-120 V / 50-60 Hz: 10 A	
	Minicom 40	Minicom 80
Dimensions (L x W x H)	286 x 154 x 194 mm	286 x 154 x 194 mm
Weight kg	3,0	3,3

19. broncolor Minicom RFS / Minicom plus

The compact units Minicom are also available as unit version with integrated 8 channel RFS Interface (**R**adio **F**requency **S**ystem). Each channel (studio) can control up to 8 units. This interface allows remote control respectively flash release by radio via transmitter RFS as well as by means of a transceiver RFS via PC or Macintosh computer. When controlling via screen, 4 storage spaces for different lighting situations are at your disposal.

19.1 Modification to Minicom RFS

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

19.2 Minicom plus

Because of the laws in some countries, the use of the broncolor radio system is not allowed. Therefore the Minicom compact units are also available in the version Minicom Plus (that means with cable remote control). Besides the cable connection between the compact unit and the computer, the application with RFS is almost identical.

Attention: *There is no camera transmitter available for Minicom!*

19.3 Technical data

	Minicom RFS	Minicom plus
Remote control	With integrated 8 channel RFS interface (R adio F requency S ystem) for the remote control of the unit by radio via transceiver RFS from PC or Macintosh computer. Each channel (studio) can control up to 8 units.	With integrated interface for the remote control of the unit by cable from PC or Macintosh computer. Each channel (studio) can control up to 8 units.
Flash release	Transmitter RFS, Transceiver RFS (besides the options in chapter 18)	analogue chapter 18
Operational distance outdoors	Up to 30 m	Length of the connection cable from the computer to the unit: 5m Length of the connection cable between the units 2,5 m
Operational distance in closed rooms	up to 20 m	see above
Range	up to 300 m	see above
Number of sync sockets	2	1 (the second sync socket is configured as connection for the computer cable)
Norms	UL 122, EC norms 73/23, 89/336 and 99/5 ERM EN 300 220-1,-3 EMC EN 301 489-1,-3 EN 60950 EN 50371 FCC Part 15 This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and	

(2) This device must accept any interference received, including interference that may cause undesired operation. 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.

20. Order numbers for diverse spare parts /accessories

Flash tube 5500 K for Minicom 40 / 80	Art. no. 34.307.55
Halogen modelling lamp 300 W / 120 V	Art. no. 34.225.XX
Halogen modelling lamp 300 W / 230 V	Art. no. 34.231.XX
Halogen modelling lamp 150 W / 230 V	Art. no. 34.250.XX
Halogen modelling lamp 150 W / 120 V	Art. no. 34.251.XX
Protecting glass clear 5500 K	Art. no. 34.336.55
Protecting glass clear 5900 K	Art. no. 34.336.59
Protecting glass mat 5500 K	Art. no. 34.337.55
Protecting glass mat 5900 K	Art. no. 34.337.59
Fuse 3.15 AF	Art. no. 37361.00
Protection cap for transport, transparent	Art. no. Z6750.00
Mains cable CH 200-240V	Art. no. 39084.00
Mains cable USA 100-120V	Art. no. 39085.00
Mains cable Europe 200-240V	Art. no. 39086.00
12 V battery converter	Art. no. 36.450.XX
Bracket for suspended mounting	Art. no. 35.228.00

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