

SCOPE OF DELIVERY



- | | |
|--|--|
| 1 Case | 7 "test" key |
| 2 lithium button cell
Li-Mn CR2450 (560 mAh, 3 V) | 8 Base plate (only with receiver kit) |
| 3 Display | 9 "set" key (to set lamp channel and studio channel) |
| 4 USB socket | 10 Keys "▲", "▼" (to regulate the flash energy and for
adjustment of the lamp channel and studio address) |
| 5 Sync in | 11 Sync cable for flash unit mini to mini (only with receiver kit) |
| 6 Sync out | 12 Sync cable for camera |



- 13 Rechargeable battery pack for receiver operation (incl. rechargeable batteries)
- 14 Power supply device (only with receiver kit)
- 15 Charge cable (for use in car) (only with receiver kit)
- 16 USB cable (only with receiver kit)



BRONCOLOR RADIO FREQUENCY SYSTEM 2.1

Before use

We are very pleased you have chosen a broncolor Radio Frequency System RFS 2.1 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 device. Keep these operating instructions in a safe place and pass them on to further users if necessary. They are also available online at www.broncolor.com.

With the broncolor RFS 2.1 you can trigger and operate by remote control broncolor units, which are equipped with an integrated RFS 2 or RFS 2.1 interface.



1. OPERATION AS TRANSMITTER OR RECEIVER



The transceiver can be operated in two modes. The unit is always in transmitting mode when used in battery operation. The transceiver functions as transmitter.

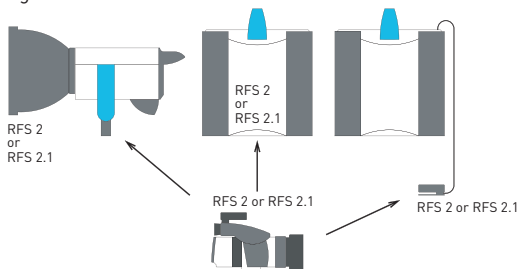
If the transceiver is supplied with energy through the provided power supply unit via the USB-port, the device switches over automatically to receiving mode. The transceiver functions as receiver.

It is not necessary to switch modes manually.

2. RADIO FREQUENCY SYSTEM 2.1 (RFS 2.1)

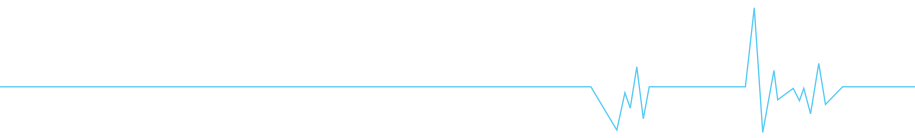
The radio frequency system broncolor RFS 2.1 consists of the following elements:

- RFS 2.1 as transmitter on the camera
- RFS 2.1 as receiver at the power packs/monolights without internal RFS 2 or RFS 2.1 radio frequency system
- RFS 2 or RFS 2.1 as internal radio frequency system integrated in the power packs/monolights



2.1 RFS 2 transceiver as transmitter

The RFS 2.1 transceiver is used to remote-control one or more broncolor power packs or monolights equipped with RFS 2 or RFS 2.1 interface using radio signals to trigger flashes. Power packs or monolights without integrated RFS 2 or RFS 2.1 interfaces can be operated by connecting an RFS 2.1 transceiver (as receiver) to them (see chapter 1).



To enable several RFS 2 or RFS 2.1 devices to communicate with each other, they must all be set at the same studio address. RFS 2 and RFS 2.1 devices with the same studio address can be simultaneously remote controlled. Thus, thanks to the various studio addresses, several RFS 2 and RFS 2.1 groups of units can be independently remote controlled without interfering with each other.

Flash triggering is synchronized either via the central contact of the hot shoe or the sync jack of the camera. Outdoors, the remote control range is up to 50 m; indoors, it is up to 30 m. The transceiver is powered by a lithium button cell (Li-Mn CR2450). To minimise energy consumption, the transceiver is set to an energy-saving mode after eight hours have elapsed. If a flash triggering action occurs through the camera whilst the RFS 2 or RFS 2.1 transceiver is in energy-saving mode, a slight delay of the synchronization with the camera shutter release can take place. The RFS 2 or RFS 2.1 transceiver quits the energy-saving mode after this flash release.



Attention: Although this radio system allows the selection of up to 99 studio addresses, the number of actually available channels depends on the connected RFS 2 or RFS 2.1 flash unit.

For detailed instructions, please consult the manual of the respective flash unit.



2.2 RFS 2.1 transceiver as receiver

The device can be used as an external receiver for broncolor power packs, monolights, and third-party units that are not equipped to receive RFS 2 or RFS 2.1 data. When using the device as a receiver, use the respective power supply unit and plug it into the USB socket on the side of the device. The device will automatically switch to the receiver mode.

Connect the sync cable with the "out" jack of the RFS 2.1 transceiver and the sync jack on the flash unit.

2.3 Operation

> Keys

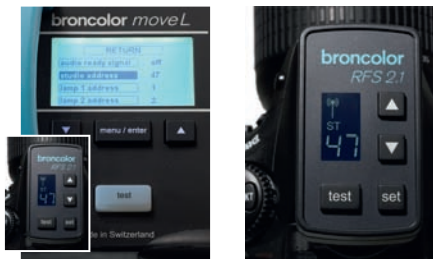
The device has four keys: "test", "set", "▲" and "▼". Depending on the current mode of the device, they have different functions. The functions depend on how long the keys are pressed.

> Key press duration

A short key press is shorter than a second, a longer actuation is longer than a second.

3. SET STUDIO ADDRESS

The transceiver must have the same studio address as the flash units or receivers that are to be used.



To set the studio address, please proceed as follows:
(the RFS 2.1 transceiver must be in "ST" mode. Should "LP" mode be selected, change to mode "ST" by pressing "set" for longer)

- 1.) Press the "set" key briefly until the display blinks "ST" and shows the studio number.
- 2.) Set the studio address with keys "▲" and "▼".
- 3.) Save the setting by pressing the "set" key briefly. The unit synchronises with the flash units and "ST" is shown in the display (not blinking).



Overview of key assignment:

Key	Operation	Function executed
test	Press key briefly	Triggers a test flash
test	Press key for longer	Switches modelling light on or off
test + set	Press keys for longer than 4 s	Resets the unit
set	Press key for longer	Toggles between studio selection and lamp selection
set	Press key briefly	Enters menu
"▲"	Press key briefly	> adjusts power selection upwards > adjusts studio channel upwards > adjusts lamp channel upwards
"▼"	Press key briefly	> adjusts power selection downwards > adjusts studio channel downwards > adjusts lamp channel downwards



Comments

(If the display does not illuminate, the unit must first be woken up by pressing "set" briefly.)

If there is no action within 3 s, menu is exited again. (If the display does not illuminate, the unit must first be woken up by pressing "set" briefly.)

Depending on status of unit

Depending on status of unit

4. SETTING THE LAMP CHANNEL



With the RFS 2.1 Transceiver you can define and adjust the individual lamp outlets on the flash units as you wish. To make the adjustments, please follow the procedure given in the operating instructions for the flash unit concerned.

To set the lamp address, proceed as follows:

(the RFS 2.1 Transceiver must be in "LP" mode. Should the "ST" mode be selected, please change to mode "LP" by pressing "set" for longer)

- 1.) Press the "set" key briefly until the display blinks "LP" and shows the lamp number.
- 2.) Use the "▲" and "▼" keys to set the lamp address.
- 3.) Save the setting by pressing the "set" key briefly.
"LP" will now be displayed (without blinking).

5. ENERGY CONTROL



The RFS 2.1 transceiver allows you to change the power outlet of all RFS 2 or RFS 2.1 flash units that are set to the same studio address (in "ST" mode), and to change the output of individual lamp channels (in "LP" mode). The output can be adjusted in 1/10 and whole f-stops.

Mode "ST"

Briefly press the key "▲":

all the RFS 2 or RFS 2.1 units increase the total energy by 1/10 f-stop

Briefly press the key "▼":

all the RFS 2 or RFS 2.1 units reduce the total energy by 1/10 f-stop

Long press of the key "▲":

all the RFS 2 or RFS 2.1 units increase the total energy by 1 f-stop

Long press of the key "▼":

all the RFS 2 or RFS 2.1 units reduce the total energy by 1 f-stop



Mode "LP"

Briefly press the key "▲":

The lamp channel indicated increases its total output by 1/10 f-stop

Briefly press the key "▼":

The lamp channel indicated reduces its total output by 1/10 f-stop

Long press of the key "▲":

The lamp channel indicated increases its total output by 1 f-stop

Long press of the key "▼":

The lamp channel indicated reduces its total output by 1 f-stop

> Resetting the device

To reset the device to factory settings, first press and hold the "test" key and then press the "set" key for longer than four seconds. This resets the device.

6. COMPATIBILITY




System	Compatible with	Comments
RFS 2.1	RFS 2.1 RFS 2	On units with RFS 2, individual lamp and modelling light settings are not possible
RFS 2	RFS 2 RFS 2.1	Only RFS 2 functions are available (individual lamp and modelling light settings are not possible)
RFS	RFS	No compatibility with RFS 2 or RFS 2.1. Also no flash triggering.



Transceiver technical data

Studio address setting range	1 – 99
Lamp address setting range	1 – 40
Radio frequency channels (automatically regulated)	40
Frequency	2.4 GHz
Transmission time (transmitter to receiver)	0.425 ms
Diaphragm shutter speed	up to 1/1500 s
Focal-plane shutter speed	up to 1/320 s
Flash triggering possible via:	
> Integrated hot shoe on central contact	
> Lateral 3.5-mm sync jack in or out	
Range outdoors	up to 50 m
Range indoors	up to 30 m
Range	up to 200 m
Integrated antenna	
Dimensions (L x B x H)	68 x 38.5 x 33 mm/ 2.7 x 1.5 x 1 inch
Weight	46 g / 35 oz (including battery)



Releases per second	100
Button cell battery in transceiver	Li-Mn CR2450 (560 mAh, 3V)
Automatic switchover to energy-saving mode after	8 hours
Typical battery life	approx. 8 – 12 months or 100,000 flashes
Sync voltage	3V

In the event of problems and undefined communication malfunctions between RFS 2.1 devices, the cause may be strong frequency interference. In such cases, make sure the devices are not within the range of baby phones, video bridges, microwave ovens, cordless dect telephones, WLAN routers or Bluetooth devices, or use a different studio channel.

Subject to change in the interest of technical progress.

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 not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.