BLACKY

the professional projection shutter for theater, concert, stage and multimedia performance

Operating Manual
V 3.0

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CONTENTS

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1) **BLACKY / Supplied Parts**

a) Controller and Drive Mechanism

The basic mechanism is comprised of a controller, a drive mechanism with a shaft with shutter attachment, DMX512/2000 input and output (XLR 5-pole male/female) jacks, a power supply input jack and a pushbutton for DMX addressing and pivot angle adjustment.
BLACKY is compatible to the standard DMX 512-1990 protocol as well as the next generation DMX 512-2000 and can be controlled by any DMX light mixer or computer and can also be controlled with the optional remote control. The remote control unit includes an adapter which can be extended with any normal microphone cable (XLR 3 pin). The power supply unit adapts to any 110-230V input.
The basic Blacky model comes with a 5-pole XLR input jack for DMX 512/2000 but can be adapted down to 3-pole XLR for DMX 512/1990.
Use only the original power supply!

b) **Shutters and Accessories**

In addition to the basic device the following accessories are included:
-1 power supply 5V DC / 1A
 Euro-connector plug / ROW adapter
-1 shutter for lenses up to 100 mm ø
-1 shutter for lenses up to 160 mm ø
-1 shutter holder L = 60 mm
-2 knurled screws
-1 washer
-1 tension belt
-1 metal case
-1 Operations Manual

c) **Remote Control** (optional)

The remote control includes a special 3m adapter cable (XLR 5-pole female>XLR 3-pole male) and a LED pushbutton hand controller. The remote cable can be extended with any normal microphone cable (XLR 3 pin (max. 200 m.).
No DMX signal is necessary with the remote control and in this case the DMX-Out jack should not be used.

2) <u>Adjustment and Assembly</u>

a) <u>Basic Setup, adjusting the DMX - address and the pivoting angle</u>

FACTORY PRESET: **0011** DMX-Address - 001 Pivot angle No. 1 - 60°
This is the standard position mode for a use with the remote control.

!!! To check the set address, press the MODE key shortly !!!

Digit 1-3 DMX- Address 001-512, digit 4 Pivot angle 1-4 (1 - 60°, 2 - 90°, 3 -135°, 4 -170°)

Pushbutton and display:

Setting the DMX Address		
Button	Action	Function
MODE	press down long	Settings will be shown in the display and first digit is blinking
SELECT	press down short or	Value of blinking digit will be incremented by one
SELECT	press down per-manent	Value of blinking digit runs through (0-9) until releasing the button
MODE	press down short	Changing the digit position
Repeat this procedure until your required address and pivot angle is shown in the display		
MODE	press down long	Storing the selected address and pivot angle device confirms **ADR > XXXX > OK**

Any changes to the DMX address becomes effective immediately after typing in the new address and storing by pressing down the MODE buttom long.   No RESET necessary.

Possible Display	Explanation	Description
001 1 up to 512 4	Status display	is showing the stored DMX address and pivot Angle
ADR > 317 2 > OK	Programming confirmation	Address 317 opening angle 2 (90°) is stored
ADR > 555 3 > BAD	Addresse 555 not valid	Device will go back to the programming mode and you have got the possibility to set a new address again
prog > fail	Programming mode has been cancelled because no entry has been made for more than 10 seconds	Device will store the previous settings

b) <u>Remote and DMX Connections</u>

DMX-IN: this jack is the input for both the DMX connection and the remote control. This device can only be operated by either DMX or remote control.

DMX-OUT: an output for extending the DMX chain to other devices. If this is the last device in the chain then an appropriate terminator should be used.

BLACKY can be used with a DMX 512/2000 system (uplink only) as well as a DMX 512/1990 system with the appropriate adapter, (XLR 5-pole>XLR-3-pole), without changing the setup.

c) <u>DMX 512/2000 downlink</u>

In order to avoid any interference when using a DMX 512/2000 system with a downlink function, jumper 1 and 2 **inside the device** must be changed to Position 2-3.
It is impossible, however, to use the remote control with this jumper position!

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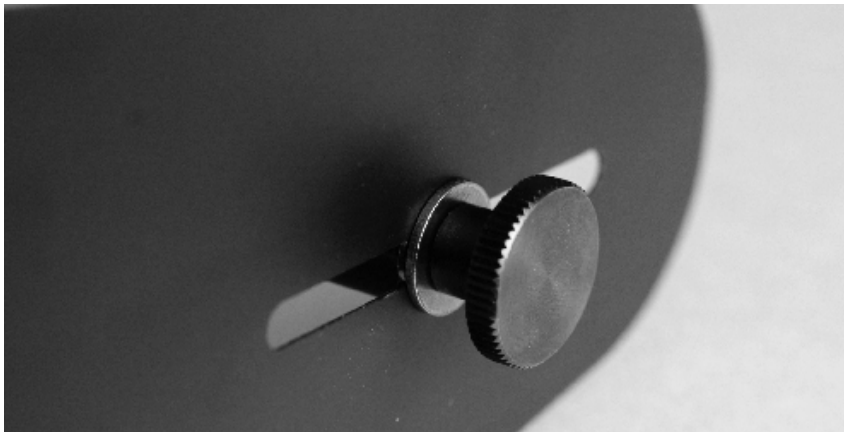
d) **Installation on a Projector**

BLACKY can be placed in practically any conceivable position in front of the projector lens. The standard position is strapped on top of the projector with the included tension belt. When hanging the projector, BLACKY can also be strapped underneath. Take care to pull the tension belt through the handles and use a safety cable to help prevent accidents.

e) **Shutter Installation**

Make sure that the DMX channel is OFF or that the LED on the remote control is out and not red, indicating that the unit is closed. Make sure at this time that neither the DMX channel nor the remote control switch is inadvertently activated.
Now mount the shutter on the shaft with a spacing of ca. 15-20 mm in front of the projector lens. It is important to note that there should be no interference or obstruction to the shaft.
On the front side of the shaft is a countersink which fits exactly in the slot of the shutter plate!
Place the washer inside the knurled screw to prevent any slippage.

3) **Safety Precautions**

When used with a hanging projector a safety cable should be attached through BLACKY's handle. Installation should only be undertaken when the device is disconnected to the power supply. To avoid injury take care that no one obstructs the shutter during operation.

BLACKY may only be used with lighting devices that are fan-cooled. Using it with hot lights, etc. is potentially dangerous and is a possible fire hazard.

It is important during installation to ensure that the shutter has ample space to open and close properly. Hinderances to the shutter could cause damage to BLACKY or surrounding structures.

Damages due to false installation and other negligence on the part of the customer are not covered by the warranty.

4) Technical Specifications

Operating Voltage:	5V
Current:	max. 700mA
Apex Angles:	60°/ 90°/ 135°/ 170°
Torque:	28 N/cm
Shutter Size:	A: L 220 mm, Ø 100 mm
	B: L 280 mm, Ø 160 mm
	C: L175 mm, Ø 100 mm
	D: L 300 mm, Ø 200 mm
Shutter Holder:	Standard: L: 60 mm
	Extra Long: L: 110 mm
Control:	DMX512/2000 / DMX512/1990 / Remote Control
Connectors:	XLR 5-pole male, XLR 5-pole female
Power Supply:	110-230 V automatic, polarity safe
	Power Supply Plug is fastened to device via a coupling nut
Addressing:	pushbutton
Dimensions without Shutter:	L 190 x W 105 x H 80 mm
Case Dimensions:	L 124 x W 105 x H 51 mm
Weight:	ca. 0,8 kg
Shutter Reaction Time:	0,5-0,7 sec

5) Warranty, Guaranty, Service:

Warranty, Guaranty: 2 years.

Damage due to improper installation and operation are not covered by this warranty.

For any service questions contact: **info@g-a-d.de .**

6) BLACKY and Accessories

Standard Device (Supplied Items):

Standard Shutter Holder, L 60 mm
Shutter A, L 220 mm, Ø 100 mm
Shutter B, L 280 mm, Ø 160 mm
Power Supply 5V 1A DC
Tension Belt
Metal Case

Optional Accessories:

Shutter Holder, long 110 mm
Shutter C (Mini), L 175 mm, Ø 100 mm
Shutter D (Maxi), L 300 mm, Ø 200 mm
Special Shutter sizes available by request.
DMX Adapter 5>3 pole. male/ female and female/male
Remote Control with adapter cable 3m (extendable with XLR-Standard microphone cable.)

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