



# LP-416

ORDERCODE 50750



**SHOWELECTRONICS FOR PROFESSIONALS**

## **Congratulations!**

You have bought a great, innovative product from Showtec.

The Showtec LP-416 brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated DMX show, this product provides the effect you need.

You can rely on Showtec, for more excellent lighting products.

We design and manufacture professional light equipment for the entertainment industry.

New products are being launched regularly. We work hard to keep you, our customer, satisfied.

For more information: [iwant@showtec.info](mailto:iwant@showtec.info)

You can get some of the best quality, best priced products on the market from Showtec.

So next time, turn to Showtec for more great lighting equipment.

Always get the best -- with Showtec !

Thank you!



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## WARNING



**CAUTION!**  
**Keep this device away from rain and moisture!**



**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY  
BEFORE YOUR INITIAL START-UP!**

## SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this device has to:

- be qualified
- follow the instructions of this manual



**CAUTION! Be careful with your operations.**  
**With a dangerous voltage you can suffer**  
**a dangerous electric shock when touching the wires!**



Before your initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

This device contains no user-serviceable parts. Refer servicing to qualified technicians only.

### **IMPORTANT:**

*The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.*

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Do not open the device and do not modify the device.
- Do not insert objects into air vents.
- Do not connect this device to a dimmerpack.
- Do not switch the device on and off in short intervals, as this would reduce the device's life.
- Only use device indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Always disconnect power from the mains, when device is not used or before cleaning! Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure that the device is not exposed to extreme heat, moisture or dust.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the device and the power-cord from time to time.
- If device is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- If your Showtec device fails to work properly, discontinue use immediately. Pack the unit securely (preferably in the original packing material), and return it to your Showtec dealer for service.

- Repairs, servicing and electric connection must be carried out only by Showtec.
- For replacement use fuses of same type and rating only.
- This device falls under protection class I. Therefore it is essential to connect the yellow/green conductor to earth.
- WARRANTY: Till one year after date of purchase.

## OPERATING DETERMINATIONS

This device is not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

If this device is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.

Any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, crash etc.


You endanger your own safety and the safety of others!

*Improper installation can cause serious damage to people and property !*

### Connection with the mains

Connect the device to the mains with the power-plug.

Always pay attention, that the right color cable is connected to the right place.

International	EU Cable	UK Cable	US Cable	Pin
L	BROWN	RED	YELLOW/COPPER	FASE
N	BLUE	BLACK	SILVER	NUL
	YELLOW/GREEN	GREEN	GREEN	EARTH

Make sure that the device is always connected properly to the earth!

# Description of the device

## Features

The LP-416 is a light controller from Showtec and features:

- 4 channel chaser with 16A max. load
- Background function
- 9 built-in programs
- 4 modes: Hold dim

Hold sound

Program sound

Program speed

- Master and channel dim faders
- Sound activated

## NOTE:

Knowledge of DMX is required to fully utilize this unit.

## Overview

### Controller Front

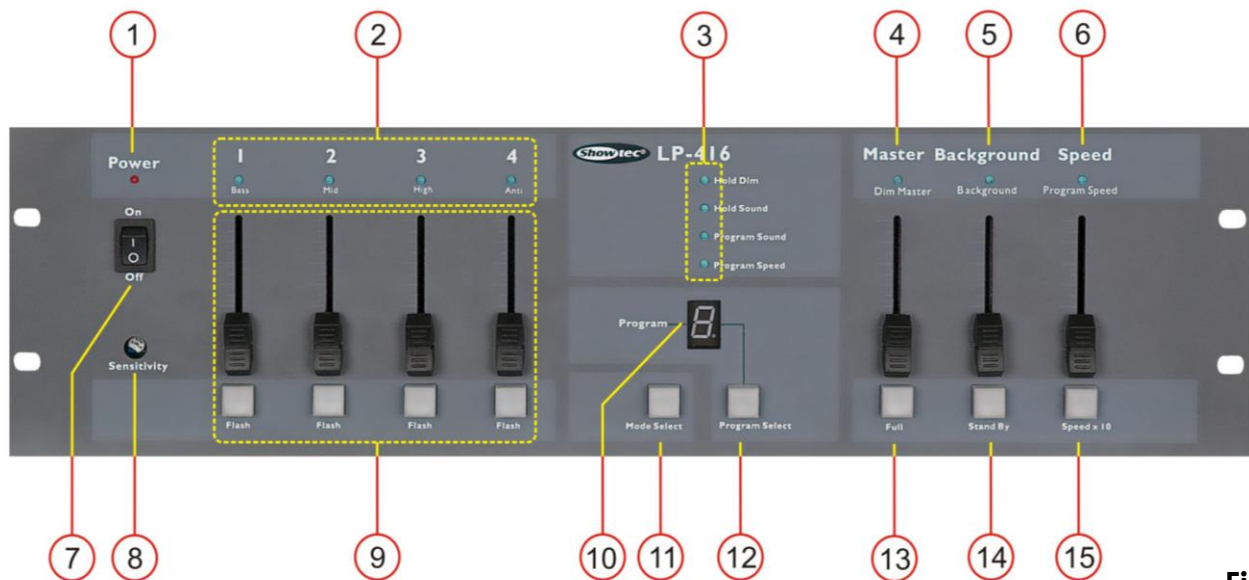


Fig. 1

#### 1) Power LED

Indicates if the unit is ON.

#### 2) Channel LED

These LED's allow you to monitor the output of each channel.

#### 3) Mode select indicators

Indicates which of the 4 modes is currently active.

#### 4) Master dimmer

Controls the overall dim level of the 4 channels.

#### 5) Background level

With this fader you can set the background level (minimum output level) of the 4 dimmer channels. This can "soften" the chaser effects so they become less aggressive.

**Attention:** don't set this fader to maximum, you won't be able to see the chaser patterns or set proper dimming levels for the 4 channels.

#### 6) Program speed control

When "program speed" mode is selected, you can change the speed of the selected chaser program.

#### 7) Power switch

Used to switch the unit ON/OFF.

### 8) Audio sensitivity

Used to adjust the input sensitivity of the external audio inputs. Adjust the level until the sound activated functions work nicely to the rythm of the music.

### 9) Dimmer channels

These are 4 faders used to set the individual dimming levels of the 4 channels. Below each fader there's a flash button to set the output of the corresponding channel to 100% (full) for as long as the button is pressed.

### 10) Program display

Shows which of the 4 modes is currently active.

### 11) Mode select

Used to select 1 of the 4 user modes:

**Hold Dim:** This mode can be used to control the dimming levels of the outputs. The 4 faders can be used to set the dimming level of each channell output individually.

**Hold Sound:** The Music is divided into 4 different frequency ranges (bass, middle, high, antibass). Each of the 4 output channels will respond to a different frequency range.

**Program Sound:** The chaser program selected with the "program select" button will be displayed. The chaser speed is synchronised to the rythm of the music.

**Program Speed:** The chaser program selected with the "program select" button will be displayed. The chaser speed can be adapted with the speed fader.

### 12) Program select

When you have selected 1 of the 2 program modes then you can use the program select button to choose the program you like. Nine different chaser programs can be selected. Program 0 is a random program.

### 13) Full switch

Use this button to set the output of the 4 channels to 100% (full) for as long as the button is pressed.

### 14) Standby switch

Used to cutoff (blackout) the output of the 4 dimmer channels. The 4 switch channels are not affected.

### 15) Speed X10

Used to multiply/divide the speed set by the speed fader by 10.

## Controller Backside

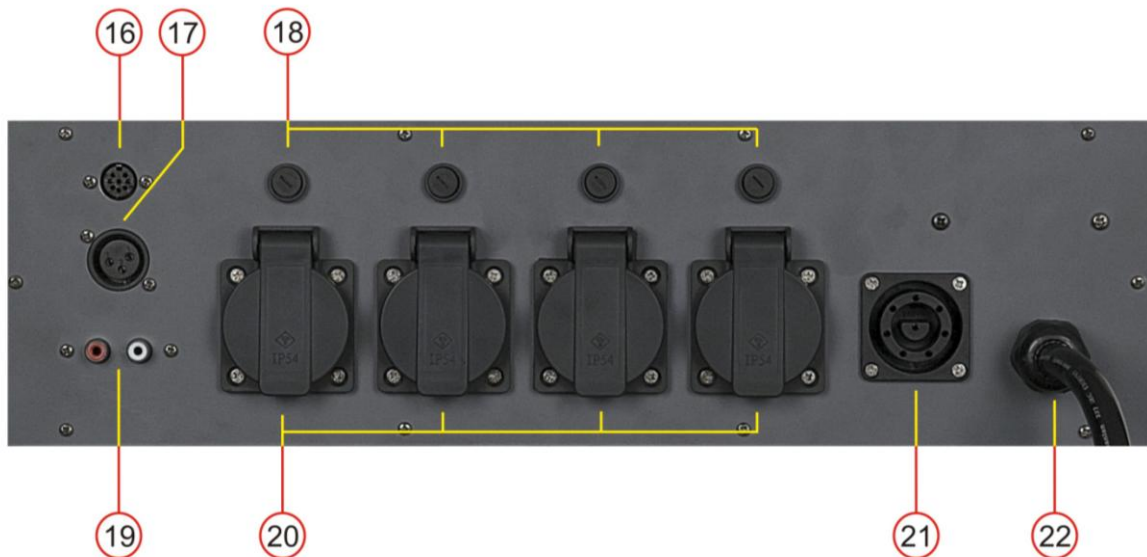


Fig. 2

### 16) Analog output

Use this output to connect an additional analog dimmer pack (ie. Showtec Dim-master 6, D-pack 6)

### 17) DMX output

Use to connect the LP-416 to DMX power packs. All 4 channels are available on this output. The dimmer channels are assigned to DMX addresses 001 to 005. Please set the starting address of the connected dimmer pack to 001.

### 18) Channel fuses

Each channel has it's own fuse. Always replace a blown fuse with a fuse that has the same ratings (F8A 250V 6x32mm).

### 19) Audio Input

This jack accepts a line level audio input signal ranged from 100 mV to 1Vpp.

### 20) Channel outputs

Each channel has its own Schuko output socket.

### 21) Bulgin output

This Bulgin multiconnector is used for 4 channels output.

### 22) Power cable

## Installation

Remove all packing materials from the LP-416. Check that all foam and plastic padding is removed. Screw the equipment into a 19" rack. Connect all cables.

**Always disconnect from electric mains power supply before cleaning or servicing.  
Damages caused by non-observance are not subject to warranty.**

## Common Terms

The following are common terms used in intelligent light programming.

**Blackout** is a state where all lighting fixtures' light outputs are set to 0 or off, usually on a temporary basis.

**DMX 512** is an industry standard digital communication protocol used in entertainment lighting equipment. For more information read Sections "DMX Primer" and "DMX Control Mode" in the Appendix.

**Fixture** refers to your lighting instrument or other device such as a fogger or dimmer which you can control.

**Programs** are a number of scenes arranged one after another. It can be programmed as either a single scene or multiple scenes in sequence.

**Scenes** are static lighting states.

**Sliders** are also known as faders.

**Chases** can also be called programs. A chase consists of a number of scenes arranged one after another.

**Scanner** refers to a lighting instrument with a pan and tilt mirror; however DMX controllers can use this term to control any DMX-512 compatible device as a generic fixture.

**MIDI** is a standard for representing musical information in a digital format. A MIDI input would provide external triggering of scenes using midi devices such as a midi keyboard.

**Stand Alone** refers to a fixture's ability to function independently of an external controller and usually in sync to music, due to a built in microphone.

**Fade** slider is used to adjust the fade time between scenes within a chase.

**Speed** slider affects the amount of time a scene will hold its state. It is also considered a wait time.

**Shutter** is a mechanical device in the lighting fixture that allows you to block the lights path. It is often used to lessen the intensity of the light output and to strobe.

**Patching** refers to the process of assigning faders to a DMX channel within a fixture.

**Playbacks** can be either scenes or chases that are directly called to execution by the user. A playback can also be considered program memory that can be recalled during a show.



## Bulgin Connection

PIN ARRANGEMENT	
1	$\perp$ E
2	CH-1
3	CH-2
4	CH-3
5	CH-4
6	N
7	N
8	N

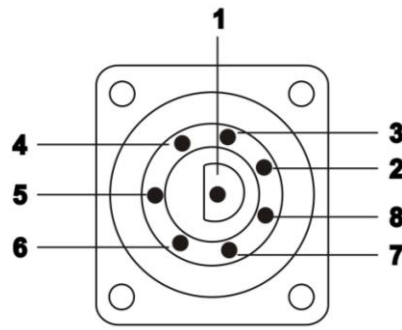


Fig. 3

## Analog Out Connection

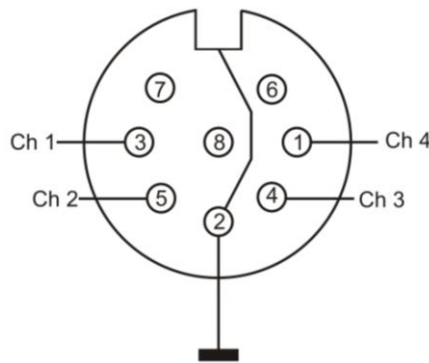


Fig. 4

## Set Up and Operation

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 230V power, or vice versa.

## Maintenance

The Showtec Showdesigner LP-416 requires almost no maintenance. However, you should keep the unit clean. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Do not use alcohol or solvents.

Keep connections clean. Disconnect electric power, and then wipe the DMX and audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

## Replacing a Fuse

Power surges, short-circuit or inappropriate electrical power supply may cause a fuse to burn out. If the fuse burns out, the product will not function whatsoever. If this happens, follow the directions below to do so.

1. Unplug the unit from electric power source.
2. Insert a screwdriver into the slot in the fuse cover. Turn the screwdriver to the left, at the same time gently push a bit (Turn and Push). The fuse will come out.
3. Remove the used fuse. If brown or unclear, it is burned out.
4. Insert the replacement fuse into the holder where the old fuse was. Reinsert the fuse cover. Be sure to use a fuse of the same type and specification. See the product specification label for details.

## Troubleshooting

### Showtec Showdesigner LP-416

This troubleshooting guide is meant to help solve simple problems. If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

1. External dimmer pack does not respond to the LP-416: Check the DMX-address of the external dimmer pack.
6. If the device does not operate properly, unplug the device.
7. Check power from the wall, all cables, the fuse, the settings (return to default), etc.
8. If all of the above appears to be O.K., plug the unit in again.
9. If nothing happens after 30 seconds, unplug the device.
10. Return the device to your Showtec dealer.

## Product Specification

Model: Showtec LP-416

Power Supply: AC 220V-240V, 50/60Hz

Power Consumption: 16A max.

Power Connector: Cable without connector

Output Power: Each channel 5A

Output Connector: 4x Schuko  
1x Bulgin

Analog Output: 0-10V, 8-pole DIN

DMX-Output: 3-pin female XLR

Audio Input: Cinch

Internal Fuse: F1A 250V 5x20 mm

Output Fuses: F8A 250V 6x32mm

Weight : 5,5 kg



Design and product specifications are subject to change without prior notice.



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