DEZELECTRIC

Cerebellum digi 128M
Cerebellum digi 128U

DMX512 Controller

User's Manual

INTRODUCTION

The controller suits to control **16** pcs DMX-512 units of any type with maximum **32** channels respectively (scanner, moving head, stroboscope) and to control 4 smoke-machine with maximum 8 channels/pc. The software of the controller can be upgraded through a serial port from the PC.

Reading through and operating the controller simultaneously are essential to handle the controller. If you have any question, please contact the manufacturer or dealer in e-mail. There you may report the contingent remarks experienced by you or proposals. We will answer your question in e-mail or load the software fixed by us to our home page, where you can download and install the fixed version, as the software of the controller can be upgraded free of charge. If you would like to be convinced that the software of your controller is updated, enter the menu, select the **SOFTWARE VERSION** menu item. Entering, you can read the version number of the controller software and the date of placing on the market in the bottom line of the display.   Compare the version number with the version number of the software found on the website of the manufacturer, and if necessary, upgrade the controller software by the help of those described in the chapter entitled as **SOFTWARE UPGRADE**.

INSTALLATION:

After connecting the power supply, LED of the B.OUT switch is flashing, marking the standby. After pressing the B.OUT button, the LEDs of the controller turn on, and the logging-in text can be seen on the display for some seconds, then the controller moves to automatic mode.

```
┌─────────────────────────┐
│      CEREBELLUM         │
│    digi 128 v.1.0       │
└─────────────────────────┘
```

If the caption "SOFTWARE UPGRADE IS NECESSARY" can be read on the display after turning on, the controller can be used only after software upgrade.

```
┌─────────────────────────┐
│    SOFTWARE UPDATE      │
│       NECESSARY         │
└─────────────────────────┘
```

It may occur if the connection is cut off during the software upgrade or there is a power failure, so the upgrade is interrupted. **Shutting off the device:** if in any mode you keep the B.OUT pushbutton pressed for 3 sec, the device disconnects and gets into the so-called standby mode, which is marked with flashing by the LED of the pushbutton.

Five positions of the LED's located in the switches of the controller are distinguished, the knowledge of which facilitates the operation of the controller.
- does not illuminate: Then the switch belonging to it does not have any function in the actual mode, its pressing down does not have any consequences.
- illuminates with half intensity: It is the so-called hotkey function. It means that the switch belonging to it has some kind of function, and it can be activated by pressing down the button.
- illuminates with total intensity: The function of the button belonging to the LED is active, which can be switched off by pressing down an another button, not by itself.
- flashes with total intensity: indicates such a turned-on function, which can be switched off by pressing down the button belonging to the LED.
- flashes with half intensity: indicates such an activated function, in which some parameter has been modified, but at present it is not the actual mode. By pressing down the LED belonging to it, the function of the button will be active again, its LED will flash with total intensity.

SOFTWARE UPGRADE:

ATTENTION! The software runs only with Windows operating systems.

There is two type of Controller. One of them is build with serial port (RS-232), the other is with USB. For this two type there is two different PC software. Here you can read both of them. Follow those described in the items listed below step by step to make the software upgrade:

Serial version (RS-232):

1. Connect the controller and the computer with the suitable cable (cable type: Link cable DB9M/F), (port: COM1, COM2).
2. Connect the controller to the power supply.
3. Start the computer, download the upgrading software from the home page of the dealer or manufacturer (controller.exe) and the latest version of the controller (e.g..: CerDig512v10.dat).
4. Launch the software upgrading programme (controller.exe). After the first startup the controller offers the change of the most important settings:
   a. Select a language, then click on the 'OK' button.
   b. Select that port, to which you have connected the controller, the baud rate value means the speed of communication, it is worth setting it to be as large as it is possible (dependent on the computer), then click on the 'OK' button.
5. Click on the icon of connection (1st icon) or select the Settings/Connection menu item. The software starts connecting, the LED's of the controller go out.
6. If the setting and the connection are settled, the data of the controller appear in the panel (type, etc.).
7. If the setting is not settled, the software warns you to check the connection, the accurate port setting, then try it again.
8. In case of proper connection click on the icon 'Opening the file' (2nd icon), find the file to be downloaded into the controller (e.g.: CerDig5124v10.dat), then acknowledge the selection with the 'Select' button.
9. Click on the 'Download' icon or select the Setting/Start data downloading, downloading starts.
10. The state of downloading can be followed on the appearing process-marker, if it is finished, the caption 'Downloading is ready' appears, press the 'OK ' button.
11. Click on the connection icon in the menu bar (1st icon) or select the Setting/Stop connection menu item, then clicking on the 'YES' button in the opening panel, terminate the connection, then the controller restarts automatically, the upgrade is finished.

If there is any error during the upgrading, eg. power failure, restart the controller disconnecting the power, and restart the upgrading software and repeat the transactions.

USB version:

1. Connect the controller and the computer with the USB cable.
2. Connect the controller to the power supply.
3. Start the computer, download the upgrading software from the home page of the dealer or manufacturer (ldm.exe) and the latest version of the controller software (*.bin).
4. Launch the software upgrading program (ldm.exe). After the first startup the controller offers the change of the most important settings: Select a language, then click on the 'OK' button.
5. The software starts connecting automatic, the LED's of the controller go out.
6. If the setting and the connection are settled, the data of the controller appear in the panel (type, etc.).
7. If the setting is not settled, the software warns you to check the connection, the accurate port setting, then try it again.
8. In case of proper connection click on the icon 'Opening the file' (1nd icon), find the file to be downloaded into the controller (*.dat), then acknowledge the selection with the 'Select' button.
9. Click on the 'Download' icon or select the Setting/Start data downloading, downloading starts.
10. The state of downloading can be followed on the appearing process-marker, if it is finished, the caption 'Downloading is ready' appears, press the 'OK' button.
11. Terminate the connection, close application then the controller restarts automatically, the upgrade is finished.

INTRODUCTION OF THE OPERATING DEVICES:
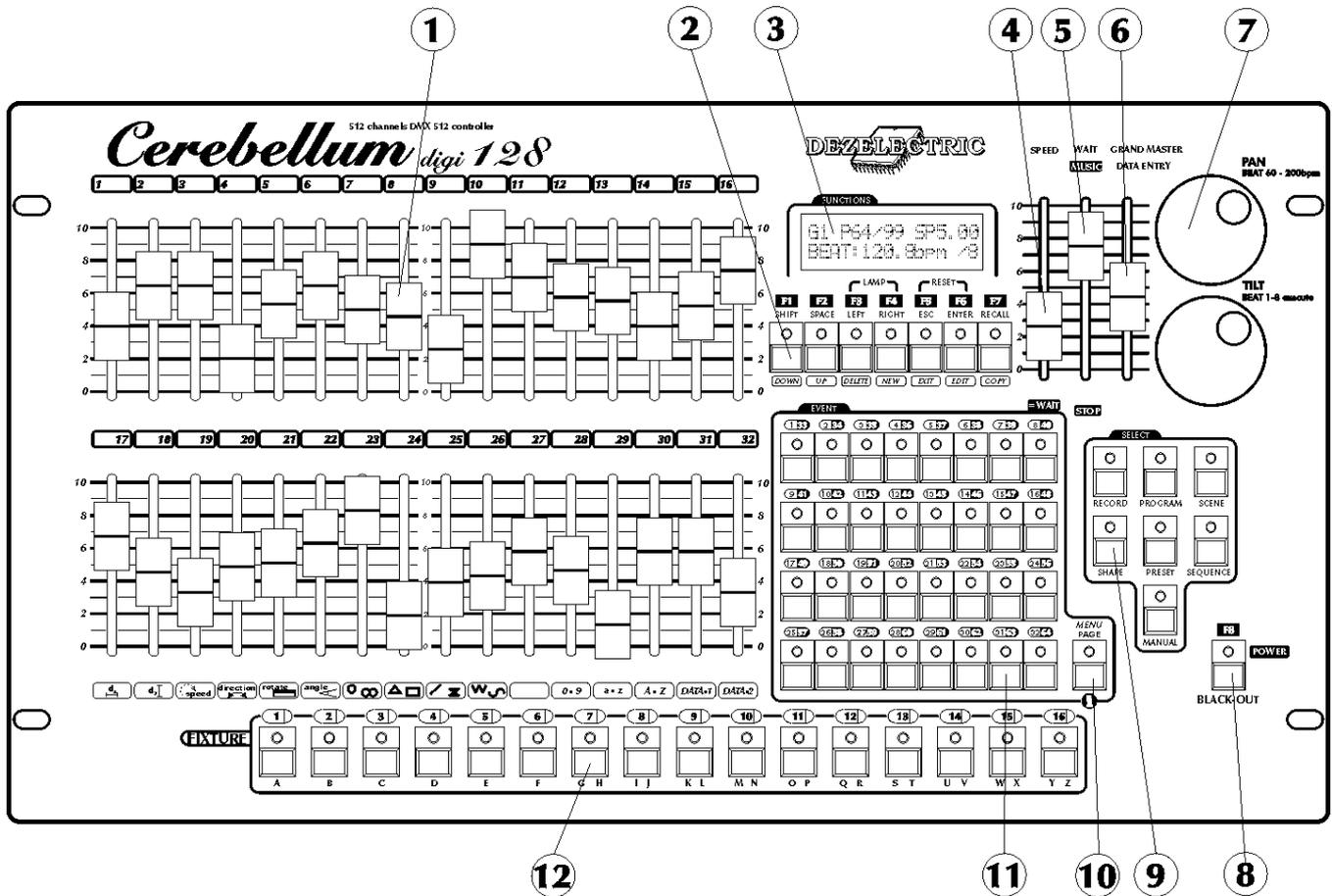
1. **1-32 potentiometers**: manual setting of the channels of the units, and modification of the formation parameters
2. **F1-F7 function buttons:** programmable function buttons, for all can be order functions in the menu.
3. **DISPLAY**: LCD display with 2x16 characters, the intensity of the background illumination and its contrast can be set up in the menu, when moving any of the operating devices, it presents information about the changes.
4. **SPEED potentiometer**: setting the running speed of programmes, sequences from 0.3s-5.0s. The setup is linear between the two limits, the actual value is shown by the display to the thousandth second.
5. **WAIT potentiometer**: time between shifting the programme steps can be set up between 0.3s-0.5s, in minimum position the music mode is turned on, and in maximum position it stops shifting the steps..
6. **DATA ENTRY potentiometer**: in automatic mode it operates as GRAND MASTER, it sets the intensity of the dimmer and soft channels. In the menu it supports retrieving the values and positioning.
7. **JOG wheels**: in manual mode the mirrors of units and the rotating heads can be moved on the selected units, and in automatic mode the program scene shifting time can be set up with the PAN disc between 60.0-200.0bpm k, while with the TILT disc the frequency of scene shifting can be set up between 1-8.
8. **F8 function button**: Programmable function button, and the controller can be switched on or off by pressing down if for a long and the black out function can be activated by short pressing down.
9. **EVENT buttons**: After its pressing can be events start on EVENT 1-32 buttons
10. **PAGE button**: shifting button for the 1-32 buttons. After pressing it down the 33-64 events can be accesses on the 1-32 buttons. In case of pressing down it again the 1-32 events are available again. Shortly after keeping the button pressed down simultaneously the controller enters the menu.
11. **EVENT 1-32 buttons**: the events of the actual event group can be launched on them (program, sequence, record, preset, scene, shape).
12. **FIXTURE 1-16 buttons**: the unit can be selected with them.

LAMP buttons F3-F4. Shortly after keeping the two buttons pressed down simultaneously the controller enters the fervent switching on-off mode.
RESET buttons F5-F6: shortly after keeping the two buttons pressed down simultaneously the controller enters the reset activating mode.

CONTROLLING THE UNITS
The controller addresses the units automatically in 16s, the bit switches of the units should be set according to it.

Unit nr.	Dmx addr.	Unit nr.	Dmx addr.
1.	1	9.	257
2.	33	10.	289
3.	65	11.	321
4.	97	12.	353
5.	129	13.	385
6.	161	14.	417
7.	193	15.	449
8.	225	16.	481
Special	1-505		

After turning on the controller gets into automatic mode. In order to make a SHOW and run them on its own light equipment, some settings should be made, that is the controller should be calibrated. It is recommended to configure the controller in the following sequence:
- Check the software version number of the controller, if you find a more recent one on the homepage of the distributor or the manufacturer, download it and upgrade the controller, see SOFTWARE VERSION section, SOFTWARE UPGRADE section.
- Select the language in which the controller should flush the texts on the display, see: LANGUAGE SELECTION section.
- Set the contrast and intensity of the display if it, for example, illuminates too brightly or writes the texts too faintly: see DISPLAY SETTING section.
- Set the intensity of the LED's to the desired value, see: LED SETTING section.
- Check if those intelligent lamps, scanners, etc. that you would like to control are in the directory of the controller unit. If no, the units have to be installed manually, or the adequate unit installation file has to be downloaded from the PC, see UNIT INSTALLATION section.
- Assign those units to the 16 place positions, which you would like to control, see UNIT POSITION menu item.
- Test if the set units operate properly, see MANUAL MODE section.

After completing the settings the programmes, records, sequences can be written, and in automatic mode all the effects can be launched. After starting it the controller gets into automatic mode. Here the written events can be launched, the manual mode or the menu can be entered, from where you can step forward to complete the different settings.

WORD PROCESSING
Some denominations, texts can be provided, modified at several places in the menu of the controller. These can be modified always according to the same system.

- Under buttons 1-16 you can read which letter is written on the display by the button. Where you can read two letters under them, the rear letter can be made to be written by a double-click.
- By the PAGE button you can make the writing in small letters or in capital letters.
- By the SPACE (BLACK-OUT) button an empty character can be written.
- By the DATA ENTRY pot you can select from among the writable characters .
- By the LEFT-RIGHT buttons you can switch the character position.
- Only by POT 28 can you select from among the numbers (0-9)
- Only by POT 29 can you select a small letter (a-z)
- Only by POT 30 can you select a capital letter (A-Z)

You will find references to this section in the instruction manual several times.

MENU SYSTEM
It is practical to start know using controller with menu system and its settings. After connect power supply and pushing BO button the controller will be in automata mode. The controller will enter the menu in 2 seconds after keeping the MANUAL and RECORD buttons pressed down simultaneously.

In the upper line of the display the number of the actual menu item can be read, in the lower line denomination of the menu item can be read. You can select between the menu items with the DATA ENTRY potentiometer or the UP-DOWN buttons. You can enter the actual menu item by pressing down the ENTER, and return to automatic mode by pressing down the ESC. If the setup menu item has been selected, the controller enters the setup menu by pressing down the ENTER. There further menu items can be selected.

Architecture of the menu system:
- 1. Shape construction   (construction of 1-32 Shape)
- 2. Program construction (construction of 1-32 program)
- 3. Sequence construction(construction of 1-32 sequence)
- 4. Preset construction   (construction of 1-32 preset scene)
- 5. Record construction   (construction of 1-32 record)
- 6. Function button (configuring of F1-F8)
- 7. Function setup (setup of some function)
- 8. Function event (configuring of 17-32 event buttons)
- 9. Setup menu
   - 1. Unit installation   (entering a new unit into the directory, modification of the existing one)
   - 2. Unit position   (Unit assignment to 16 positions from the directory, setup of the mirror directions)
   - 3. Smoke-machine setup (Setting of the channels of the smoke-machine)
   - 4. Display setting   (Setting of the display intensity and contrast)
   - 5. LED setting   (Setting of the intensity of the LED's)
   - 6. Language selection   (Selection of the language of the texts shown on the display)
   - 7. Working time   (working time counter)
   - 8. Software version   (Version number and date of the controller software)
   - 9. Controller data   (Serial number and manufacturing date of the controller)
   - 10. Menu code   (Setting menu code, or switch off)
   - 11. Dmx parameter   (Setting the dmx refresh rate)
   - 12. USB MEMORY   (Load and save data to and from device)

MENÜ SYSTEM – ASKING FOR MENU CODE

If the menu code is activated, then it must be given before step into the menu. IT is possible with button 1-16. After type code press ENTER. If the code not correct the controller will give a warning and you can start to type it again by pushing ESC button.
If you forgot the code you will need the PI code of the controller, but thereto you have to know the serial number of the controller. If the controller ask for code, press the BPM button, and you can read the serial number on the upper line of the display. Give this serial for the manufacturer or your dealer and they will give you the PIN code for your controller.
You have to type the PIN code also with 1-16 button, but before you press ENTER you should push and hold pushed the BPM button. Then the controller will step into menu system. It is practical to modify or delete the menu code before you leave menu.

SETUP MENU 12: USB MEMORY

The user can save the controller data to a pen drive, and also possible to load this data from pen drive to controller.

Before you switch on the controller, you should plug the PENDRIVE!

After ENTER the menu the controller will looking for plugged pendrive. It takes some seconds. After successful
Contact you can choose between two possibilities.

 - Read from memory (PENDRIVE -> CONTROLLER)
 - Write to memory (CONTROLLER -> PENDTRIVE)

ALL DATA FROM PENDRIVE TO CONTROLLER
Select this menu and press ENTER. With UP-DOWN buttons you can select a file from the pendrive. Press ENTER to start
 copy data from pendrive. Under process the controller can not be switched off!

After successful reading, all data will be lost which was on the controller before the copy process.
We can offer you befor copy data to controller to save the actual data to another file to pendrive or PC.

ALL DATA FROM CONTROLLER TO PENDRIVE
Select this menu and press ENTER. The controller will ask to file name, you have to give it. After set any name press
ENTER. The copy process will start. Under process the controller can not be switched off!
We can offer you to save all data to pendrive or pc after you made a show.

SETUP MENU 11: DMX PARAMETER

There is possible to change one of the dmx parameters, and this is the refresh rate. Some lamp type can not work correctly on
the higher speed of dmx refresh, what is allowable in dmx standard. For the good quality lamp means no problem.
As faster the dmx signal as better the quality of mirror and head moving.
In this menu you have the possibility to change the refresh rate.
Selectable data:

-   44Hz   (default)
-   40Hz
-   35Hz
-   30Hz

By pressing F1, F2 you can select refresh rate. By pressing ESC you can live this menu. If there was modified some
parameter, the controller will ask saving data.

SETUP MENU 10: MENU CODE

It is possible to protect controller data with menu code. If you want to protect your data against illegal person you should
activate menu code. After activation if you want to step in menu system from automata mode you should first give the code
and then you can reach menu and setup.
Activate menu code select SETUP menu MENZU code position.

```
+--------------------------+
|       MENU CODE          |
|         off              |
+--------------------------+
```

If you see in the lower line 'off' then the code is not activated yet. With push ESC button you can step back. After pushing
ENTER you have to typ the new code.

```
+--------------------------+
|       MENU CODE          |
|       new: ...           |
+--------------------------+
```

With the 1-16 button you can type the new code it can be max. 6 characters. By ESC button you can step back. When the
code is given press ENTER.

```
+--------------------------+
|       MENU CODE          |
|     again: ...           |
+--------------------------+
```

Give the new code again and press ENTER.

```
+--------------------------+
|   CODES NOT EQUAL        |
|      TRY AGAIN           |
+--------------------------+
```

When the new and repeated code not equal then the controller will show a warning, and you have to try again. Press ESC and start do it again.

```
╔══════════════════════════╗
║   SAVE CHANGES?          ║
║   CANCEL NO YES          ║
╚══════════════════════════╝
```

When the new and repeated code are equal the controllel will ask about saving code. By ESC you can leave it without saving, but by ENTER the code will save.

```
╔══════════════════════════╗
║   MENU CODE              ║
║         on               ║
╚══════════════════════════╝
```

Now the code is activated (on) so from automata mode required to type code if you want to step in menu system. The activated code can be inactivated by push DELETE button.

```
╔══════════════════════════╗
║   DELETE CODE?           ║
║            no   yes      ║
╚══════════════════════════╝
```

SETUP MENU 9: CONTROLLER DATA

```
╔══════════════════════════╗
║ Version:      v.2.7      ║
║ Date:20/03/04            ║
╚══════════════════════════╝
```

In the upper line of the display the serial number of the controller can be read, in the lower line the manufacturing date (day, month, year) can be read.
You can log off from the menu item by pressing down the ESC.

SETUP MENU 8: SOFTWARE VERSION

```
╔══════════════════════════╗
║ Serial:05041000          ║
║    Date:20/03/04         ║
╚══════════════════════════╝
```

In the upper line of the display the version number of the controller software, in the lower line the date of the software version publication can be read (day, month, year).
You can log off from the menu item by pressing down the ESC.

SETUP MENU 7: WORKING TIME

```
  WORKING TIME
  000002:49:19
```

The time having passed from putting the controller into operation can be read in the lower line (second: minute: hour).
You can log off from the menu item by pressing down the ESC.

MENU 6: LANGUAGE SELECTION

```
   LANGUAGES
  ENGLISH (GB)
```

When entering, the name of the actual language can be read in the lower line of the display, it can be changed by the UP-DOWN buttons. At present five languages can be selected: Hungarian, English, German, Dutch, French
If the UP-DOWN button has not been pressed, the controller returns to the setup menu by pressing the ESC button down, if any modification has been made, the controller asks for the confirmation of saving the modification.

```
  SAVE CHANGES?
  CANCEL NO YES
```

By pressing down the "cancel" button (LEFT) the controller remains in the menu item, by pressing the "no" button (ESC) the controller returns to the menu without saving the modifications, while by pressing the "yes" button (ENTER) the controller saves the modification and returns to the menu.

SETUP MENU 5: LED SETUP

```
  FULL LIGHT:100%
  HALF LIGHT:020%
```

The intensity of the LED's can be set to optimal value in this menu item due to the existing light conditions in the different application areas. The set value of the total LED light illumination can be seen in the upper line, which can be seen on the LED's of the 9-16 buttons as well. This value can be set by the 7th potentiometer. In the lower line the set value of half-intensity can be seen, and the current set value can be seen on the 1-8 LED's.
If no modification has been made in the menu item, then by pressing the ESC button the controller returns to the setup menu, if any modification has been made, the controller asks for the confirmation of saving the modification.

```
  SAVE CHANGES?
  CANCEL NO YES
```

By pressing down the "cancel" (LEFT) button the controller remains in the menu item, by pressing the "no" button (ESC) the controller returns to the menu without saving the modifications, while by pressing the "yes" button (ENTER) the controller saves the modification and returns to the menu in this way.

SETUP MENU 4: DISPLAY SETUP

```
BACKLIGHT:100%
CONTARST:040%
```

The intensity and contrast of the display can be set to optimal value in this menu item due to the existing light and temperature conditions in the different applications areas. In the upper line the set value of the background illumination can be seen. This value can be set by the 7th potentiometer. In the lower line the set value of the contrast can be seen. This value can be set by the 8th potentiometer.

If no modification has been made in the menu item, then by pressing the ESC button the controller returns to the setup menu, if any modification has been made, the controller asks for the confirmation of saving the modification.

```
SAVE CHANGES?
CANCEL NO YES
```

By pressing down the "cancel" (LEFT) button the controller remains in the menu item, by pressing the "no" button (ESC) the controller returns to the menu without saving the modifications, while by pressing the "yes" button (ENTER) the controller saves the modification and returns to the menu in this way.

SETUP MENU 3: SETTING OF THE SMOKE MACHINE

```
SMOKE:1   DMX:———
empty place
```

By the controller 4 pieces of dmx equipment of max. 8 channels can be controlled besides the units. It may as well be a generally used smoke machine, the name of the menu item is derived from here. In this menu item you can set 4x8 channel values that are received by the connected smoke machines in standstill. In an automatic mode the active values can be set when pressing down the SMOKE function assigned to a function button, which are received by the machine while the button is pressed down, then it gets the standstill values adjustable here again when releasing the button.

By buttons 1-4 you can select a smoke machine from among the four ones, the LED of the currently active smoke machine will flash, and its serial number and dmx address can be seen in the upper line of the display. If in the lower line the wording of an empty place appears, and after the dmx text not a numerical value, but only horizontal lines can be seen, it means that the place of the current smoke machine is not active, not switched on.

By pressing the ESC you can get back to the menu, by pressing the ENTER you can edit the place of the currently selected smoke machine.

Press the ENTER button to edit the current place.

```
SMOKE NAME:
SMOKE-01
```

You can provide a name to the place of the smoke machine. The controller will automatically offer a name, it may as well be kept, but it is worth renaming it for the easier identification for whom wants to use more smoke machines. It is possible to edit the text of the lower line according to those described in the chapter of word processing.

By pressing the ESC you can get back to the selection of the place of the smoke machine, by pressing the ENTER – after providing the name – you can proceed by the editing.

```
SMOKE:1   DMX:400
CH:1  VALUE:057
```

By pots 1-8 you can adjust the value of the 8 channels, in the lower line of the display you can always see the number and value of the channel modified for the last time. By pressing buttons 1-8 the set value of any channel may be made to be written. However, the settings will get out to the dmx line, making the setup easier.

The DMX address in possible with the UP-DOWN buttons and the DATA-ENTRY pot. If we set such an address at which a unit can be found already, the dmx value will indicate the its being used by flashing. Such reserved values can be saved to the settings, however, the controller will not release smoke machine data in the reserved channels.

By pressing the ESC you can get back to the name edition, by pressing the ENTER you can proceed by the channel type selecting.

There is three type of smoke machine channel mode: SMOKE, DIMMER, FLASH

DIMMER:
Always active value on the output.
SMOKE:
Passive value on the output, active value on output till pushing SMOKE function button.
FLASH:
Passive value on output, active value on output for one DMX packet if pushing SMOKE function button

You can change channel type by UP-DOWN button.

By pressing the ESC you can get back to the name edition, by pressing the ENTER you can get back to the selection of the place of the smoke machine.

If there has not been made any modification in the menu item, the controller will get back to the setup menu by pressing the ESC button, if any modification has been made, the controller will ask for the confirmation of saving the modification.

```
SAVE CHANGES?
CANCEL  NO  YES
```

By pressing the button of 'Cancel' (LEFT) the controller will remain in the menu item, by pressing the button of 'No' the controller will get back to the menu without saving the modifications, while by pressing the button 'Yes' (ENTER) the controller will save the modification and get back to the menu in this way.

SETUP MENU 2: THE POSITION OF THE UNIT

```
P01 DMX—— P— T—
empty place
```

By the controller altogether 16 units can be controlled. There are 16 so-called positions, to which a unit of that type has to be assigned from the unit directory, which you would like to control. The 16 positions are stood for by buttons 1-16. In this menu item the units can be assigned to the 16 positions, their dmx addresses and mirror direction can be set.

In the upper left corner of the display the number of the current position can be seen, all the other data belong to this position. After the DMX text the dmx address of the current positions can be read, the selected unit has to be set to the address appearing here. On the right side the mirror direction of the unit assigned to the current position can be seen. The mirror directions can be inverted, so the mirror or head of the units installed opposite to each other will move into the same direction according to turning the right disc to the left. In the lower line of display the name of the positions belonging to the current position can be read, which can be edited as well by the user.

The position can be selected with buttons 1-16. If no unit is assigned to a position, the "blank" wording will appear in the lower line, and only the position number will appear in the upper line, the other data will be crossed out.

If you want to assign a unit to the current position, press the ENTER button.

```
┌─────────────────────────────┐
│ MANUFACTURE:                │
│ FUTURELIGHT                 │
└─────────────────────────────┘
```

At first select that one from among the manufacturers of the unit included in the controller, who manufactured the unit to be assigned. It is possible with the UP-DOWN buttons. Then press the ENTER.

```
┌─────────────────────────────┐
│ PROJECTORS:                 │
│ MH-420                      │
└─────────────────────────────┘
```

You can browse between the units produced by the selected manufacture, by the UP-DOWN buttons select the searched unit, then press the ENTER.

```
┌─────────────────────────────┐
│ PLACE NAME:                 │
│ MH-420      L1              │
└─────────────────────────────┘
```

Give the name of the position. If no unit has been assigned to the current position so far, the controller will automatically offer the name of the only just selected unit. It can be kept in this way, however, it is worth complementing it with some letter marks, for example, which will later help with determining the physical position of the unit (e.g.: MH-420 L1: the first unit in the left bridge). The name can be modified according to the those described in the chapter of word processing. If the naming has been finished, press the ENTER.

If the selected unit has soft channels, then the controller will offer the grand-master setup. By UP-DOWN you can select the mode 'on' or 'off'. If the 'on' mode is selected, then in auto and manual mod the soft channel of this unit will be affected by GRAND-MASTER slider. If the naming has been finished, press the ENTER.

By this the assignment of the unit to a position has been finished. There is still one more adjustable parameter in this menu item, this is the setup of the mirror direction. It may be needed if two lamps are installed opposite to each other, and you would like to move their light beams into the same direction by moving the right discs. At this time the mirror direction of one of the units has to be inverted. It is possible with the F5 and F6 buttons.
If you would like to delete a unit from a position, the DELETE button has to be pressed.
If no modification has been made in the menu item, the controller will get back to the setup menu by pressing the ESC button, if any modification has been made, the controller will ask for the confirmation of saving the modification.

```
┌─────────────────────────────┐
│ SAVE CHANGES?               │
│ CANCEL  NO  YES             │
└─────────────────────────────┘
```

By pressing the button of 'Cancel' (LEFT) the controller will remain in the menu item, by pressing the button of 'No' the controller will get back to the menu without saving the modifications, while by pressing the button 'Yes' (ENTER) the controller will save the modification and get back to the menu in this way.

SETUP MENU 1: UNIT INSTALLATION

```
┌─────────────────────────────┐
│ MANUFACTURE:                │
│ FUTURELIGHT                 │
└─────────────────────────────┘
```

You can find the directory of the control unit here. The controller is able to store altogether 256 different units in its memory. Due to the great number of types the data are systemized according to the manufacturers. It is possible to enter a new unit if you have not used all the 256 possibilities yet. The date of a selected unit can be modified, and a unit can be deleted.

ENTERING A NEW UNIT:

Press the NEW (RIGHT) button to enter the new unit. For this it does not matter whether you are in the selection of manufacturer name or unit name, the only difference will be that the controller will automatically provide the manufacturer name if starting from the selection of a unit name.

Providing the unit name:

```
PROJECTOR NAME:
.....
```

Give the unit name. It is possible in accordance with those described in the word processing.

By pressing the ESC the controller will get back in the unit selection, in case of modification it will ask for the confirmation of saving.
By pressing the ENTER button it will step forward to providing the name of the unit manufacturer.

```
MANUFACT. NAME:
.....
```

Give the name of the unit manufacturer. It is possible in accordance with those described in the word processing.
By pressing the ENTER button it will step forward to editing the unit, it will immediately go to edit the name of first channel of the unit.
Supplying the unit channel name:

```
CH:01  PM:NAME
    [Ch-01    ]
```

In the upper line the current channel number of the unit and the name of the current parameter can be read. When logging on, these are ch:1 and PM: NAME. In the lower line the name of the current channel can be read. If you have not given a name to it, then the controller will name it according to the serial number of the channel. The flashing caret indicates that the name can be constructed. Write the name of the unit channel according to those described in the unit name construction. By pressing the ESC you can return to the parameter selection, by pressing it again to the channel selection, then you can log off from the installation. Then it can be specified which potentiometer you want to control the current channel with.

Assigning the unit channel to a potentiometer:
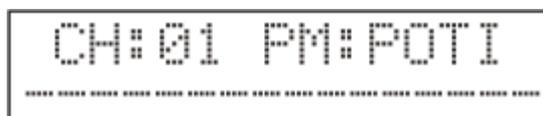
```
 CH:01  PM:POTI
..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....
```

In the upper line the current channel number of the unit and the name of the current parameter can be read, in the present case POTI. Here the current channel can be assigned to a potentiometer. In manual mode and in case of program construction the value of this channel can be set with the given potentiometer. In the lower line the assignment state of the potentiometers can be seen. The horizontal line means that no channel is assigned to the potentiometer with that serial number. The X means that a channel has been assigned to that potentiometer, but it does not belong to the channel selected currently. The star means that the current channel is assigned to the potentiometer with that serial number. In case of a channel two stars can be seen as well, because a channel can be assigned to both existing potentiometer sides.
If you do not want to control this channel with a potentiometer, it is not compulsory to assign it. Such can be, for example, a PAN or TILT channel, perhaps a channel not used by the unit either. A channel can be specified with the 1-8 potentiometers in the way that it is drawn to a value higher than its half. Then a star will indicate the potentiometer at the adequate place on the display.
Pressing the ENTER button you can move to the special settings.

Special setup of the unit channel:

```
CH:01 PM:SPECIAL
DEFAULT
```

It can be selected by the UP-DOWN buttons, if the channel has a special function: These are: PAN, TILT, PAN-FINE, TILT-FINE, MASTER, BLACK-OUT, SOFT.

If the current channel controls PAN mirror movement, the PAN special setup has to be selected. Consequently, its value can be controlled with the pan jog disc. It is the same with the TILT channel and the FINE channels. If the installed unit has such a channel, with which exclusively its intensity can be controlled, it is worth being set as MASTER. Consequently, in automatic mode the intensity of the unit can be set with the GRAND MASTER potentiometer. For the right operation of the BLACK-OUT button and the sequence setting of the black-out function is needed in case of channel, which has two states, when it does not allow the beam to leave the controller, and when it allows. This is usually the SHUTTER channel. If you want to use a channel in soft mode, then you have to set SOFT parameter for this channel. These are usually dimmers, CYM or RGB channels.

If you do not want to supply the channel with special setting, press the DELETE (LEFT) button, so the channel is settled as default. Moving with the ENTER the strobo function of the unit can be set.

Unit channel strobo setup:

```
CH:01 PM:STROBO
     ACTIV:———
```

Pressing the STROBO button a strobo effect can be launched in automatic mode in the controller. If here your current channel is of strobo type, it can be set. If you do not want to specify it as strobo, press the DELETE button, then three lines will appear after the active caption on the display. If you want strobo setup, set that value with the 7th or 8th potentiometer, on which the channel is strobing. (Tip: If it is more important for you to turn in the prisms by pushing a button, then you can give the turning-in value on the prism channel, and then the units will not start to strobo for pushing a button, but their prism will turn in).

Pressing the ENTER button you can move to switching on-off of the glow-lamp.

Unit channel lamp setup:

```
 CH:01 PM:LAMP
ON:———   OFF:———
```

If you are setting such a channel of your unit, on which the glow-lamp can be switched on or off, these values can be given with the help of the 7th and 8th potentiometers. If you do not want to give any lamp value, press the DELETE button.

Pushing the ENTER button you can move to the reset function

Unit channel reset setup:

```
 CH:01  PM:RESET
     AKTIV:———
```

If you are setting such a channel of your unit, on which there is a reset value, here you can give it with the help of the 7th and 8th potentiometers. Consequently, a reset command can be given simply to the units with the reset function in automatic mode. If you do not want to give any reset value, push the DELETE button. Pushing the ENTER button you can move to the type setup.

Setup of unit channel types:

```
  CH:01 PM:TYPE
01 [typ-01   ]255
```

Here the channels can be divided to different domains. By this means it can be exactly traced on the display what effects appear on the channels. With the help of the known word processor give the name of the first type, then with the help of the 31th or 32th potentiometer its maximum value, then push the ENTER, and you can set the name of the next type. In case of a unit altogether maximum 128 type scales can be set, but it is probably enough for the unit with all the 16 channels. In case of the last type the maximum value, that is value of 225 has to be set within a channel! There is another possibility as well, this is the percentage indication. If it is about a continuously controlled channel, e.g. dimmer, focus, then you can set the channel to indicate the percentage, then in manual mode its value can be read in percentage. This can be switched on and off by pushing the GROUP1 button.

If you have set the assignment of the channel type, push the ENTER. The controller is restored to the NAME parameter, and a colon will be flashing in front of the channel number. Setup of a channel is ready in this way.

A newer channel can be added by pushing the NEW button, then the controller automatically skips to effect name edition, and this channel can be set as well according to those described above. You can go up to 16 channels, the controller is able to control so many within one unit. It is possible to delete a channel with the restriction that always the last channel can be deleted with the DELETE button.

You can log off from the unit construction by pressing the ESC button severally. The controller asks for the confirmation of saving the modification.

```
 SAVE CHANGES?
CANCEL  NO  YES
```

By pressing the ESC again you can return to the menu from the unit selection.

MENU 1: SHAPE EDITION

```
 SHAPE:01 free
```

With the help of the shape generator located in the controller you can have 64 different shapes drawn by the mirrors or the head of the units, giving quite a number of parameters. Then these shapes can be assigned to program steps or preset scenes.

Here in the shape selection you can select from 64 shapes with 1-32 buttons and the PAGE shifting button. In the upper line of the display the state of the selected shape can be read next to its number. If it is "free", it means that this shape is not written, if it is 'OK', it has been written. In case of shape selection the contingent written shape movements can be seen immediately on the connected units.

Preparation of a new shape or modification of an existing one:
Select a shape, then push the ENTER.

```
SHAPE NAME:
.....
```

Give a name to the shape according to those described in the word processing, then press the ENTER.

```
SHAPE MASK:
..... ..... ..... ..... ..... ..... .....
```

Now it has to be set which units you would like to have a shape drawn by. The current setup can be seen in the lower line. If there is nothing in a character, then at the place with that serial number no unit has been installed. The horizontal line means that unit will not draw any shape, so it is masked. The units can be masked in and out with 1-16 button. The masked units are open and the others are closed, so very easy to identify the masked units on the stage. For two seconds after pushing the button the unit name can be read, then a star can be seen at the place of the masked units. After masking press the ENTER.

```
┌─────────────────────────────┐
│  SHAPE EDIT                 │
│ -o8/-----                   │
└─────────────────────────────┘
```

Now the masked units can be selected on buttons 1-16, and shapes can be assigned to them with GROUP1-GROUP4 buttons. You can have altogether 8 different shapes drawn: round, octet, triangle, rectangle, straight line, ex, zigzag and sine.
Adjustable parameters of the shapes:
-   Centre: the centre of shape drawing of the selected units can be set with the jog discs.
-   Width: width of the shape can be set with potentiometer 17 (0-255)
-   Height: height of the shape can be set with potentiometer 18 (0-255)
-   Speed: angular speed of the shape can be set with potentiometer 19 (0-255)
-   Direction: drawing direction of the shape can be affected with potentiometer 20 . (Forward - Backward)
-   Rotating: the shape can be rotated with potentiometer 21, in this way, for example, a laid octet can be drawn.
-   Initial angle: initial position of the shapes can be set with potentiometer 22, drawing will be started in this position.

Shape drawing can be stopped on a unit, it means that if a unit has been drawing a shape so far, and now such a shape is starting, in which the shape drawing of this unit is set to stop, it finishes the unit drawing. It can be switched on with the DELETE button.
The shape can be restarted with the SHIFT button.
If no modification has been made in the shape, then the controller returns to the shape selection by pushing the ESC button, if any modification has been made, the controller asks for the confirmation of saving the modification.

```
┌─────────────────────────────┐
│  SAVE CHANGES?              │
│  CANCEL  NO  YES            │
└─────────────────────────────┘
```
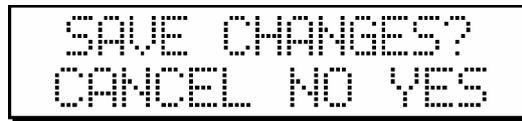
Shape deletion:
The shape can be deleted by pushing the DELETE (LEFT) button in the shape selection. The controller asks for confirmation of the deletion, and then it completes it after clicking on the YES button.

Shape copy:
Events can be copy to free places. It can be necessary if you want to use more events which have only a little differences. In this case you have to make the first event, then you have to copy it to free place, and then you have to modify it and ready.
First select the event which you like to copy, and press NEW button. Its led will blinking and on the lower line of the display you can read the copy text. Select a free event with 1-32 button where you 'd like to copy the event. On the display apper the onfo about source and destination places. If you press ESC the controller step back without copy, but you press ENTER the controller will copy the event.

MENU 2: PROGRAM EDITION

```
┌─────────────────────────────┐
│  PROGRAM:01  free           │
│                             │
└─────────────────────────────┘
```
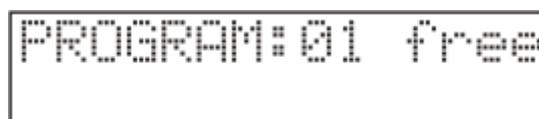
In this menu item 64 programs run by the controller can be written here, the exiting one can be edited or deleted. The controller is able to store altogether 2048 program scenes, the maximum step number of a program can be 99 steps.

In the upper line the number of the selected program can be read, or if it has been written, its step number, if it has not been written, 'free' caption can be read. In the lower line the program name can be read if the program has been written.

Select a program with the help of button 1-32 and the PAGE shifting button. Pressing the ENTER you can move to the program edition, its first step is giving or modifying the program name.

Giving a program name:

```
PROGRAM NAME:
.....
```

Give a name to the program according to those described in the word processing, then push the ENTER.

Program masking:

```
PROGRAM MASK:
.... .... .... .... .... .... ....
```

Now it has to be set which units you would like to take part in the program running. In the lower line you can see the current setup. If there is nothing in a character, there is no unit has been installed at the place with that serial number. The horizontal line means that unit will not take part in the program, so it has been masked. The units can be masked in and out with buttons 1-16. The masked units are open and the others are closed, so very easy to identify the masked units on the stage. For two seconds after pushing the button the unit name can be read in the lower line, then a star can be seen at the place of the masked units. After masking push the ENTER.

Program scene time:

For every program scene can be order a wait time. If you run a program with program scene time, then b scene changing the program scene time will overwrite the wait time.

If you like to use the program scene time then push UP button to switch it on. If not then push DOWN button. The actual position can be see on the display. It the 'Preparation of a program scene' chapter you can read how to set this time. After setting press ENTER button.

Program group starting:

For every program can be set a group number or actual group text. If you choose the ACT text, then if starting the program, it will always start in the actually selected group. If you choose a group number, then if starting the program, it will always start in this selected program group.

After setting press ENTER button.

Program edition:

```
LOADING PROGRAM
  PLEASE WAIT
```

For a few seconds the program is being loaded, then the controller enters the program edition.

```
    NO UNIT
SELECTED (1-16)
```

The caption reminds that a unit has to be selected with buttons 1-16, since the program cannot be modified without it. Select one or more units with buttons 1-16.

```
┌─────────────────────────┐  ┌─────────────────────────┐
│ U01 23/15 ERT153        │  │ U01 POT03 ERT153        │
│ SHUTTER        Open     │  │ SHUTTER        Open     │
└─────────────────────────┘  └─────────────────────────┘
```

Preparation of a program scene:

If any unit has been selected (the LED's belonging to the selected units are flashing on buttons 1-16), data of the channel modified at last of the unit selected at last can be always seen. After letter U (Unit) in the upper line number of the unit selected at last can be seen. In the middle the number of the potentiometer moved at last, the number of the edited program and the number of the program scene being edited currently can be seen alternately. At the end of the line the current value of the channel can be read.
In the lower line the name of the channel effect modified at last and the type name belonging to the current value can be read. Units can be selected with buttons 1-16, its LED will be flashing, or the selection can be stopped, its LED will illuminate with half intensity again. One-one channel of the selected units can be modified with potentiometers 1-32. With the JOG discs the mirror and the head movement of the selected units can be set. If you have set a scene, push the ENTER button to save the scene. On the display number of the program scene will increase by one, then the next scene can be set in the mentioned way. A program can consist of maximum 99 steps.

Setup of a shape into a program scene:
Any of the 32 shapes to be edited can be assigned to a program scene. For this push the SHAPE (MANUAL) button.

```
┌─────────────────────────┐  ┌─────────────────────────┐
│       23/15 SHAPE       │  │      23/15 SHAPE        │
│ FIRST STAGE Pr.         │  │       STOP              │
└─────────────────────────┘  └─────────────────────────┘
```

Further on the number of the edited program and the scene can be read in the middle of the upper line of the display. In the lower line name of the shape assigned to the current step or 'STOP' caption can be read, or the line is empty. The empty line means that no shape is assigned to the current step, the 'STOP' caption means that each shape drawing will stop in the current step. If there is a name in the lower line, one is flashing on the LED's 1-16, this means the number of the selected shape. A shape can be selected with buttons 1-32, if you want to stop the shape drawing in the current step, the LEFT button has to be pushed, if you do not want any change in the shape drawing until now, push the RIGHT button. It is possible to set the initial position of a shape as well and to save these positions in a scene. It has the significance that the beams add the initial positions for the shape drawing from the previous program scene, then they start drawing in the next step. After selecting the shape (buttons 1-32) push the GROUP1 button for this.
Pushing the SHAPE (MANUAL) button again, you can return to the scene editions.

Setting program scene time:
If the program scene time is activated, you can order a time for every scene what you edit. Switch off all unit with button 1-16 and rotate the wait slider. On the display will appear the actual scene time. In the maximal and minimal position of the slider you will see off info. In this position the program scene will not modify the wait time.

Reviewing the program scenes:
It is possible to review the program scenes before you log off from the program edition. You can move between the program scenes with the UP-DOWN buttons, and the current scene is called out by pushing the RECALL button. By this means it is possible as well to copy an scene to the place of any. Select the number of the scene to be copied, push the RECALL button, the scene will be loaded. With the UP-DOWN buttons find the scene, where you want to copy to, then press the ENTER button to save the scene. If the edition is ready, you can log off pressing the ESC button.

Saving the programme:
When pressing the ESC button, the controller asks for the confirmation of saving the modification. You have to pay attention to that the written program will consist of so many steps as the serial number of the scene saved at last is!

```
┌─────────────────────────┐
│     SAVE CHANGES?       │
│ CANCEL  NO  YES         │
└─────────────────────────┘
```

Program deletion

The program can be deleted in the program selection by pushing the DELETE (LEFT) button. The controller asks for the confirmation of deletion, after clicking on the YES button, it will complete it. By this means the scenes of the programs allocated by the program are released.

Program copy:

Events can be copy to free places. It can be necessary if you want to use more events which have only a little differences. In this case you have to make the first event, then you have to copy it to free place, and then you have to modify it and ready.

First select the event which you like to copy, and press NEW button. Its led will blinking and on the lower line of the display you can read the copy text. Select a free event with 1-32 button where you 'd like to copy the event. On the display apper the onfo about source and destination places. If you press ESC the controller step back without copy, but you press ENTER the controller will copy the event.

MENU 3: SEQUENCE EDITION

```
SEQUENCE:01/free
```

The sequence is such an event, which affects the strobo channel of the units, closes and opens it, and can be programmed which unit should be closed or open at what time, while programs can be run on them.

The 64 sequences to be run by the controller can be written in this menu item, the existing one can be edited or deleted. The maximum step number of a sequence can be 32 steps.

In the upper line the number of the selected sequence, or if it has been written, its step number, if it has not been written, 'free' caption can be read. In the lower line the sequence name can be read if the sequence has been written.

Select a sequence with buttons 1-16 and with the help pf the PAGE shifting button. Pressing the ENTER you can move to the sequence edition, where the first step is specifying the sequence name or its modification.

Sequence name specification:

```
SHAPE NAME:
.....
```

Name the sequence according to those described in the word processing, then press the ENTER.

Sequence masking:

```
SEQUENCE MASK:
..... ..... ..... ..... ..... ..... ..... .....
```

Now it has to be set which units you would like to take part in the sequence running. The current setup can be seen in the lower line. If there is nothing in a character, there is no unit installed at the place with that serial number. The horizontal line means that unit will not take part in the sequence, so it has been masked. The units can be masked in and out with buttons 1-16. The masked units are open and the others are closed, so very easy to identify the masked units on the stage. For two seconds after pushing the button the unit name can be read in the lower line, then a star can be seen at the place of the masked units. After masking press the ENTER.

Sequence edition:

```
SEQUENCE:32/32
----*----*----*----
```

In the upper line the number and the current step number of the edited sequence can be read. In the lower line positions of the sequence channels of the units can be seen. The horizontal line means the closed position, the star means the open position. The position of the units can be changed with buttons 1-16. With the ENTER button you can move to the next step. With the UP-DOWN buttons any step can be set, and its original position can be reloaded with the RECALL button. If the sequence edition is ready, log off by pressing the ESC button. The controller will ask for confirmation of saving, after saving it will return to the sequence selection.

Sequence copy:

Events can be copy to free places. It can be necessary if you want to use more events which have only a little differences. In this case you have to make the first event, then you have to copy it to free place, and then you have to modify it and ready.

First select the event which you like to copy, and press NEW button. Its led will blinking and on the lower line of the display you can read the copy text. Select a free event with 1-16 button where you 'd like to copy the event. On the display apper the onfo about source and destination places. If you press ESC the controller step back without copy, but you press ENTER the controller will copy the event.

MENU 4: PRESET EDITION

```
PRESET:01  free
```

The preset is a scene on the stage, it could contain light beam positions, colours, gobos, other effects, but may be only exclusively colours. In this controller possible to make 64 different preset scene, and they can be call simply in auto mode. The preset scene can be masked by channels, so in one preset scene can be given which channels should take part. This is why a preset scene can be used as colour macro.

The preset is a set scene, which can be called for button pushing.
The 32 presets to be run by the controller can be written, the existing one can be edited or deleted in this menu item.
In the upper line the number of the selected preset can be read, if it has been written, 'OK' caption, if it has not been written, 'free' caption can be read. In the lower line the name of the preset can seen if it has been written.
Select a preset with the help of the buttons 1-32 and the PAGE shifting button. Pressing the ENTER you can move to the preset edition, where the first step is to give the name of the preset or its modification.

Giving the preset name:

```
PRESET NAME:
.....
```

Name the preset according to those described in the word processing, then push the ENTER.

Preset masking:

```
PROGRAM MASK:
----- ----- ----- ----- ----- ----- ----- -----
```

Now it has to be set which units you would like to take part in the preset scene. In the lower line you can see the current setup. If there is nothing in a character, there is no unit installed at the place with that serial number. The horizontal line

means that unit will not take part in the preset, so it is masked. The units can be masked in and out with buttons 1-16. The masked units are open and the others are closed, so very easy to identify the masked units on the stage. For two seconds after pushing the button the unit name can be read in the lower line, then a star can be seen at the place of the masked units.

One channel can be masked next way: Select the unit which contains the channel (1-16 button). Move the slider which can control the selected channel to the top (over 50%) and on the display will appear also the info about channel name and active mask info. If you move a slider under 50% then it will switch off from the preset scene mask. It is also possible to switch all channel in mask with pressing RECORD button. On the display appear the info: ALL CAHNNEL ON. If you like to make a preset scene with only some channels it is reasonable to push DELETE button (ALL CHANNEL OFF) and then switch on only the wanted channels.

How get to know if a channel on or off in the mask? Press and hold MANUAL button, and select a unit (1-16 button). Now you have to move a slider, if you hold the MANUAL button pressed then the channel mask state will not change only its status will appear on the display.

After masking press the ENTER.

Preset edition:

```
U01 POT03 ERT153
SHUTTER      Open
```

Edition of the preset scene is the same as edition of a program scene, the only difference is that you cannot move to the next scene by pressing the ENTER button.

If the edition is ready, you can log off by pressing the ESC button.

Preset saving:
For pressing the ESC button the controller asks for the confirmation of saving the modification.

```
SAVE CHANGES?
CANCEL  NO YES
```

Preset deletion:
The preset can be deleted in the preset selection by pressing the DELETE (LEFT) button. The controller asks for the confirmation of the deletion, then it executes it after clicking the YES button.

Preset copy:
Events can be copy to free places. It can be necessary if you want to use more events which have only a little differences. In this case you have to make the first event, then you have to copy it to free place, and then you have to modify it and ready.

First select the event which you like to copy, and press NEW button. Its led will blinking and on the lower line of the display you can read the copy text. Select a free event with 1-32 button where you 'd like to copy the event. On the display apper the onfo about source and destination places. If you press ESC the controller step back without copy, but you press ENTER the controller will copy the event.

MENU 5: RECORD EDITION

```
RECORD:01/free
```

The record is such an event, which starts programs and leave them to run until the saved time.

The 64 records to be run by the controller can be written in this menu item, the existing one can be edited or deleted. The maximum step number of a record can be 85 steps.

In the upper line the number of the selected record, or if it has been written, its step number, if it has not been written, 'free' caption can be read. In the lower line the record name can be read if the record has been written.

Select a record with buttons 1-32 and with the help pf the PAGE shifting button. Pressing the ENTER you can move to the record edition, where the first step is specifying the record name or its modification.

Record name specification:

```
RECORD:01/free
```

Name the record according to those described in the word processing, then press the ENTER.

Record edit:

```
RECORD:01/01
PR:01  TIME:001.5
```

In the upper line the number of the selected record and the number of the actual step can be read. In the lower line the number of the program which is ordered to the actual record step, and the time which is the running time of the ordered program can be read. In the actual record step you can with help the PAGE and 1-16 button a program (1-32). The record step time can be setup with the sliders 6,7, and 8 (0.1s-999.9s).
If one record step is edited, you can save it temporary with push ENTER button. The controller will increase the actual record step by one, and you can setup this next step.
With the DATA ENTRY poti you can select any record step, and then you can modify it. If the edition is ready, you can log off by pressing the ESC button.

Record saving:
For pressing the ESC button the controller asks for the confirmation of saving the modification.

```
SAVE CHANGES?
CANCEL  NO YES
```

Record deletion:
The record can be deleted in the record selection by pressing the DELETE (LEFT) button. The controller asks for the confirmation of the deletion, then it executes it after clicking the YES button.

Record copy:
Events can be copy to free places. It can be necessary if you want to use more events which have only a little differences. In this case you have to make the first event, then you have to copy it to free place, and then you have to modify it and ready.
First select the event which you like to copy, and press NEW button. Its led will blinking and on the lower line of the display you can read the copy text. Select a free event with 1-32 button where you 'd like to copy the event. On the display apper the onfo about source and destination places. If you press ESC the controller step back without copy, but you press ENTER the controller will copy the event.

MENU 6: FUNCTION BUTTONS

You can find function buttons on the controller with F1-F8 denomination. You can select a function to these buttons in the menu of function buttons. So everyone can assign the functions being the most important for you to the buttons, and the controller can be used the best.

```
┌─────────────────────────────────────┐
│ FUNCTION BUTTONS                     │
│ F1:    ─────────────                 │
└─────────────────────────────────────┘
```

With the UP-DOWN buttons always the flashing value can be set. At first select one from among F1-F8, then press the ENTER.

The next flashing parameter will be the function name. Again with the UP-DOWN buttons select one from the list. There are functions that do not have any parameter, in this case you cannot step forward by pressing the ENTER button, while you can in case of the functions for which you can set parameters. You can step back by pressing the ESC button. If you do not want to assign any function to a button, it can be deleted by pressing the DELETE button.

Selectable functions and their description

GROUP
The controller can run four programs at the same time. The parallel programme run can be made in groups. The controller can manage altogether 4 groups, for each group it can be run with different speed.
The parameter of the function is the group number from 1 to 4. If only one group is used, it is not worth assigning it to a button, however, in case of two it is necessary.

BLACK-OUT
When being pressed, the function will close the units, that is, it will produce a black-out function. It is peculiar in this controller that it can be set by parameters, as it can be specified which units it should affect from 1-16. It is important for that reason as well that, if necessary, one can name more function buttons as BLACK-OUT, and can set them so that, for example, by pressing one of them, only the lamps at the beginning of the stage should go dark, while by pressing the other one the rear lamps should, and one can set a third function to black-out by which all can be closed. The unit can be designated with buttons 1-16 after the B-OUT parameter has been selected. In addition it can be set by other parameters so that the movement of the units should stop during the BLACK-OUT or should run further on in, of course, a closed state. These are the STOP or '-' wordings.

MANUAL BPM
The program frame time can be given according to the manual rate on the button set to MAN.BPM function. Its parameter is the group number. It can be set which group it should affect or if it should affect all (ALL) simultaneously..

MUSIC
The music mode can be activated not only by setting the WAIT pot to its maximum value, but it can be assigned to a function button as well. It also can be set by parameters that which group it should affect.
After pressing it the groups assigned will step forward, make framing according to the rate of the built-in microphone.

STOP
The 'stop' mode can be activated not only by setting the WAIT pot to its minimum value, but it can be assigned to a function button as well. It also can be set by parameters that which group it should affect.
After pressing it the group program assigned will stop framing.

=WAIT
This mode can be activated not only by setting the SPEED pot to its minimum value, but it can be assigned to a function button as well. It also can be set by parameters that which group it should affect.
After pressing it the SPEED time of the assigned groups will be the same as the WAIT time, so the light beams will move in a program frame for exactly the same period of time as after which the framing will happen.

SLIDER
On the SLIDER button all the four pot sides can be accessed, however, one for whom the manual accessibility is important and who uses lamps of great number of channels may put one-one pot side to a function button, so he can swift to any of them fast.

PAGE
The pages of event groups can be switched not only by the PAGE button, but each page can be assigned to one-one function button as well. If one wants to access the events fast, it is worth putting them to a function button for him..

SMOKE

If one wants to control a smoke machine (or any dmx equipment) separately from the units, he can assign it to a function button here. According to its parameter max. four smoke machine buttons can be provided, all of them can be with max. 8 channels.

STROBO
When installing the unit it can be specified which channel of its should be of STROBO type and which value should be where this channel strobes. With the STROBO function, by pressing the button the strobes can be switched on, and the units will strobe until the button is not switched off again.

WAIT30
You can select the program scene changing time by WAIT slider from 0.30s to 5.00s. If you activate the WAIT30 function, then the maximal value of wait slider will be 30s. So, if you need slower program running time you can do it by this function.

WS-SAVE
In case this function is activated then if you stop a program, the desk will save its wait end speed time, and if you start again then the saved data will load automatically.

PROJGRP
It helps to control the units in manual mode or also in program edit mode. If you choose this function, you can select units by 1-16 buttons. In automatic mode if you push the function button, the masked units will select automatic.
Example: If you want to set the blue colour on the first six unit, you have to make one function button with masking 1-6 units. Then you can select the units 1-6 by pushing this function button.

PRG.BPM
It is possible to run and change programs automatically by music tact.
In automatic mode you can configure this function.
Press and hold pressed the function button. Move WAIT slider to set program changing time between 00:01 to 4:00min. Select bpm part by DATA-ENTRY slider, and set the bpm value by upper JOG wheel. Press program buttons (1-64) more times to select bpm part: off, slow, mid-slow, mid-fast, fast.
If you start this function then after music tact the controller will select one bpm part, and will randomly start one program which was set to this bpm part. After selected program changing time will change program randomly.

MENU 7: FUNCTION SETUP

Some function of the desk can be saved after setup. After the start of desk this functions will load automatically.
After enter on the left side of the display you can see the name of the function. Select by UP-DOWN buttons. Press ENTER to have the possibility changing parameter by UP-DOWN button.
At the moment the next function can be setup:

WAIT30
-    **off**: WAIT and SPEED value can be select between 0.3-5.0s, with this parameter will start the desk any time
-    **on**: WAIT and SPEED value can be select between 0.3-30.0s, with this parameter will start the desk any time

WS_SAVE
-    **off**: If start a program, its earlier saved wait and speed time will not load (original working mode)
-    **on**: If start a program, its earlier saved wait and speed time will load (new working mode)

WAIT-ST
-    **off**: on WAIT slider minimum position STOP function disabled
-    **on**: on WAIT slider minimum position STOP function enabled

WAIT-MU
-    **off**: on WAIT slider minimum position MUSIC function disabled
-    **on**: on WAIT slider minimum position MUSIC function enabled

AUTO-SR
-    **off**: After powering the device the BO led will blink and with pushing BO button will start the device.
-    **on**: After powering the device will automatically start and run the program which was run when user activated this function.

MENU 8: FUNCTION EVENT

It works same as FUNCTION BUTTONS menu, but it effects the 17-32 event buttons. If not enough to have 8 function buttons, then now you have 16 more possibility.

MENU 9: SETUP

From here you can enter the setup menu pressing the ENTER button.

AUTOMATIC MODE

The events written in the menu can be launched in automatic mode according to the data set in the setup menu, and the parameters of the launched events can be changed.

If there is no light effect from the unit, pleas control the state of GRAND-MASTER slider. It is possible that the dimmer and soft channels values are regulated by GRAND-MASTER slider.

Function of some operating devices:
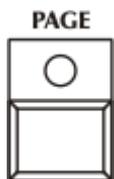
PAGE button: its LED illuminates with half intensity, then the events 1-64 can be launched with buttons 1-32. After pushing its LED will be flashing, in the lower line of the display the 'PAGE 33-64' caption will appear for a short time, according to it the events 33-64 can be launched with buttons 1-32. After pressing again the 'PAGE 01-32' will appear, the events 1-32 can be launched again.
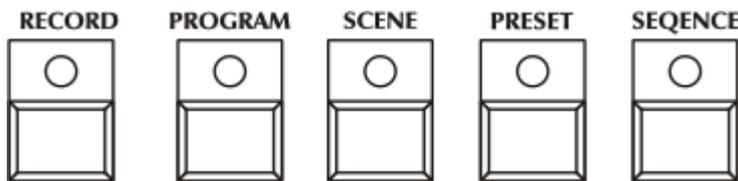
Event bank buttons: only one can be active from the buttons, its LED illuminates with total intensity, the other LEDS do it with half intensity. When pressing them, they are able to redeem each other. With buttons 1-16 that event can be started, which event bank is active. So after pushing the PROGRAM button programs, after pushing the PRESET button preset scenes can be launched. The page has to be shifted to launch an event with serial number of 17 or a higher one. If you start an event, the event bank button will blink also. So, if you press SEQUENCE button, then you can start sequences with 1-16 button. If you press button one, its led will blink, and also SEQUENCE buttons led will blink. If you press PROGRAM button, its led will illuminates with total intensity, and the SEQUENCE led will blink with half intensity. So you select now programs, but you see that you have running sequence. If a blinked event bank button lights with full power and you push it, its event will stop if there was a running one, and it will stop also blinking. Except SCENE button, read more in 'Select program scene by one' part.
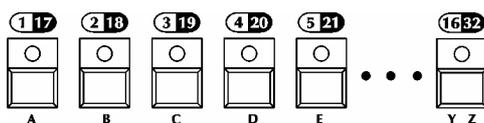
Buttons EVENT 1-32: Events can be launched on them, actually always those belonging to the current event bank. If a LED does not illuminate, no event is written to it in the current event bank. If its LED illuminates with half intensity, an event has been written on it, and it can be started by pushing the button, then its LED will be flashing. It can flash with half intensity as well, it may occur if the program belonging to it is running and meanwhile you select another bank with the bank-selecting buttons. With this half-intensive flashing you indicate that the program with this serial number is running, but not in the current group.
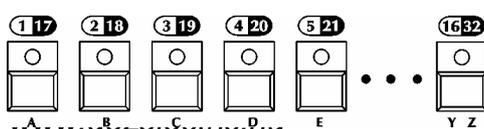
Buttons FIXTURE 1-16: Fixtures can be selected for manual control

Launching the programs:

After pushing the PROGRAM button the programs can be launched on the buttons 1-32. After launching the program its LED will be flashing indicating that the program is running. On the display you can read the number of the program running in the current group and the scene number. If you select another group, the LED indicating the program having run until that time will be flashing with half intensity indicating that the program belonging to it is running, but not in the current group. If such a program has already been running in another group, it can be launched as well, the only change will be that the program will take up the speed and scene shifting time of the current group.

When making the programs, they can be masked. It means that it can be specified which units should take part in it. When launching a program, the units belonging to its mask will run according to the launched program. If a unit has run in another group so far, it drops from that group, and only the remaining programs will belong to that program. It is called unit robbery. If all the units have been robbed from a program by program launchings in other groups, the program automatically stops, its flashing LED will not flash any more.

If the program button is kept pressed and you press any of the buttons 1-32, the program belonging to it will not start, but the controller displays the name of the program in the lower line for a short time, which can be given in the program edition. By this means the program can be identified easily, and there is no chance to launch a wrong program accidentally!

Program scene shifting time modification:
The time between loading the program scenes after one another can be set in different ways. With the WAIT potentiometer the scene shifting can be stopped (stop), shift for music can be switched on (music), or the time clue can be adjusted (wait) with the BMP button (manual bpm) or the jog discs (auto bpm). With the SCENE button (scene) you can also affect the program scene shifting.

In music mode the programs can be shifted from the built-in microphone unit or from outer source through the audio port.

1. STOP mode:

```
G1 P01/03 S1.555
        STOP      /1
```

Turning the WAIT potentiometer into maximum position the stop mode can be switched on, which affects always only the current group! In the lower line of the display the STOP caption can be read. In the current group there is no scene shifting until the stop mode is not interrupted.

2. MUSIC mode:

```
G1 P01/03 S1.555
MUSIC:---.-bPm/8
```

Turning the WAIT potentiometer to music signalling the music mode becomes active, which affects always the current group! In the lower line of the display the MUSIC caption can be read, and then the perceived pace in bpm. The controller is able to indicate the received microphone pace in 60.0-200.0bpm range. At that time in the current group an scene is shifted when a microphone impulse arrives from the outer audio signal sender. In the controller there is automatic microphone sensitivity setup, which allows that very good pace perception should be available in case of different volume. If the pace is outside the given range, the program scene is shifted as well, but is signalled on the display by horizontal lines.

3. WAIT mode:

```
G1 P01/03 S1.555
     WAIT:1.065s  /1
```

In the intermediate positions of the WAIT potentiometer a time value can be set, this range is between 0.300s-5.000s. The setup is made according to a logarithmic scale so that that perception of changing the scene shifting time should be as good as possible. On the display you can read the current time with punctuality of thousand second. This setup also concerns only the current group.

4. MANUAL BPM mode:

```
G1 P01/03 S1.555
+BEAT:104.9bpm/1
```

When striking the BPM button according to the music rhythm severally, the controller remembers the struck pace and it will set the scene shifting according to it. The bpm value of the given pace can be read after the MBEAT (manual pace) caption on the display. This setup also works only in the current group, it affects each group in ALL group mode. It can be switched off by giving a new wait value or auto bpm.

5. AUTO BPM mode:

```
G1 P01/03 S1.555
 BEAT:104.9bpm/1
```
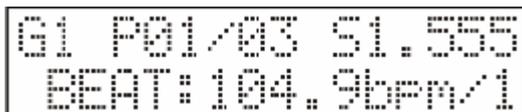
In automatic mode if you move the PAN jog wheel, a bmp value can be given in the range of 60.0-200-0bpm with punctuality of decimal. If you know the bpm value of the played music, then setting this value and pressing the BPM button once, the program can be shifted synchronized with the live music. A divider can be set with the TILT jog disc. This means that the real scene shifting will happen at as many steps as this value has been set, its range: 1-8.

6. SPECIAL mode:
Rotate the TILT jog wheel until you see in the upper line right side of the display the 'S' letter (it means Special). In this mode the program scene changing will work others.
Now if you start a program, only the first unit channels will load. After wait time the program scene number will not change, but the second unit channel will load. And so on. After the last unit channel loaded, the program scene number will increase by one.
With this mode you can make great effects also with simple programs. Try to change in special mode the wait and speed time. If the speed time is higher then wait time, one of the beam moving when a new beam will start move.

7. SCENE mode:
When pressing the SCENE button shifting of the programmes stops on the actual group, and step shifting will happen by pressing the SCENE button again, or pressing button 1-16. This mode can be switched off only by pressing an another event group button: RECORD, PROGRAM, PRESET, SEQUENCE.

Control of the head movement and mirror movement speed:

In automatic mode the speed of the beam movement can be influenced by the SPEED and WAIT potentiometers.

1. SPEED setup for own time:
With the SPEED potentiometer the movement time can be set in a range of 0.300s-5.000s. It happens according to a logarithmic scale, in consequence with which the beam speeds can be set very comfortably.

2. SPEED set for wait time:

```
G1 P01/03 S=WAIT
 WAIT:1.065s /1
```

When turning the SPEED potentiometer to maximum value, it can be reached that the speed times should be the same as the scene shifting times. Consequently, the speeds can be set with the WAIT potentiometer, and the beams will get to the new position within a time being exactly the same as the scene time, that is at the moment of their stop the next scene begins to load. So during the program running the beams will never wait at the same time. The display writes in the right upper line that the SPEED value is the same as the WAIT value at present.

Launching the sequences:
By pressing the SEQUENCE button the sequences can be launched on the buttons 1-32. At that time in the upper line on the display number of the sequence launched by chance and its step number can be read, with the current speed on the right side. In the lower line the current position of the sequence can be seen, which unit is in open or closed position at that moment. If the sequence button is kept pressed and you press any of the buttons 1-32 in this way, the sequence belonging to it will not start, but the controller displays the name of that sequence in the lower line for a short time, which can be given in the sequence edition. By this means a sequence can be identified easily, there is no chance to start a wrong sequence accidentally!
To control sequence speed has more possibility. In the minimal position of the wait slider the sequence will stop. In the maximal position of the wait slider the sequence will run by music control. You can select also an AUTO BPM value with PAN jog wheel, or give a manual bpm value with BPM button.

Calling the preset scenes:
By pressing the PRESET button the preset scenes can be started on the buttons 1-32. At that time the information does not change on the display.

When calling the preset scene, the channels of the units belonging to the preset scene get to manual mode, their value is set according to the preset scene. LED of the MANUAL button starts flashing, indicating that there is channel in preset mode. A preset scene can be terminated by pushing the PRESET button. If the preset button is kept pressed and you push any of the buttons 1-16, the preset belonging to it will not start, but the controller will display the name of the preset in the lower line, which can be given in the preset edition. By this means a preset can be identified easily, and there is no chance to call a wrong preset accidentally! The channels which are take part in the active preset scene can not modify in manual mode!

Launching the records:

```
GA R32/32 50.300
   WAIT:0.300s /8
```

By pressing the RECORD button the preset scenes can be started on the buttons 1-32. In the upper line of the display the R letter and then the started record number and its step can be read. If there is a running record and you push PROGRAM button, then you can read on the display the program numbers which started by record. If you start program while you have running record, then the record will automatically stop.

If the RECORD button is kept pressed and you push any of the buttons 1-32, the record belonging to it will not start, but the controller will display the name of the record in the lower line, which can be given in the record edition. By this means a record can be identified easily, and there is no chance to call a wrong record accidentally!

Function buttons:
On the controller programmable function buttons can be found with F1-F8 denomination. For these buttons the functions can be selected in the menu of function buttons. So everyone can assign the functions being the most important for him to the buttons, and in this way he can utilize the controller the best.

Beside the function buttons not only the F1-F8 wordings, but other denominations can be found as well. These are only informative, it is not important that the strobe function should be on the STROBE (F1) button, or the black-out function should be on the BLACK-OUT (F8) button. For example, the black-out can be on more buttons simultaneously as well.

You can find a description about the selectable functions and their operation in the chapter about function buttons.

Function event:

There is 32 event button on the desk, and the last 16 can be used as function button. In the FUNCTION EVENT menu you can select functions for 17-32 event buttons. So if for somebody not enough to have 8 function button, then it is possible to have 16 more. You can find more information about selectable functions in FUNCTION BUTTONS menu.

MANUAL MODE

Into manual mode you can enter by pressing the MANUAL button. Here the channels of the units can be taken out from the program running, and their values can be changed with the help of the potentiometers 1-32 and the jog discs.

After entering, the LED of the MANUAL button will illuminate with total intensity, indicating that the manual mode is active. Units can be specified with the buttons 1-16 (their LED's will be flashing). If there is no unit selected, the caption 'NO UNIT SELECTED' appears on the display. Otherwise on the display always the value of the channel modified at last of the unit selected at last can be read.

```
U01 POT03 ERT153
SHUTTER     Open
```

After letter 'U' (Unit) the serial number of the unit selected at last can be read. After the 'POT' the number of the potentiometer moved at last can be seen, while at the corner the value of the channel controlled by the potentiometer can be seen. In the lower line name of the channel effect modified at last and the type name belonging to the value can be read.

Channels of the specified units can be changed with the potentiometers 1-32, the current values become immediately visible on the display. If you move such a potentiometer, to which there is no channel assigned, no channel value appears, as that channel is not defined.

```
U01 POT03 VAL------
    not defined
```

Beams can be directed with the jog discs. When they are moved, always the values of the PAN and TILT channels are written on the display. Moving speed of the beam depends only on the rotating speed of the jog disc.

```
U01   JOG WHEELS
PAN:053 TILT:250
```

If at least one channel is overloaded in manual mode, the LED of the MANUAL mode signals it with flashing. When pressing the MANUAL button again, flashing stops, and all the channels that were manually overloaded, return to automatic mode.

MANUAL SHAPE FUNCTION

It is possible to call the 64 shape in manual mode. Press the SHAPE button you will see SHAPE on the screen. With 1-32 and PAGE button you can select a shape form the 64. On the lower line you can see which unit make which shape. The started shape can be stop to push its button again. The shape parameters can be modified also by slider 17-22.

GRAND MASTER function

```
G1 P01/03 S1.555
GRAND MASTER:047%
```
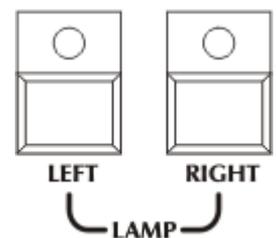
With the GRAND MASTER (DATA ENTRY) potentiometer intensity of those units can be set, which have such a channel that controls exclusively intensity (its is usually the dimmer channel), and it was marked as a special dimmer channel at the installation of the unit, or soft channels, and it was marked in Unit position menu. Either in automatic or in manual mode the intensity can be regulate with moving the potentiometer. In the lower line of the display the current intensity value appears in percentage.

LAMP function

```
LAMP SWITCH
LAMP ON
```

```
LAMP SWITCH
LAMP OFF
```

The controller is able to switch on and off the glow-lamp of the controlled units simply if the unit has such a function and a special lamp function was set at the installation! When keeping the LEFT-RIGHT buttons pressed simultaneously, the controller gets to lamp mode. At that time switching-on and switching-out values can be forwarded to the units with buttons 1-16. If you push the UP button, its LED starts flashing, signalling that the glow-lamps can be turned on now with the buttons 1-16. The controller sends switching-on values to the units, while you keep its button pressed! If you push the DOWN button, its LED starts flashing, signalling that glow-lamp switching-out commands can be sent to the units with buttons 1-16.
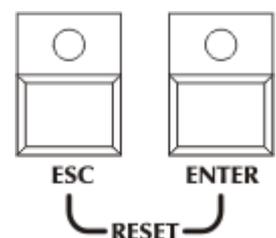You can log off from the setup pressing the LEFT or RIGHT button.

RESET function

```
RESET COMMAND
```

The controller is able to reset the controlled units simply if the unit has such a function and a special reset function was set at the installation! In case of keeping the ESC-ENTER buttons pressed simultaneously the controller gets to reset mode. Then the reset command can be forwarded to the units with buttons 1-16. The controller sends the reset command to the units until the button is kept pressed!

You can log off from the setup pressing the ESC or ENTER button.
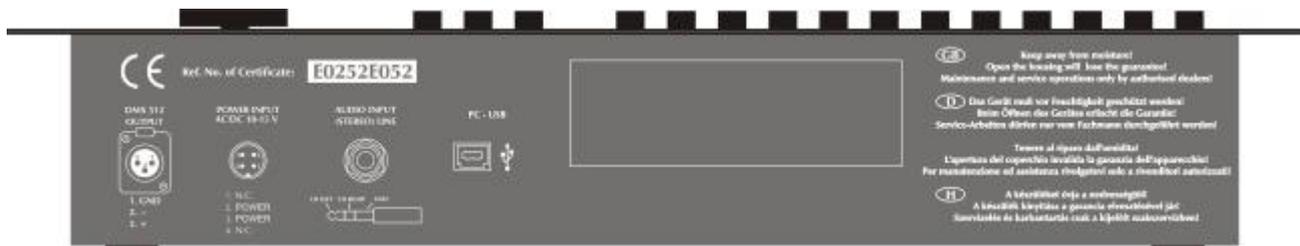
SMOKE-MACHINE control
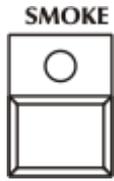
The controller suits to control a dmx smoke-machine with maximum 8 channels. It was described in the setup menu how the configuration can be made on the controller. In automatic and manual modes active values can be forwarded to the 8 smoke-machine channels when the SMOKE button is pressed.

If you keep the SMOKE button pressed, the active values can be changed with potentiometers 1-8. The controller remembers them after releasing the SMOKE button, and loads them at the next button pushing. The SMOKE active caption appears in the lower line on the display when the button is pushed.

Technical specification:

- Controlled units: 16pcs all kind of dmx unit + 4pcs max 8 channels dmx smoke machine
- Channel numbers: 16 unit by 32 channels, + 4*8 smoke machine channels
- Nr. of records: 64, max. 85 step / record
- Record step time: 0.1- 999.0s / 0.1s step
- Nr. of program scene: 2048
- Nr. of programs: 64, max. 99 scene / program
- Program wait time: 0.300s – 5.000s / 254 value
- Mirror and head speed: 0.300 – 5.000s / 255 value
- Nr. of sequences: 64, max. 16step / sequence
- Sequence speed: 0.050s – 1.000s / 254 value
- DMX refresh rate: 44Hz (default), 40Hz, 35Hz, 30Hz
- Manual beat intervallum: 60.0 – 200.0bpm

Connectors and plugs:

**DMX connector**: *For scanners, movingheads, dimmers and smoke-machines*

1. GND
2. –
3. +

Power supply: The controller can be operated from a power supply of AC and DC types, therefore the linking is not sensitive to polarity. The controller should be operated only from such a power supply, which is of 12 voltage and can be loaded with at least 500mA.

1. N.C.
2. NEGATIV (–)
3. POSITIV (+)
4. N.C.

**PC
RS-232**

PC RS232 connector: *SubD9*
Cable to be used: LINK CABLE DB9 M/F
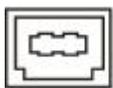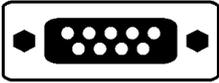
PC USB connector: *Only in USB version!*
Cable to be used: standarized cable

PENDRIVE (version M)
USB HOST CONNECTOR, Any kind of PENDRIVE can be connectd up to 2GB.

AUDIO INPUT (*STEREO LINE***) connector***: 6,3mm jack*

Dimensions and weight:
- Width: 483mm, 19"; Height: 265mm 4HE; Depth: 83mm
- Weight of the controller: 4,3kg

Accessories:
- 1pc 230V/12V AC/DC or AC/AC power supply
- 1pc operating instruction