Show tec ®

DiGi DiM-12 PRo

12 CH. DIGITAL MODULE DIMMER

Instruction Manual

Show tec®
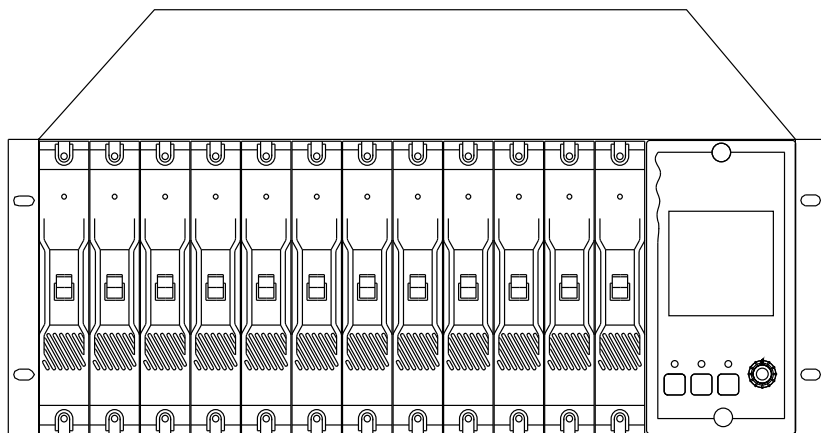
DiGi DiM-12 PRo

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specifications, design and this
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Contents

General Instructions

Thank you for your purchase. Please read the following instructions before using your new unit. After being read thoroughly, this manual shall be kept with the fixture for future reference.

CAUTION!

- Every unit is thoroughly tested and shipped in perfect condition. Carefully unpack the unit and inspect equipment for shipping damage.
- This fixture is not intended for home use.
- Do not make any inflammable liquids, water or metal objects enter this unit.
- There are no user-serviceable parts inside. Do not take the metal housing apart.
- Servicing must be conducted by qualified service personnel.

⚠ WARNING

- This product must be earthed.
- Never operate unit when case is open.
- To prevent the risk of fire or electric shock , do not expose this appliance to high temperature or humidity.
- Always disconnect the unit from main power before servicing unit , there may be high voltage inside console.

Features

The unit is a 12 channel digital module dimmer, which contains a 32-bit high power computer with a Time Processing Unit and a big graphic display. This advanced technology offers possibilities of new and satisfactory operation.

Each unit features as follows:

- Ease of operation due to multi-option menu and clear menu

- Separate DMX addressing for each channel

- Each channel can be programmed with DMX address, a control curve the limitation, the preheat of the lamps and the loadcheck.

- Free programming of control curves

- 12 internal storable memories with cross-fade

- Each chase consisting of a series of memories can be programmed with chase speed, fade time and up to 12 steps.

- DMX off /DMX failuresl can start a chase or call up a memory

- Operations can be locked while DMX or analogue input works normally as before

- DMX and MIDI input can be selectable

- Electric fuse and load check.

- Several units can be linked using Master/Slave mode

- Over-voltage and overheat warning with switch off

- Indication of incoming/outgoing signals, phase voltage, internal memories, etc. by the LCD display.

Features

The unit works with the phase angle control method with SCRs.
This method produces disturbance especially in the lower frequency range.
The disturbance will be filtered by using interference suppression filters.

The heat produced by SCRs will be blown out by an electric fan.

The short circuit protection for each channel is achieved by a high-quality
magnetic circuit breaker and SCRs with 1000A peak current capacity.

Built-in DMX512,analogue input voltage(0~10V) and load outputs allow
different applications.

About Fan Cooling

The unit's fan is used to dissipate the heat so that this unit can work in
a perfect condition.
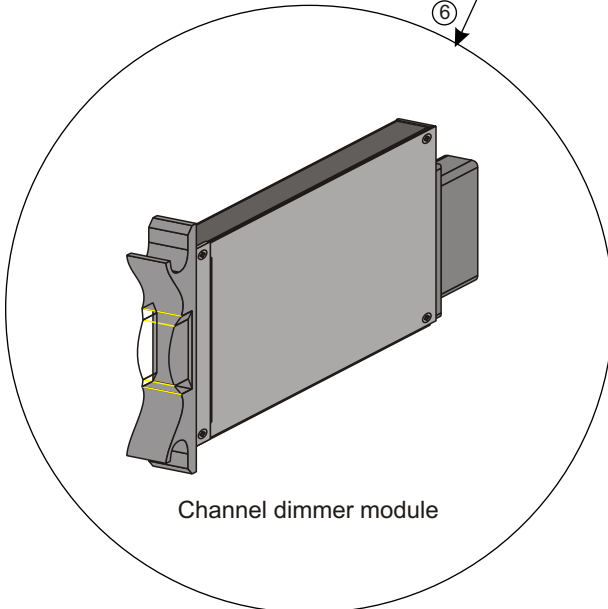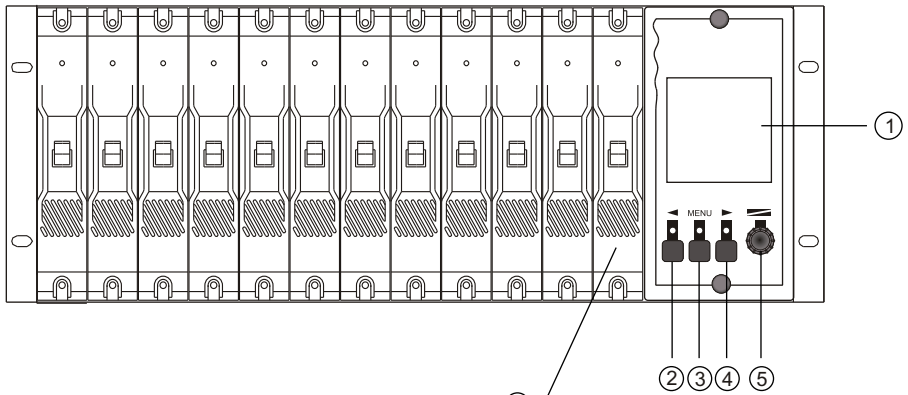When the power is turned on, the cooling fan will automatically run.
When the power is turned off, it will stop.

Attention!
After you've set up the wiring connection, remember to replace the
back cover and seal up the wiring holes so that the cooling fan can
blow the heat out.

1. Overview

1.1 Front View

Channel dimmer module

1. Overview

1.1 Front View

① **LCD DISPLAY**
Used to display various menus and submenus.

② **THE LEFT BUTTON**

③ **THE MIDDLE BUTTON**
The three "basic menus" can be selected one after the other by this middle button.

④ **THE RIGHT BUTTON**

⑤ **THE ENCODER**
The encoder can be turned with or without simultaneously pressing a button; the functions will be different in the various menus.

Programming is only possible by pressing a button and turning the encoder at the same time.

⑥ **THE CHANNEL DIMMER MODULE** (x12)
The channel dimmer module is incorporated with a 10A circuit breaker and SCRs with 1000A peak current capacity. The removable, plug & play module enables easy and flexible setup of 12 channel module.

1. Overview

1.2 Rear View
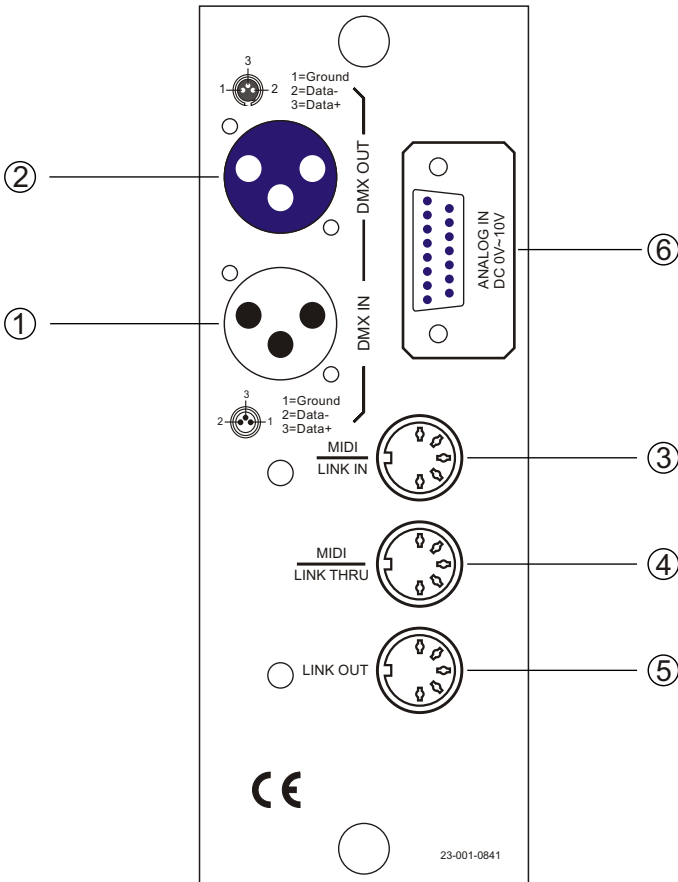
1. Overview

1.2 Rear View

①	**DMX IN**	Receives DMX signal
②	**DMX OUT**	Sends DMX signal out
③	**MIDI/LINK IN**	Receives MIDI/LINK Message
④	**MIDI/LINK THROUGH**	Switch-through MIDI/LINK Message
⑤	**LINK OUT**	Sends LINK message out
⑥	**ANALOG IN**	Receives analog signal

1. Overview

1.2 Rear View

For proper connection, please refer to the below wiring diagram printed on the top cover.

SINGLE PHASE CONNECTION

LOADING

CH12 CH11 CH10 CH9 CH8 CH7 CH6 CH5 CH4 CH3 CH2 CH1 L3 L2 L1   N N N N   E E E E

LOADING   L   N

POWER INPUT: .... AC 230V~ 50/60Hz

OUTPUT: .... 10A per channel, Total 120A

THREE-PHASE CONNECTION

LOADING

CH12 CH11 CH10 CH9 CH8 CH7 CH6 CH5 CH4 CH3 CH2 CH1 L3 L2 L1   N N N N   E E E E

LOADING   L3 L2 L1 N

POWER INPUT: .... AC 230V~ 50/60Hz

OUTPUT: 10A per channel, Total 40A per phase
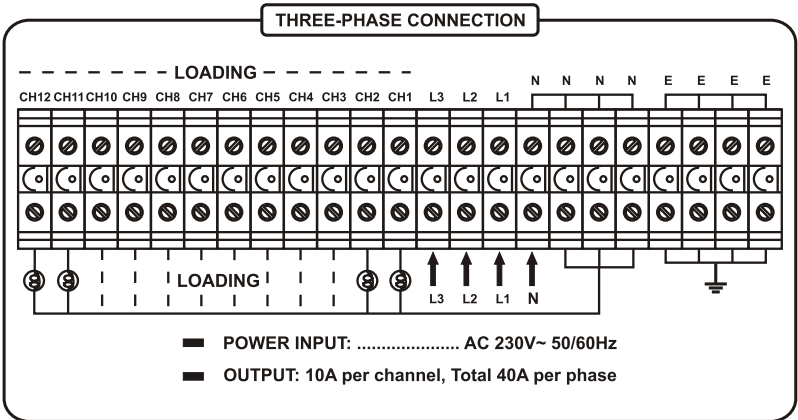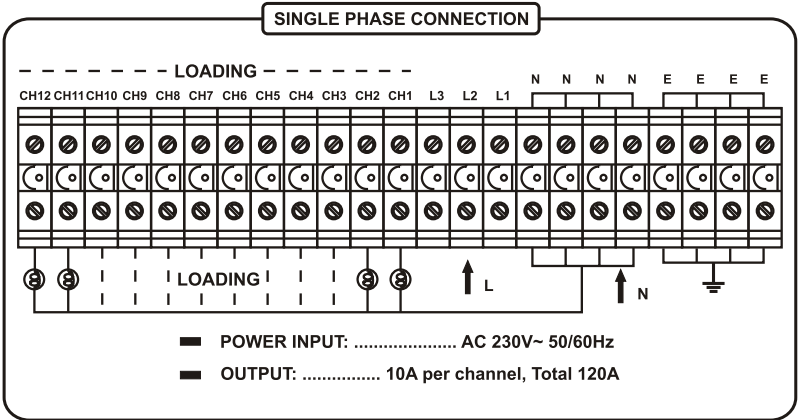
1. Overview

1.3 Preview Menu

Press Menu button for 5 seconds

Setup Menu

```
DMX    FAIL    OFF
DMX    MODE    BLOCK
MIDI/DMX         DMX
MIDI   CHANNEL    01
------------------------------------
PHASE  CORR.    YES
USER   MODE     SUPER
MASTER/SLAVE    MASTER
UNIT      No     01
CURVE   USER1    EDIT
CURVE   USER2    EDIT
------------------------------------
CLEAR   CURVES   CLEAR
DELETE   ALL     DELETE
```
Ver:1.0   OFF

`<<`   `MENU`   `>>`

Top Menu

L1 237   L2 225   L3 241

1 2 3 4 5 6 7 8 9 10 11 12

| MANUAL Value | --% | DMX Value | CHA.1 25% |
| CHA. | 1 | SET | 20 % |

`<<`   `MENU`   `>>`

Curve Menu

** SETUP CURVE

OUT
PUT
00
%

INPUT 00 %

SAVE   ◄►

`<<`   `MENU`   `>>`

Channel Menu

No	DMX	CUR	PRE	LTM	LC
1	1	-	15	30	✗□
2	2	-	-	100	✓□
3	3	-	-	100	✗□
4	4	-	-	100	✗□
5	5	-	-	100	✗□
6	6	-	-	100	✗□
7	7	-	-	100	✗□
8	8	-	-	100	✗□
9	9	-	-	100	✗□
10	10	-	-	100	✗□
11	11	-	-	100	✗□
12	12	-	-	100	✗□

CHA 1   30

`<<`   `MENU`   `>>`

Chase Menu

**CHASE

STEPS   00

FADE   %   00

SPEED   SEC   000.1

SAVE   00

`<<`   `MENU`   `>>`

Memory Menu

** MEMORIES
OFF
CHASE
MEMORY

1 2 3 4 5 6 7 8 9 10 11 12

OUT MEM

1 2 3 4 5 6 7 8 9 10 11 12

000.1   GO
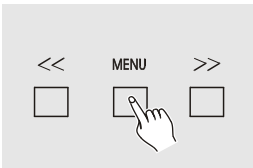
`<<`   `MENU`   `>>`

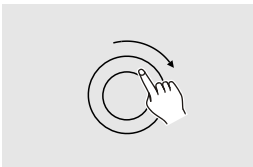# 2. Operating Guide

General

The LCD display is integrated with this 12 Channel Digital Module Dimmer.

Three buttons under the display and an Encoder (Data Wheel) make all necessary adjustments possible for example DMX address, limitation, control curves, preheat ,etc.

Working principle of such buttons is :

-- The middle button can lead to each menu.

-- All data are fed into the dimmer by the encoder.

2. Operating Guide

2.1 Top Menu

Functions:

1. After "Power On", "Top Menu" is automatically shown in the display.

2. This menu is the standard menu. All statuses, messages and input of the channel s can be displayed within it.

3. In this menu, the channels can be set to the definable values.

### *CAUTION:*

Attentions shall be taken to each item below:

- When this product is used for the first time, you'd better not input DMX or Analogue,or set each channel as "0".

- Without setting, Analogue input can be used directly.

- When using DMX512, set DMX address according to the relevant menus.

- DMX can be set by pressing the left or the right button. This can also be achieved by turning the encoder without touching any button

- To select the desired menu, tap the middle button. The menu pictures will occur alternately.

- Programming parameters by touching the left and right buttons, or turning the encoder while not holding down the left and right buttons.

- This product has three basic menus, a functional menu, a Chase menu and two Curve menus. These menus can be switched over by pressing the middle button or the left and right button.

2. Operating Guide

2.1 Top Menu

Top Menu
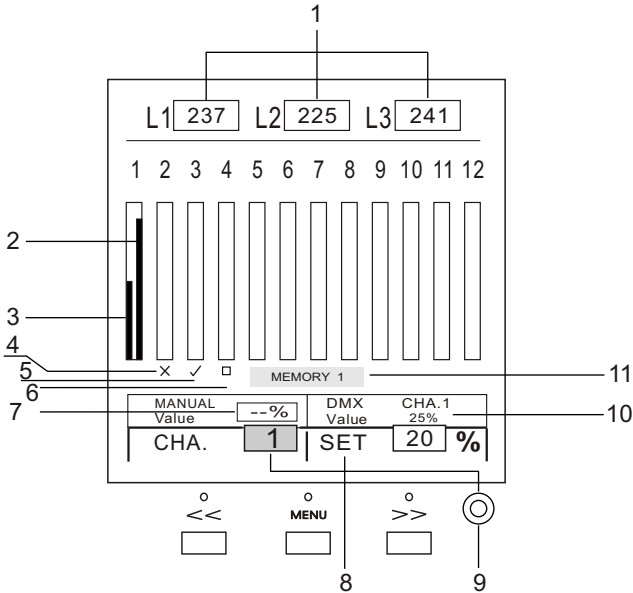
1 Voltage measurement of the 3 phases L1, L2 and L3.

2 Input monitor of channel 1 (here: external 80%)

3 Input monitor of channel 1 (here: internal 50%)

4 Load check: load disconnected

5 Load check: load connected

6 Load check is not activated.

7 Hold down the left button, turn the encoder simultaneously, then the corresponding value of the channel will be varied.

2. Operating Guide

2.1 Top Menu

8   A short touch sets selected channel(1) to predefined value(e.g.20%). Tapping again will switch it off. While holding down the right button, turn the encoder(Data Wheel),this value will be stored after switchover.

9   Temporarily turn the encoder to select one of 12 channels.

10 If DMX signal is received, both the channel in which DMX data alters and the value after being changed will be indicated. If no DMX signal received,"NO DMX" is displayed. When selected, MIDI is indicated.
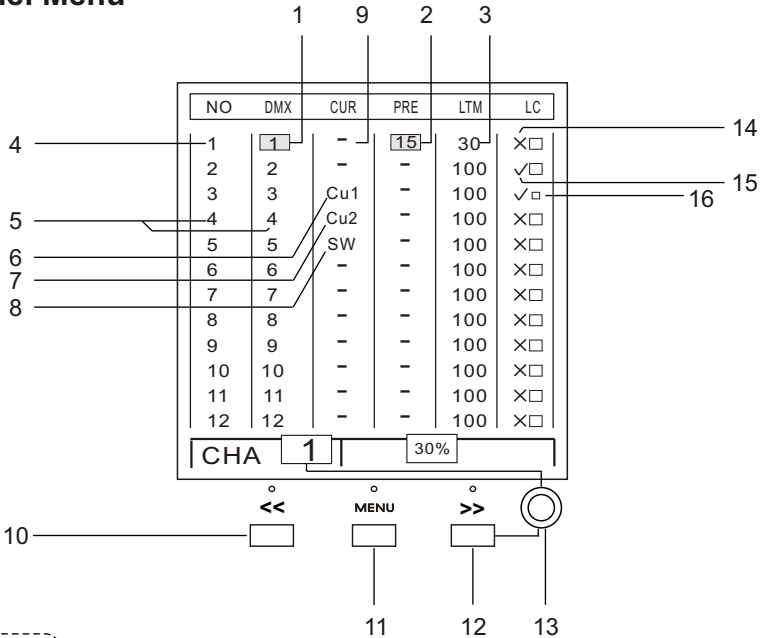
11 Temporarily adjusts internal patterns.

ADDITION:

1. Hold down the right button,"CLEAR ALL" appears at the left corner of the LCD display. Once you tap the right button, all temporary settings for each channel are to be deleted.

2. Particular attentions shall be taken to that:
    The settings of the channels will not be stored permanently and not be recalled after power off. Please use the internal Memories .

2. Operating Guide

2.2 Channel Menu

Channel Menu

NO	DMX	CUR	PRE	LTM	LC
1	1	–	15	30	✕☐
2	2	–	–	100	✓☐
3	3	Cu1	–	100	✓□
4	4	Cu2	–	100	✕☐
5	5	SW	–	100	✕☐
6	6	–	–	100	✕☐
7	7	–	–	100	✕☐
8	8	–	–	100	✕☐
9	9	–	–	100	✕☐
10	10	–	–	100	✕☐
11	11	–	–	100	✕☐
12	12	–	–	100	✕☐

CHA 1   30%

<<   MENU   >>

OPERATION

1 The shade is the cursor.

2 Preheat set to 15%.

3 Channel 1 limited to 30%. All others have no limits (100%).

4 Selected Channel (Encoder)

5 DMX address for channel 4

6 Control curve "Curve 1"

7 Control curve "Curve 2"

8 Switch status

2. Operating Guide

2.2 Channel Menu

OPERATION

9 Control curve "linear"

10 Touch the left button and turn the encoder simultaneously, the cursor moves horizontally. Then DMX, Curve, Limit and the like will be selected.

11 Menu button leads to the 3rd menu(Memory menu).
Exception: When the Dimmer is just working in " normal user " mode, the button switches back to the Top menu.

12 Holding down the right button and simultaneously turn the encoder set DMX address, types of Curves and the like.

13 One of 12 channels can be selected by turning the encoder without touching any button.

14 When no load is connected, an " x " is indicated.

15 Shows that load is connected.

16 Small rectangle denotes that load check is switched off.

Additional

- This menu always appears after the Top Menu when the middle button is pressed.

- For each channel in this menu, the DMX address, a control curve, the limitation,the preheat of the lamps and the load check is programmed.
Procedure: The encoder selects one channel (1...12). In the LCD display, the cursor is moving up and down vertically.

- While holding down the left button, turn the encoder, the cursor will move in the horizontal direction. Now "DMX address", "Curve", "Limit" ,etc.,can be selected.

- Press the right button and turn the encoder simultaneously,the actual value can be changed.
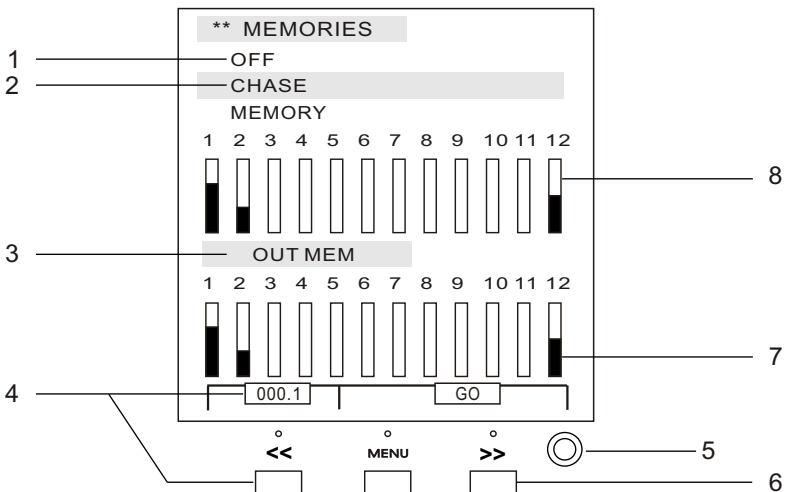
2. Operating Guide

2.3 Memory Menu

General

◆ This menu appears after the Channel Menu. Once the Menu button is pressed, this menu is activated, provided the supervisor mode is activated.

◆ In this menu, a total of 12 internal memories can be stored and recalled.

◆ In addition, the a chase can be selected. The running speed, fade time and the number of steps can be programmed. The number of chase steps is limited to 12, and each step is stored into the corresponding internal memory in advance.

OPERATION

Memory Menu

2. Operating Guide

2.3 Memory Menu

OPERATION

1 Preselect no internal memory and chaser turns off.

2 Preselect chaser, which turns on.

3 Preselect output pattern.

4 When " CHASE" is not selected by the cursor, pressing the left button and turning the encoder simultaneously changes the cross-fade time within the extent of 0.0 to 999.9.

Exception :

When the chase is selected by the cursor, "EDIT" is displayed at the right corner where cross-fade time is indicated. If now the left button is pressed, Chaser edit menu is displayed . It is a submenu of the Memory menu.

Here 3 chaser parameter can be programmed:

- "Speed" (interval between steps) 0.1~999 seconds.
- "Fade" (cross-fade time) 0~100%.
- "Steps" (number of steps) 0~12.

5 Turning the encoder without pressing any button selects OFF, CHASE and MEMORY 1~12.

6 This button will recall the selected MEMORY, CHASE or OFF function.

7 Built-in or external control signal, for example that Dimming level of CH 12 is 50%.

8 Indication of MEMORY1~12, for example that Dimming level of CH 12 is 50%.

2. Operating Guide

2.3 Memory Menu

ATTENTION!

When MEMORY is selected by the cursor, touch the left button, then "STORE" is indicated at the right corner. Press the right button again, dimming levels of all channels will be stored permanently by the dimmer.
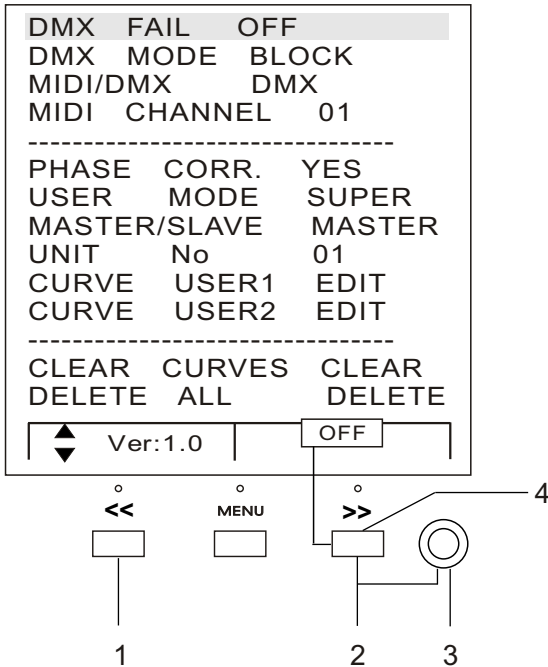
2.4 Setup Menu

General

- This menu can be achieved by pressing the Menu button for a minimum of 5 seconds.
- In this menu, very important parameters used for controlling the operation of the dimmer can be selected and set.
- Turn the encoder without pressing any button, the cursor will move up and down vertically to select different lines.
- While holding down the right button, turn the encoder, then different functions can be selected or started in that line preselected by the cursor.

2. Operating Guide

2.4 Setup Menu

Setup Menu

```
DMX   FAIL    OFF
DMX   MODE    BLOCK
MIDI/DMX      DMX
MIDI  CHANNEL    01
----------------------------------
PHASE  CORR.    YES
USER    MODE    SUPER
MASTER/SLAVE    MASTER
UNIT    No      01
CURVE  USER1   EDIT
CURVE  USER2   EDIT
----------------------------------
CLEAR  CURVES  CLEAR
DELETE  ALL      DELETE
```

Ver:1.0   OFF

°   °   °
<<   MENU   >>   4

1   2   3

OPERATION

1 Once press the Menu button, this menu switches back to the Top Menu.

2 Tap the right button and turn the encoder simultaneously, the parameters on the right of the item selected alter continually. A big character at the right corner displays the corresponding item selected.

2. Operating Guide

2.4 Setup Menu

3 Turn the encoder without tapping any button, the cursor moves up and down, selecting the desired item to set the parameters.

4 When USER CURVE is selected, press this button, you can enter Curve edit menu.

2.4.1 DMX Fail

Here the reaction to failing DMX signal can be programmed

- HOLD :   holds the last received DMX signal until a new DMX signal reaches the dimmer.

- OFF :   holds the last received DMX signal for 1 second and then switches off. The analogue input(0~10V) will be switched off, when a valid DMX signal is received.

- CHA 1s :   starts the internal chase after waiting for 1 second.

- M1   1s :   calls the internal memory No.1 after waiting for 1 second.

- M2   1s :   calls the internal memory No.2 after waiting for 1 second.

Note : Calling of other memories is the same as above.

- CHA   9s :   starts the internal chase after waiting for 9 seconds.

- M1   9s :   calls the internal memory No.1 after waiting for 9 seconds.

- M2   9s :   calls the internal memory No.2 after waiting for 9 seconds.

Note: That other memories are called is similar to that described above.

The actual status will be displayed in the Top Menu (message : " NO DMX")

                                                                                  CHASE

2. Operating Guide

2.4 Setup Menu

2.4.2 DMX Mode

Here " Block", "Single" and "2 CHA" can be selected.

- SINGLE : means that the DMX address of each channel is selectable, and even that the 12 channels can select the same DMX addresses.
- Block : means that the complete dimmer(12 channels) has only one start address.
- 2 CHA : means that the 2-channel switch-mode is active. This mode is necessary, if only 2 single DMX channels control all 12 dimmer channels.

Mode of operation:
64 different combinations for the first DMX channel control channels No.1~6; The 2nd DMX channel controls the dimmer channels 7~12.

2.4.3 DMX /MIDI Input

Here the digital serial input can be selected : DMX-512 or MIDI.

MIDI only accepts " program change" commands . Other commands are neglected. MIDI is intended for controlling and calling up 12 internal MEMORIES, CHASE or OFF. In MIDI status, the external analogue commands will be activated.

2. Operating Guide

2.4 Setup Menu

2.4.4 MIDI Channel

A total of channels 1~16 can be selected.

2.4.5 Phase Correction

Usually this control parameter is set to "ON". It makes a brightness-linear control possible. The normal non-linearity, produced by the SRC's phase angle control, is thereby compensated. This function works in addition to the " USER CURVES".

2.4.6 USER MODE

With this function the dimmer function can be cut down in 3 steps.

-SUPER :   "Supervisor" means that all functions can be used.

-NORM :   "Normal User" means that in the Channel Menu, only the
             DMX address can be programmed. The Memory Menu is
             switched off. After having tested the dimmer functions,
             the user shall use this mode, which helps protect the
             parameters set by the dimmer. The DMX address shall be
             programmable.

- LOCK :   The dimmer is completely locked and can be not be
             operated with the buttons or encoder. To change this mode,
             press the middle button because it allows the entry into the
             Setup Menu by pressing it for 5 seconds.

2. Operating Guide

2.4 Setup Menu

2.4.7 Master/ Slave Mode

Several units can be linked in Master/Slave mode. The master and slave unit must be defined when linking. The master unit only can send information out, and the slave unit only receives information. In the linkup of several units, only one master unit can be selected. The dimmers are not required to transmit information each other. All of them shall be set as the master parts or slave parts.

2.4.8 Unit Number

Not used now. It is prepared for the new DMX norm or standard revised.

2.4.9 User Curve

Here the setup menu for USER CURVE 1 or 2 can be activated by pressing the left button once.

Two individual brightness curves can be programmed. These curves can be assigned to the dimmer channels.

Turn the encoder without pressing any button, input data changes within 0%~FF%(100%). At this time, the horizontal cursor changes back and forth.
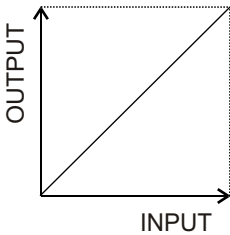
Holding down the right button and turning the encoder simultaneously makes the output data change between 0% and FF%(100%).
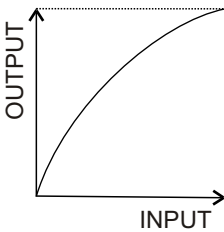
2. Operating Guide
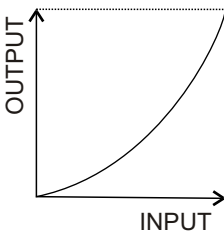
2.4 Setup Menu

2.4.9 User Curve

There are five types of curves below for reference.

1. Here the connection between input and output is linear, which is applicable to some linear loads.

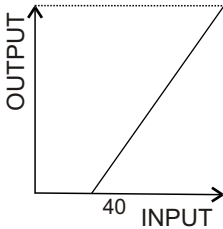2. The output reacts even at low input values.

3. The output reacts very little to small inputs, but all the more when the input is higher.
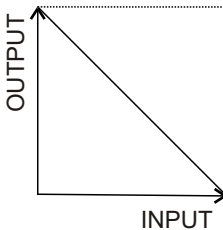
2. Operating Guide

2.4 Setup Menu

2.4.9 User Curve

4. The output does not react until input exceeds 40%.

5. If the input is 0%, the output is activated to 100%; if input is 100%, the output is 0%.

2.4.10 Clear Curves

Deletes both USER CURVES. Therefore the cursor is set on this line, the right button is pressed and the encoder turned simultaneously.

Attention!
Once this function is implemented, the programmed curves will be deleted and not be recalled. Be careful using this function, because it may impair the loads.

2. Operating Guide

2.4 Setup Menu

2.4.11 Delete All

"DELETE ALL" deletes all memories, chases, DMX addresses, curves, etc.,
which is carried out by turning the encoder while holding the right button.

Attention!
All data will be deleted and reprogrammed ! Be careful in using this
function.

Technical Specifications

Power Input.... ....AC 230V~50/60Hz

Channel Output..10A per channel, Total 120A
(for single-phase connection)

Channel Output..............................10A per channel, Total 40A per phase
(for three-phase connection)

Analogue Input...DC 0~10V

DMX In/Out..3 pin female/male XLR socket

MIDI In/Through..5 pin female DIN socket

Size.. 482.6mm×177.5mm×436mm

Weight...30.8kg