USER'S GUIDE

STAGER

ANALOG AND DIGITAL

RVE TECHNOLOGIE
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TABLE OF CONTENT

EC marking according to the EEC/89/336 and EEC/ 73/23 - Environment 1.

This device is designed for working on private or public network according to the NF EN 50 160 standard.

CHAPTER I - PRESENTATION

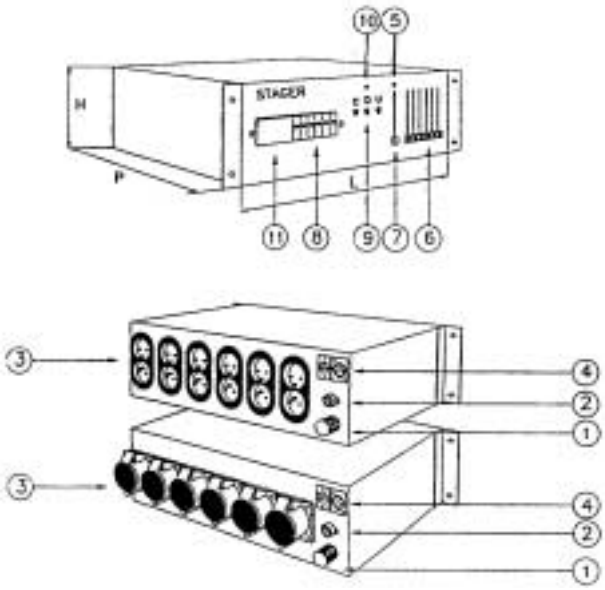
The STAGER, 6x 10 A, is a totally digital dimmer block which can be controlled by:

- **analog** control by inside power supply or by remote 0/+10V_{DC} control,
- DMX 512 USITT **digital** control

Its enclosure is made with anodised aluminium and black steel. It is equipped with a carrying handle to be easily portable.
Its sizes are 19" standard and is delivered with rackmounting brackets **in option**.

Height : H = 3 U = 133 mm
Width : L = 425 mm, 483 mm with brackets
Depth : P = 300 mm
Weight = 8 Kg.

I.1. Description



On the rear panel:

1. Power supply cable input
2. Analog input on 8 pin DIN connector
3. Outputs on double PC 10/16 A or PC EEC 16 A sockets
4. DMX 512 input and output on XLR5

On the front panel:

5. LED power for power supply
6. Channel faders
7. General “MASTER” fader
8. Protections by fuses 10 x 38 10 A
9. Encoding wheels for 1st channel numbering
10. LED DMX for reception of digital signal
11. Option: RCCD 30 mA

I.2. Electric specifications

- Power supply 230 / 400 V (3 phases + N + GND)
- Inside protection of auxiliary circuit against connection to 400 V
- TRIAC dimming, raising edge dimming
- 6 analog 0/+10 V_{DC} inputs (high impedance)
- 1 DMX 512 USITT input
- The whole of the metallic masses of the device is linked to the protection wire (green / yellow)
- EC marking according to the EEC/89/336 and EEC/73/23, Environment 1

CHAPTER II - OPERATION

II.1. Analog operation

II.1.1. Analog control from inside Stager source

The control is done from 6 channel faders, located on the front panel.
Each dimmed channel has its fader. The channel fader group is simultaneously controlled by a general "MASTER" fader.

II.1.2. Analog control from outside 0/+10 V_{DC} Stager source

- The 0/+10 V_{DC} input is done on a 8 pin female DIN connector
- For links over 100 m, it is recommended to use a shielded cable with the shield connected to the ground, only on the side of control source (to avoid the ground loop by this shield)
- Automatic adjustments of low and high thresholds when the 0/+10 V_{DC} takes place in.

Note:
To have a totally dimmed operation (from 0 to 100 %) with an outside control, it is necessary that the general "MASTER" fader and individual faders of Performer are on 0 because **the highest level takes precedence.**

II.2. Digital operation

The DMX input is normally symetrical and floating but, according to USITT advice, the 0 V power (Pin 1) must be connected to 0 V power of DMX signal transmitter.

The input amplificator is provided with a differential functioning and inputs are filtered and protected against overvoltage between 0 and + 6 V.

The DMX input impedance is higher than 12 kOhms.

- 1 blinking indicator, located on the front panel, indicates the power supply of DMX signal
- 3 encoding wheels allow the display of the 1st dimming channel address assignment

Example:
Display:

C	D	U
0	1	9

In this case, the 1st channel of Stager is controlled from the 19th lighting controller channel, the 2nd channel from the 20th lighting controller channel, and so on.

II.3. Tests

In test mode, the DMX input is automatically interrupted.

With codes from 900 to 990, the Performer operates with the same level on all channels (global test):

900: Level 5 %
910: Level 10 %
920: Level 20 %
930: Level 30 %
……
980: Level 80 %
990: Level 100 %

II.4. Chases

The Stager allows an “autonomous” operation mode with 9 dimmed or not dimmed chases.
In “chase” mode, the DMX input is automatically interrupted. Only analog controls or external 0/+10 V_{DC} controls can operate on the channels in addition of the chase.

- Enter “9” on “C” encoding wheel to validate the chase mode
- Enter from 1 to 9 on “D” encoding wheel to choose the speed V: 0 is used to stop the run, whatever selected program is
- Enter from 1 to 9 on “U” encoding wheel to choose the program

9 chase programs are available:

Program	Light moves
1	0 to 100 % dimmed curtain
2	0 to 60 % dimmed curtain
3	Positive chase, 1 lit-on circuit on 6, dimmed from 0 to 100 %
4	Positive chase, 1 lit-on circuit on 6, dimmed from 0 to 60 %
5	Crossfade even / odd circuits, dimmed from 0 to 100 %
6	Crossfade, even / odd circuits, dimmed from 0 to 60 %
7	Non dimmed chase, 5 different moves
8	Mixed chase 0 / 100 %, 2 lit-on circuits on 6
9	Same but up 50 %

CHAPTER III - CONNECTIONS

III.1. Generalities

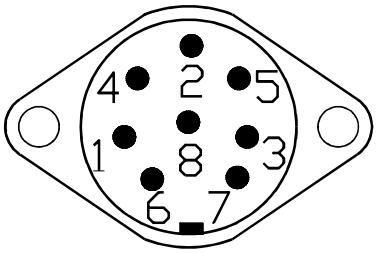
The Stager power supply is a five-wire cable:

- 3 phases L: 2 dark wires and 1 brown wire
- N: blue wire
- GND: green / yellow wire

Make sure that the blue wire is well connected to the distribution neutral.
In case of mistake, inversion of neutral and phase, a part of the block will be put to 400 V and the internal protections will occur.

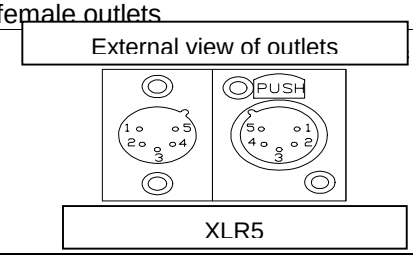
DIN 8 connector (outside analog 0/+10 V_{DC} control)

DIN	Stager 6 x 10 A
1	1
2	2
3	3
4	4
5	5
6	6
7	Not connected
8	Common 0 V



XLR male and female outlets

Pin on standard XLR 5	Nature of signal
1	0 V
2	Data –
3	Data +
4	Not connected
5	Shield
6	Not connected



III.2. Power supply

The power supply is done via a 5 x 2.5 mm² cable, allowing a permanent load of 20 A per phase, in 3 phase operation (3 phases + N).

In one phase operation, the device can only be loaded until 20 A in global.

III.3. Protections

Single pole + neutral fuses protect each dimmed output.
Use only fuses with same caliber.

According to the safety standards, the Performer, which is equipped with single pole + neutral output protections, must be protected as follows:

- Against overload and short circuit:
  - by a tripolar MCB per TN or TT neutrals
  - by a tetrapolar MCB per IT neutral
- against industrial injuries by:
  - a 30 mA tetrapolar RCCD
  - or a Vigi module associated to a tetrapolar MCB

III.4. Cooling

The Stager heat dissipating power is about 130 W (under 230 V).
The Stager cooling is made by natural convection.

When several Stagers are set-up in the same area, make sure that the free space between 2 Stagers is 45 mm minimum, to allow the natural air circulation and an efficient heat dissipation.

III.5. Trouble checks

- Power supply indicator slowly blinking
  This indicator shows you that a phase is absent.
  Verify the connection to the network.

- Power supply indicator quickly blinking
  This indicator shows you that 2 phases are absent.
  Verify the connection to the network.

- DMX indicator off
  Verify the DMX cable connection and the DMX cable continuity.

- A channel is off
  Verify the MCB or output protection corresponding to this channel.

- A channel stays at “100 %” or at “50 %”
  Internal failure (probably: TRIAC).

- 2 contiguous channels are off (1/2 and/or 3/4 and/or 5/6)
  - Absence of a phase (see power supply indicator above)
  - Phase and neutral inversion

  Verify the power supply of the device.

- Power supply indicator off
  Verify the connection to the network.

Note:
Each fuse replacement must be done with the identical fuse (same caliber). The user and device security depends on it.

Make sure that the Stager is off line before any internal correction.