

## DMX ACCESSORIES



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# 1. Dimensions

The dimensions are identical for all the items of equipment that comprise the DMX accessories in the Rack Series: Splitter 1-8, Mixer 2-1 and Booster 4-4.

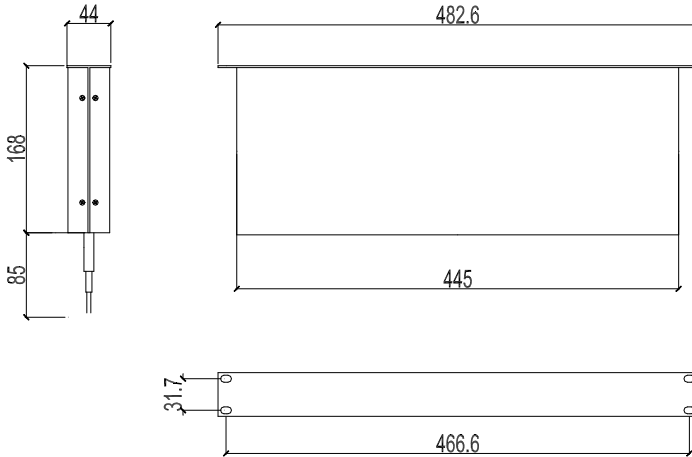


Figure 1

Likewise, they are the same for all the equipment comprising the DMX accessories in the Box series: Splitter 1-4, Mixer 2-1 and Booster 2-2.

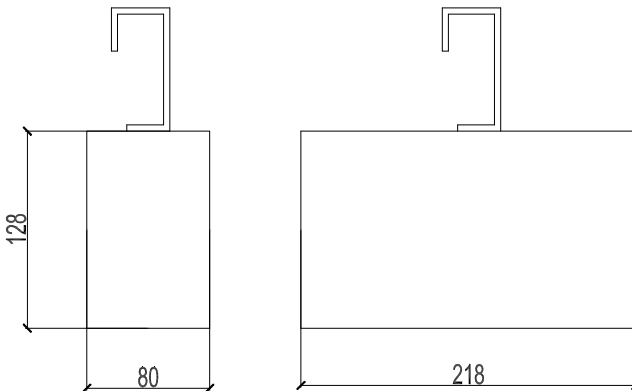


Figure 2

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## 2. Connections

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Mains connections are made with the standard Power Cord supplied with the equipment, using a cable with a  $1 \text{ mm}^2$  section.

The cables used to make the connections on the DMX line should be low-capacity braided pair and shielded, with a minimum calibre of type 24 AWG ( $0,2047 \text{ mm}^2$ ) and an impedance of 120 ohms. It is important to remember that the type of cable used significantly conditions any problems that may arise subsequently due to parasites coming through on the line.

Similarly, shielded cables of the type usually used for connecting microphones should NOT BE USED.

For the connection of the DMX line, pins 1,2 and 3 at one end of the connector should be connected with their counterparts on the other end; at the end of the line a  $120 \text{ ohm } \frac{1}{4}W$  1% resistance between pins 2 and 3. The screen should be connected to pin 1 and should NOT be in contact with the casing of the connector. Pins 4 and 5 remain free.

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## 3. Mixer Description

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The Mixer 2-1 mixes 2 digital signals at the input received in USITT DMX-512 1990 protocol, converting them into a single digital output signal.

The way the mixer is addressed using the rotating switches on the front panel determines the behaviour of the mixer, that is, the signal obtained at the output.

The address indicated with the rotating switches will be the first DMX direction starting from which the channels from the "IN B" input will be associated consecutively.

The Mixer has two XLR connectors with 5 male contacts for the digital signal input and 1 XLR connector with 5 female contacts for the output.

It has a red led indicating that the current is on and three green leds indicating that the DMX signal is being received correctly: input "A", input "B" and output "OUT".

The Box series Mixer 2-1 is identical to the Rack series mixer, the only difference being the box.

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### 3.1 Characteristics

Mains voltage	220V 50Hz single phase
Power absorbed	10 W
Mains fuse	5x20 1 A F.F.
Digital signal input	USITT DMX-512 1990
Digital signal output	USITT DMX-512 1990
Digital signal input connectors	XLR 5 male contacts
Digital signal output connector	XLR 5 female contacts
Casing measurements (Rack series )	482 x 44mm
Housing window (Rack series)	450 x 40mm
Net weight (Rack series)	2,2 Kg

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## 3.2. Connections

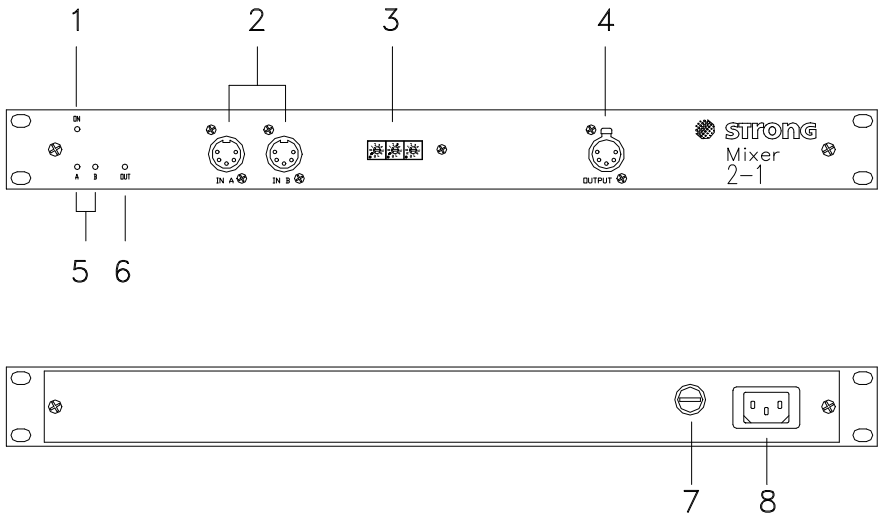


Figure 3

- |                               |                                    |
|-------------------------------|------------------------------------|
| 1.- ON indicator              | 5.- DMX signal reception indicator |
| 2.- DMX signal inputs         | 6.- DMX signal output indicator    |
| 3.- Rotating address switches | 7.- Safety fuse                    |
| 4.- DMX signal output         | 8.- Power supply 220V 50Hz         |

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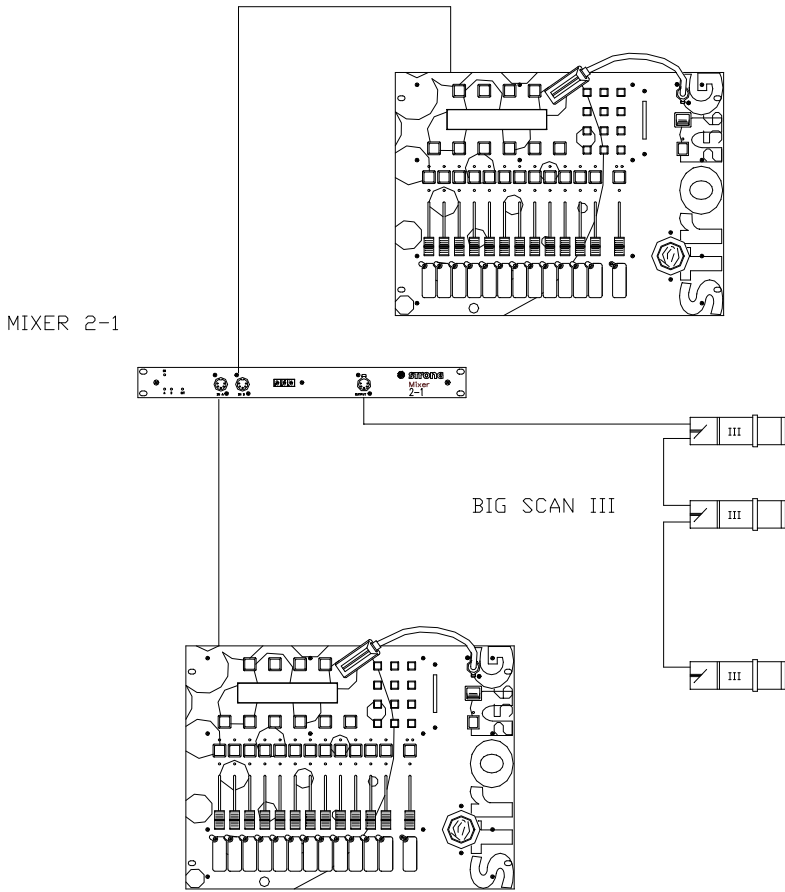
### 3.3. Example

Let us take an example in which a DMX line of 48 channels is coming in through the "IN A" input and another of 64 channels through the "IN B" input.

If the direction 49 is selected by the rotating switches, at the output we will have a line with  $48+64 = 112$  channels (lines), the first 48 corresponding to the "IN A" input and from 49 to 112 the 64 from the "IN B" input.

If the direction selected is 1, the output will be a line of 64 channels, where the first 48 will be the highest value of the 48 channels of the "IN A" and "IN B" inputs (the highest takes place) and from 49 to 64 those corresponding to the channels of the same number from the "IN B" input.

MAXISCAN CONTROLLER 256 B



MAXISCAN CONTROLLER 256 A

Figure 4



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## 4. Splitter Description

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The Splitter 1-8 (Rack series), converts the digital signal received at the input into USITT DMX-512 1990 protocol, into 8 identical digital outputs. That is to say, at the output 8 copies (replicas) of the input signal are obtained.

In addition, the Splitter acts as a signal repeater. An amplified signal is obtained at each of the outputs.

The Splitter has an XLR connector with five male contacts for the input of the digital signal, and 10 XLR connectors with 5 female contacts for:

-8 amplified digital signal outputs.

-1 direct output (bridged with the input).

-1 output on the rear casing that is the same as the one obtained in "OUT 1" (for the signal output at the rear)

It has one red led indicating that the current is on and 9 green leds indicating that the DMX signal is being received and emitted correctly (one for the input and one for each of the eight outputs).

The Splitter 1-4 Box series differs from the Rack series version in the number of amplified outputs (4) and in the fact that the casing may be suspended from a structure.

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### 4.1 Characteristics

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Mains voltage	220V 50Hz single phase
Power absorbed	20 W
Mains fuse	5x20 1 A F.F.
Digital signal input	USITT DMX-512 1990
Digital signal output	USITT DMX-512 1990
Digital signal input connectors	XLR 5 male contacts
Digital signal output connector	XLR 5 female contact
Casing measurements (Rack series)	482 x 44mm
Housing window (Rack series)	450 x 40mm
Net weight (Rack series)	3,5 Kg

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## 4.2. Connections

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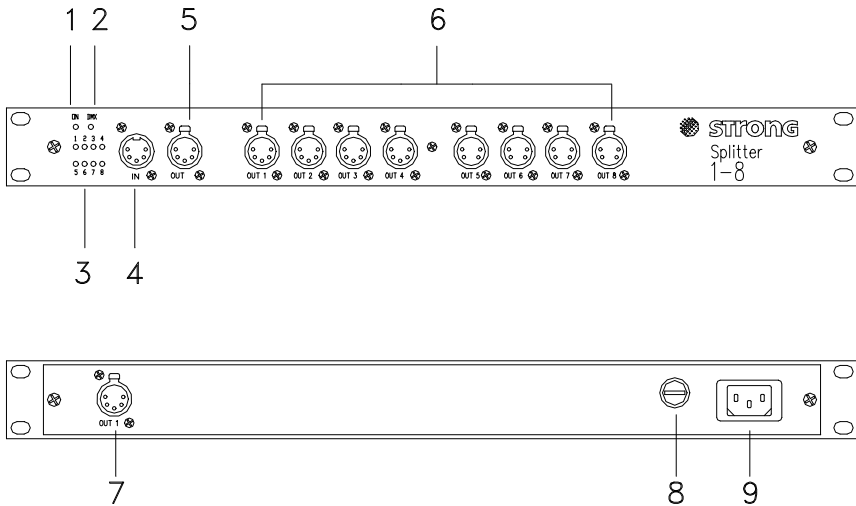


Figure 5

- 1.- ON indicator
- 2.- DMX signal input indicator
- 3.- DMX signal output indicators
- 4.- DMX input
- 5.- Direct DMX signal output

- 6.- DMX signal outputs
- 7.- DMX signal output (same as "OUT 1")
- 8.- Safety fuse
- 9.- Power supply 220V 50Hz

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## 4.3. Example

The Splitter needs to be used when we have an installation that meets some of these requirements:

- 1. Large number of loads or pieces of equipment on one line.
- 2. Groups of equipment with long distances between them and the rest

(remember that the maximum distance of a DMX signal cable is 500m).

- 3.- Splitting of the DMX signal, having a line for each type of load: scanners, dimmers, effects, etc.

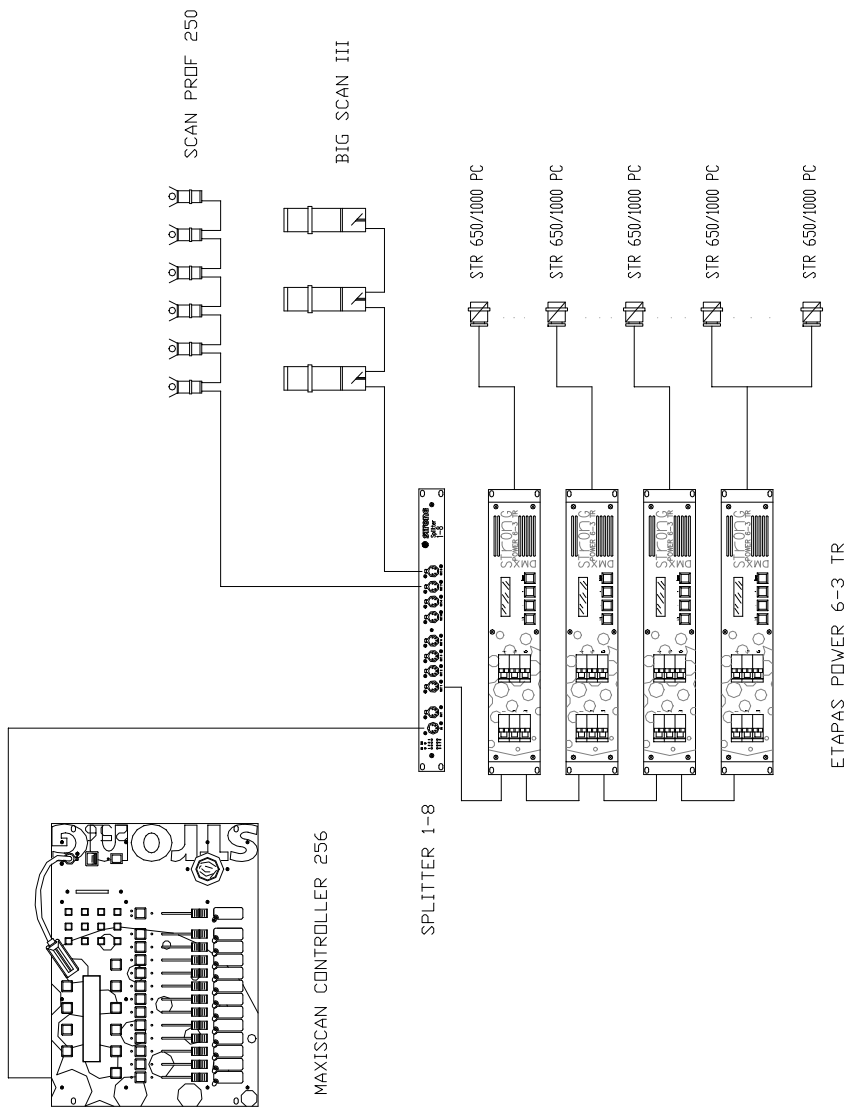


Figure 6

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## 5. Booster Description

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The Booster 4-4 (Rack series) obtains 4 amplified DMX signals from 4 digital signals at the input in USITT DMX-512 1990 protocol. That is to say, the Booster acts as a signal amplifier. For each input signal an amplified signal is obtained at the output.

The booster has an XLR connector with 5 male contacts for each of the digital signal inputs, and an

XLR with 5 female contacts for each of the digital signal outputs.

It has a red led indicating current, 8 green leds indicating that the DMX signal is being received (inputs) and emitted (outputs) correctly.

The Booster 2-2 Box series produces 2 amplified outputs from 2 DMX signal inputs. It is installed in a box that can be suspended from a structure.

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### 5.1 Characteristics

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Mains voltage	220V 50Hz single phase
Power absorbed	20 W
Mains fuse	5x20 1 A F.F.
Digital signal input	USITT DMX-512 1990
Digital signal output	USITT DMX-512 1990
Digital signal input connectors	XLR 5 male contacts
Digital signal output connector	XLR 5 female contacts
Casing measurements (Rack series)	482 x 44mm
Housing window (Rack series)	450 x 40mm
Net weight (Rack series)	3 Kg

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## 5.2. Connections

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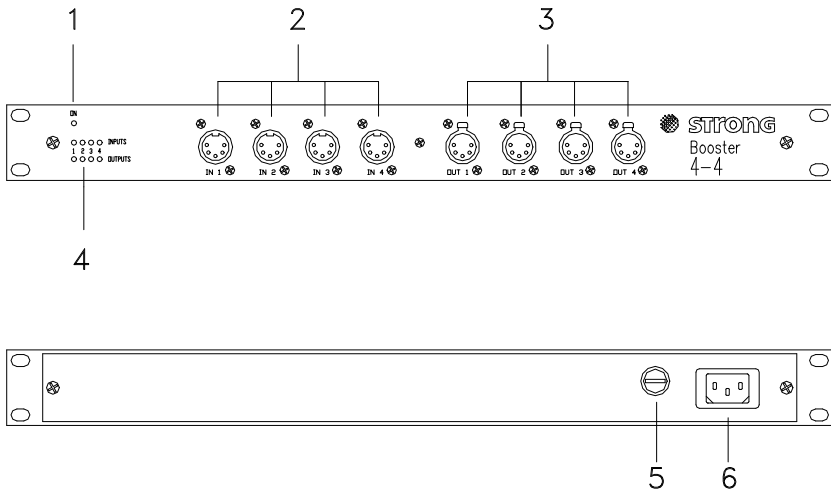


Figure 7

- 1.- ON indicator
- 2.- DMX signal inputs
- 3.- DMX signal outputs

- 4.- DMX signal input/output indicator
- 5.- Safety fuse
- 6.- Power supply 220V 50Hz

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## 5.3. Example

The Booster is needed when we have an installation in which the signal needs to be amplified on account of:

1. Large number of loads or pieces of equipment on the same line.

or

2.-Cable length (> 500 m).

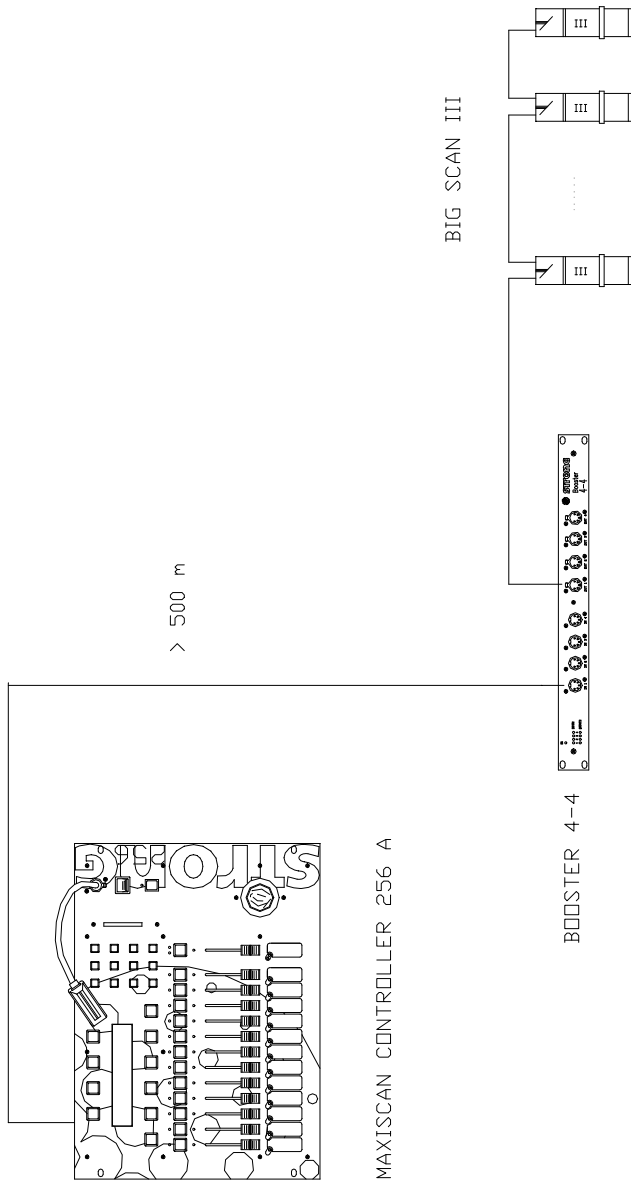


Figure 8

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## 6.Maintenance

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### 6.1 Regular Cleaning

To prevent the build-up of dust and dirt which may impair the proper operation of the equipment, this should be cleaned regularly. Use a soft, slightly damp cloth (if the equipment is very dirty, apply a little liquid detergent to the cloth).

**WARNING!: Do not use solvents or products containing alcohol. Make sure that no liquids get inside the equipment.**

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### 6.2 Changing a Fuse

To change the fuse, switch off the mains power, with the aid of a screw-driver turn the fuseholder cover anti-clockwise until it can be removed.

Insert the new fuse and screw the cover back on.

**Important: Use only recommended fuses**

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## 7.The Most Common Problems

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Problem	Usual cause	Solution
<b>The ON led does not light up</b>	No current reaching the equipment	Check mains connection
	Fuse in poor condition	Change fuse
<b>SIG led does not light up</b>	Faulty DMX signal	Check DMX line installation
<b>Mixer does not give output through the required channels</b>	Wrong codification of rotating switches	Review example 3.3

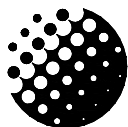
If the problem persists in spite of these measures, please contact FRESNEL S.A.'s

Technical Service.

Telf: 34 (93)210 7351 / 219 94 60

Fax:34 (93)213 76 61





FRESNEL S.A.

DC-01

STATEMENT OF COMPLIANCE

DATE: 1/1/00

We hereby state that the product:

**Make: STRONG**  
**Model: SPLITTER 1-8/1-4**  
**Year of manufacture: 2001**

Complies with directive 73/23 in respect of the safety requirements for electrical material intended for use within specific voltage limits, and with directive 89/336 in respect of the electromagnetic compatibility of equipment, systems and installations

**Sole administrador**

**Angel Torrecillas Redón**

**Barcelona, 1 January 2001**

**Fresnel** s.a.

**Providencia 109-111**

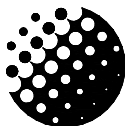
***Telf: 34 (93) 2107351 / 2199460***

**08024 Barcelona**

***Fax: 34 (93) 2137661***

***Internet: <http://www.strong.es>***

***E-mail: [strong@strong.es](mailto:strong@strong.es)***



FRESNEL S.A.

DC-01

STATEMENT OF COMPLIANCE

DATE: 1/1/00

We hereby state that the product:

**Make: STRONG**  
**Model: MIXER 2-1 RACK/BOX**  
**Year of manufacture: 2001**

Complies with directive 73/23 in respect of the safety requirements for electrical material intended for use within specific voltage limits, and with directive 89/336 in respect of the electromagnetic compatibility of equipment, systems and installations.

**Sole administrator**

**Angel Torrecillas Redón**

**Barcelona, 1 January 2001**

**Fresnel** s.A.

**Providencia 109-111**

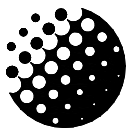
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***Internet: <http://www.strong.es>***

***E-mail: [strong@strong.es](mailto:strong@strong.es)***



FRESNEL S.A.

DC-01

STATEMENT OF COMPLIANCE

DATE: 1/1/00

We hereby state that the product:

**Make: STRONG**  
**Model: BOOSTER 4-4/2-2**  
**Year of construction: 2001**

Complies with directive 73/23 in respect of the safety requirements for electrical material intended for use within specific voltage limits, and with directive 89/336 in respect of the electromagnetic compatibility of equipment, systems and installations

**Sole administrator**

**Angel Torrecillas Redón**

**Barcelona, 1 January 2001**

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