# Elettronica Progetti

## SHOOTING RANGE SOLUTIONS

# INSTALLATION PROCEDURE USER MANUAL

# EP099T P10
## MOD. 384 x 128



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*Multi-Pull*
SYSTEM

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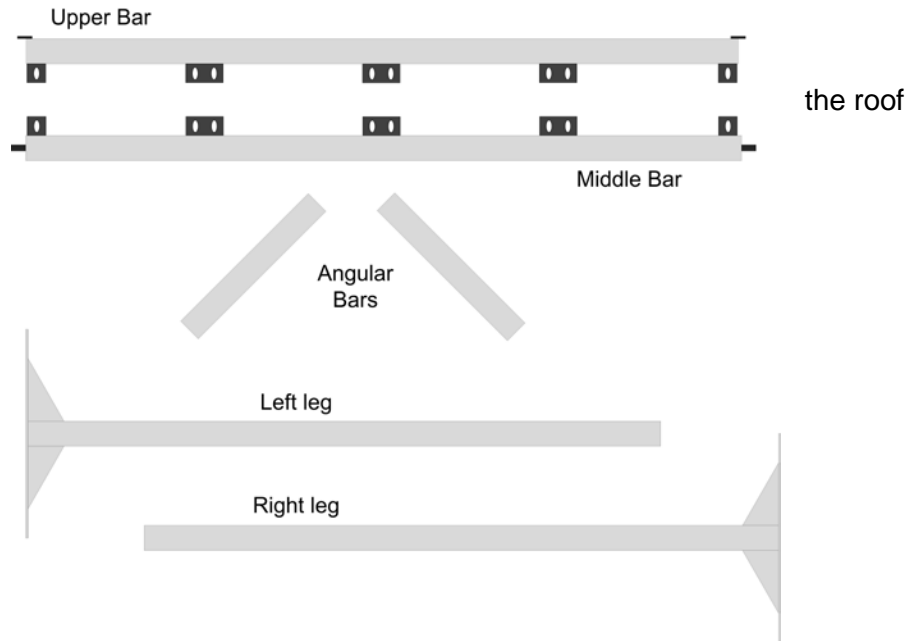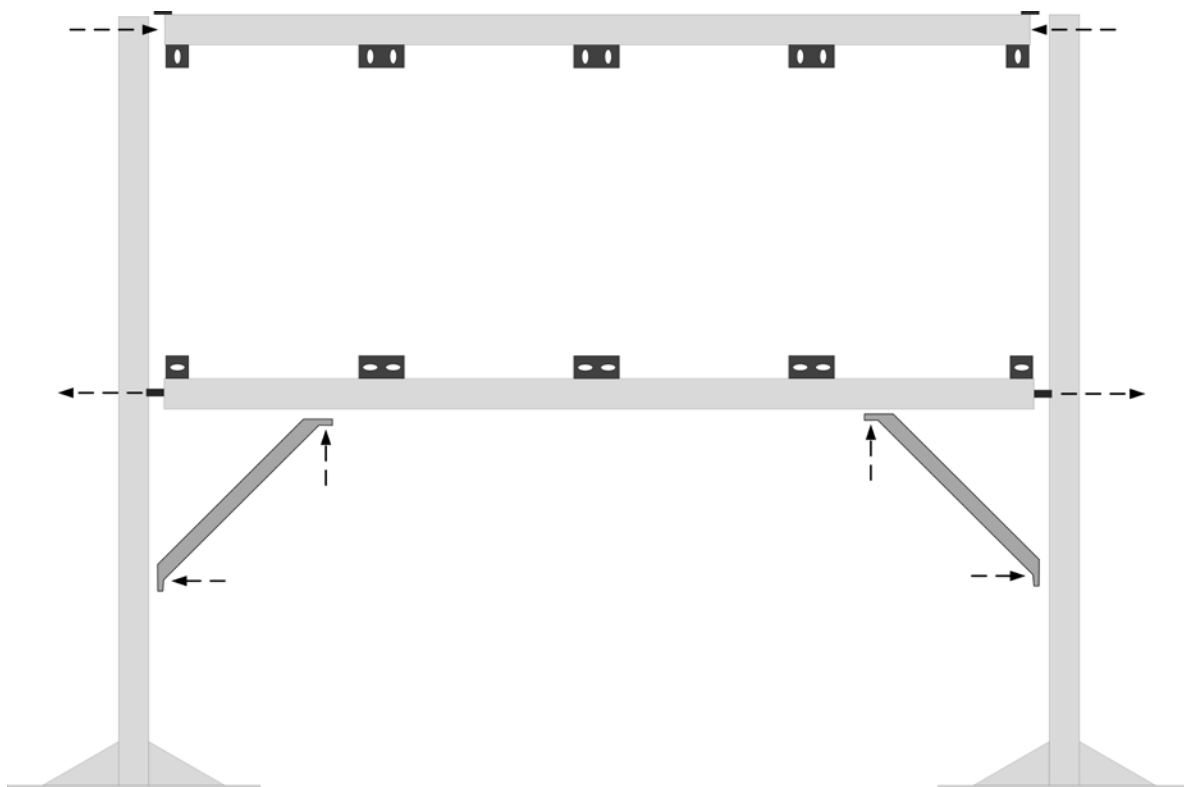
# Structure assembling

Starting with the structure, mount the pieces placed in the shipping box.

There are 6 main components (besides part):                                    the roof

These has to be installed like the following:

**NOTE:** It is always suggested, when installing metal/mechanical structures, to NOT tight bolt by bolt, but roughtly put everything together, then tight them all in the same pass.

- Starting with the middle bar, it has two welded bolts per side, insert those into one leg and hold it in place with one nut each.
- Repeat for the next leg and it will results in a "H" shaped structure.
- Fix the angular bars, fix those on both sides.
- Now you can choose to install the roof and place it on top of the top bar or wait for later, it doesn't matter.
- The upper bar has two plates, that help to install it, it has two M12 nuts welded per side, so use the M12 bolts when fixing.

The structure is now assembled, waiting to be fixed on the concrete basement and later the l.e.d. modules.

# Fixing on ground:

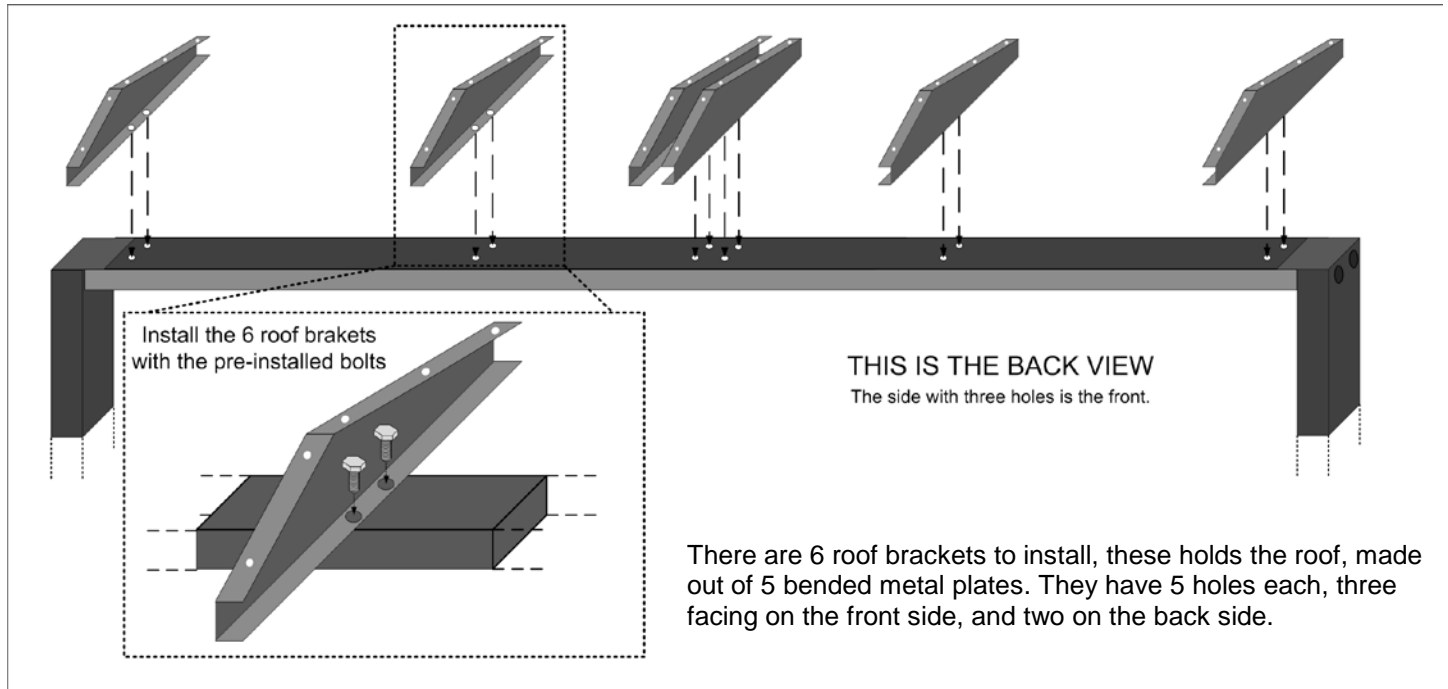**Note:** We are not responsible for concrete works. Consult your civil works engineer about the whole procedure.
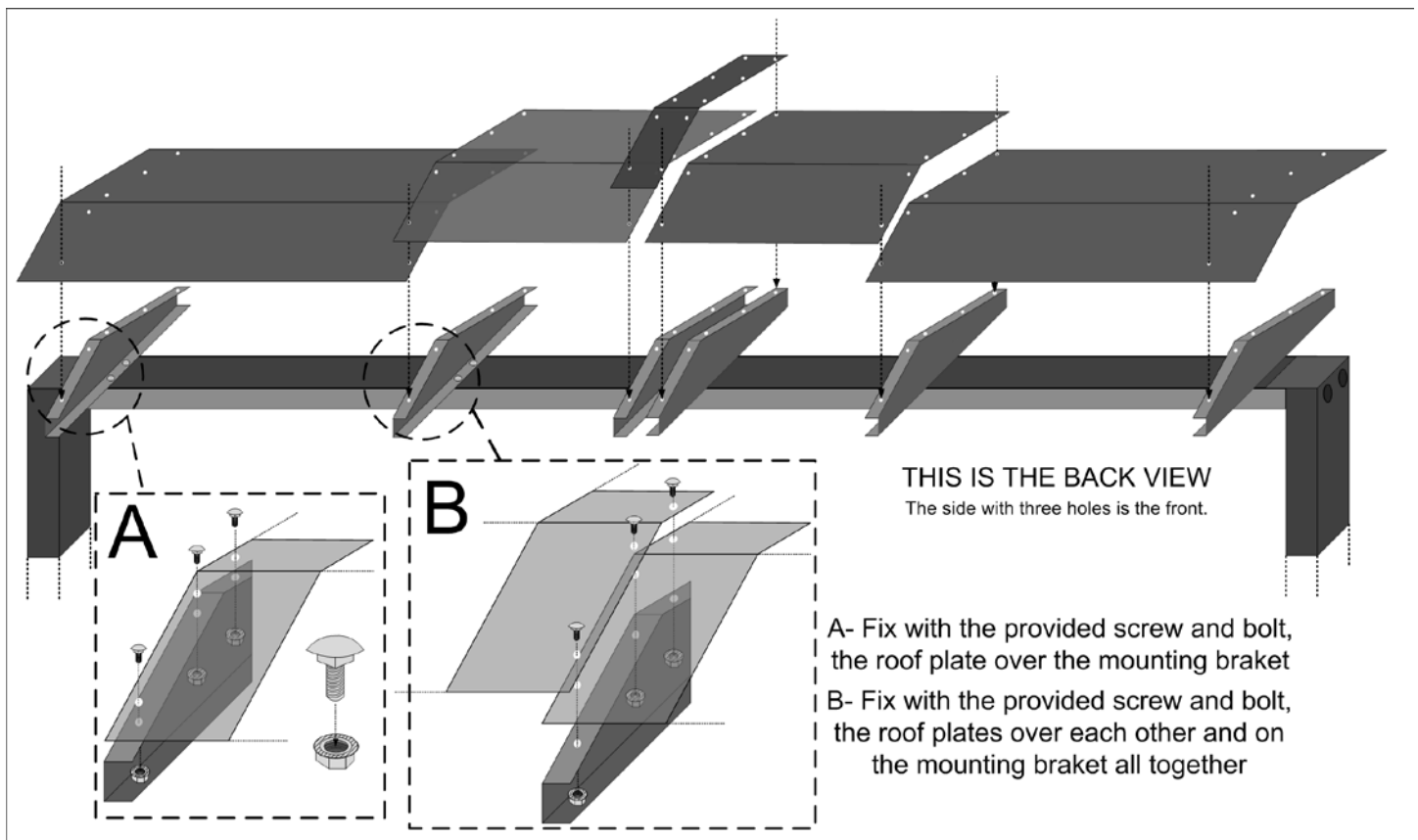
Here is a sketch about the measures for the fixing.
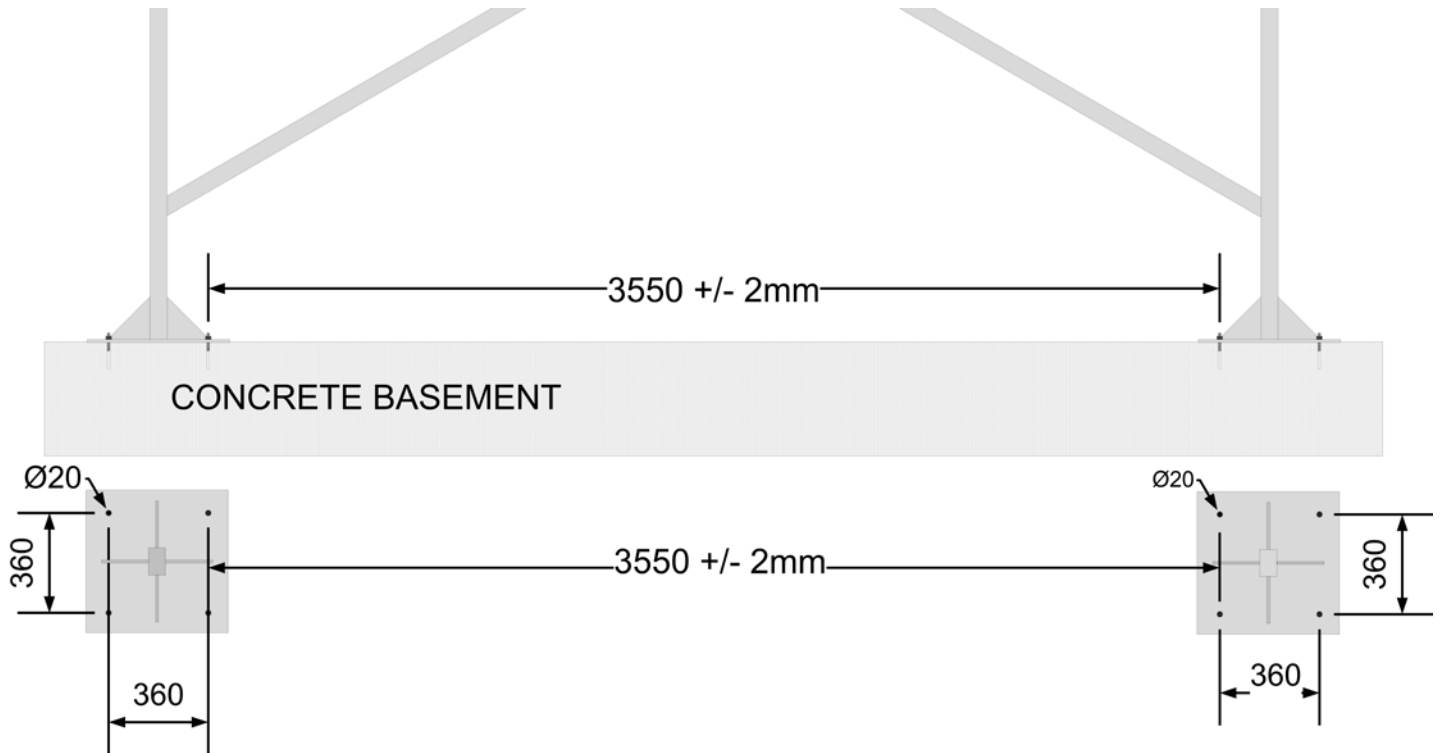


Once the structure is fixed to the ground the L.E.D. modules can be installed.

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# Roof assembling

As mentioned in the structure assembling paragraph, the roof is a standalone installation, can be done both with the upper bar laying on the ground or when installed on the structure, it is designed to have this possibility.
Following two drawings on the details:

Install the 6 roof brakets with the pre-installed bolts

THIS IS THE BACK VIEW
The side with three holes is the front.

There are 6 roof brackets to install, these holds the roof, made out of 5 bended metal plates. They have 5 holes each, three facing on the front side, and two on the back side.

**As mentioned before, do not tight all the screws, only when all pieces are in place start to tight the bolts and nuts.**

A

B

THIS IS THE BACK VIEW
The side with three holes is the front.

A- Fix with the provided screw and bolt, the roof plate over the mounting braket

B- Fix with the provided screw and bolt, the roof plates over each other and on the mounting braket all together

With the brackets in place, lay upon the outer parts (left and right), fix the most external line of bolts, then place the center-left and center-right piece and fix these, then place the middle part that completes the roof. Now tight everything.

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# Unpacking:

Remove the safety packing around the modules.
On the top part, back view of every single module, there is an adhesive marking to explain which module goes where.

The marking looks like this:
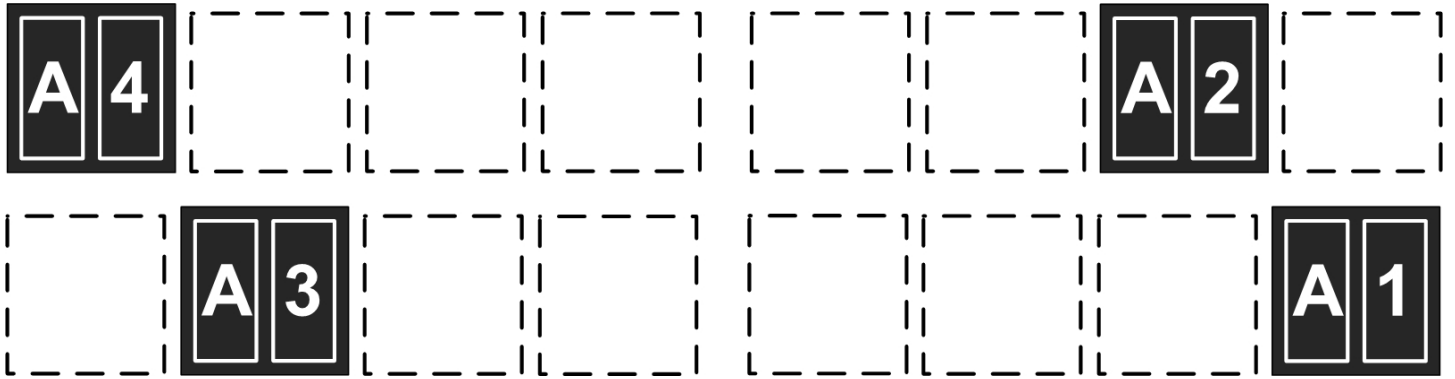


The module number highlights the position, relative to the other modules. Every module has one like in the picture below:
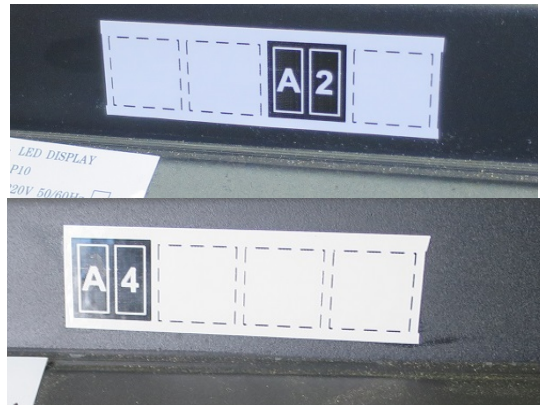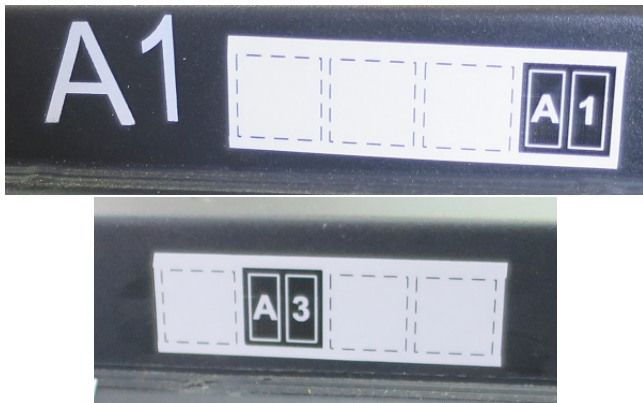


When installing the modules, install one by one, independently in order, suggested to start from one side and not from the middle.

**NOTE:** Fix the modules AFTER the structure has been tight to the ground concrete basement.

Place the modules on the metal structure like the drawing to the side:

After placing one, fix the four bolts (included) but **do not** tight as suggested before.

Follow the placement order like in the below sketch.
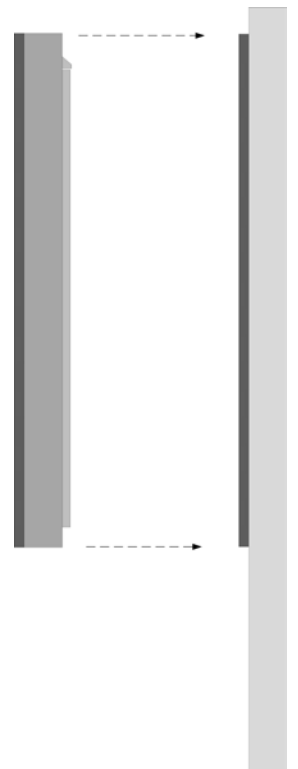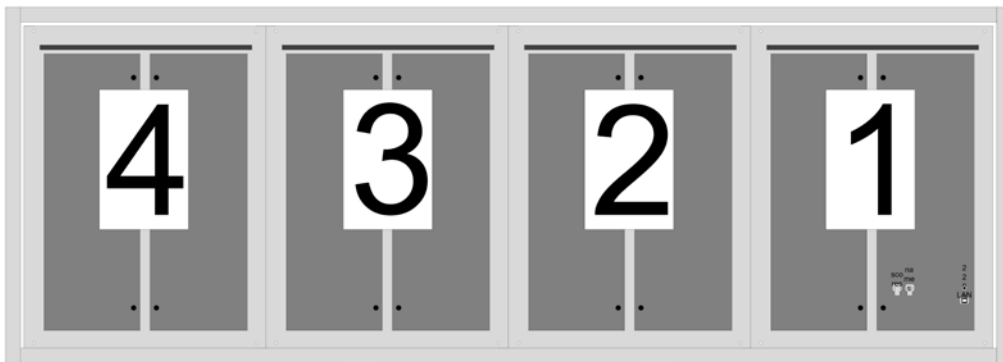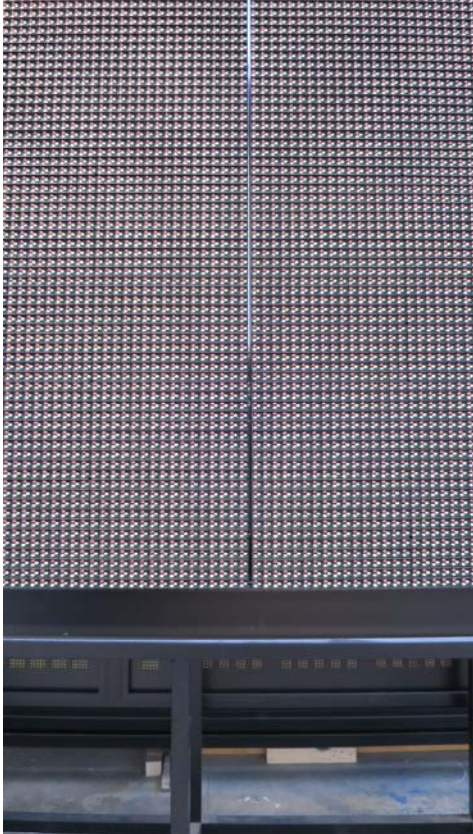
## L.E.D. modules fixing procedure:

The best way to fix the modules and make sure there is no gap is to:

After placing all the modules and put the four bolts,
- lift the middle section of the structure (about half to one centimeter) the tight the **lower** bolts tightly
- tight the **upper** bolts section of the modules
- remove the lifting system used.
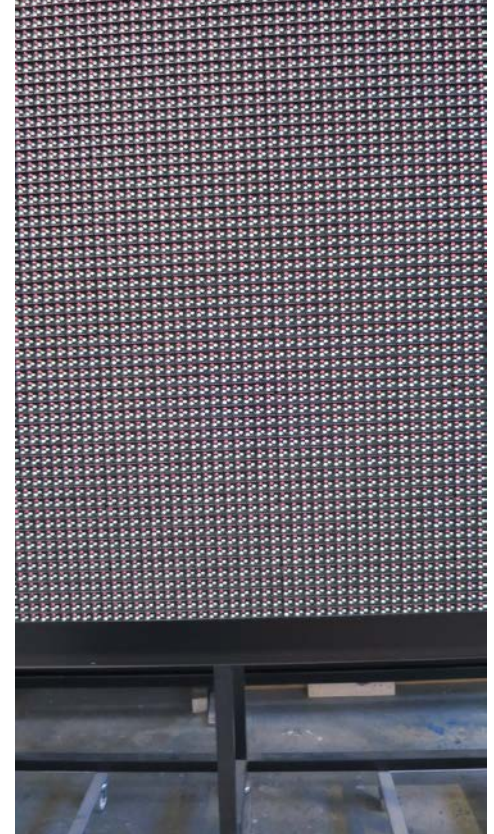
The result should be like the pictures below

| Front view, gap between modules | Back view, gap between modules | Front view, no gap after procedure |



Continues with photo instructions below:

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Lift until the gap (as seen in the picture) will be the same above and below the front view (more noticeable)

**1**



Now that the bar is in level, apply pressure to the sides, to eliminate gaps

**2**



Now with no gaps, tight the lower bolts while the lifting system is still in place

**3**



Remove the lifting system and tight the upper bolts.

**4**



This will make the front view nice and continuous.

# LED Module connection

To connect the modules between them there are just two main connection to be done;
- Power
- Network

The connections goes from the "main control panel module" (A1) till the last one, following one after another.

**POWER:**

To connect the power, simply follow the colors of the cables:

**NOTE:** Colors may vary from model to model, follow the colors of the provided wires

There are multiple holes on the side of each module. Pass the cable through one of them to reach the next module.
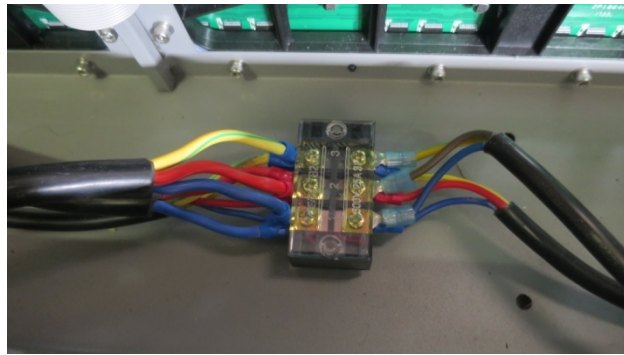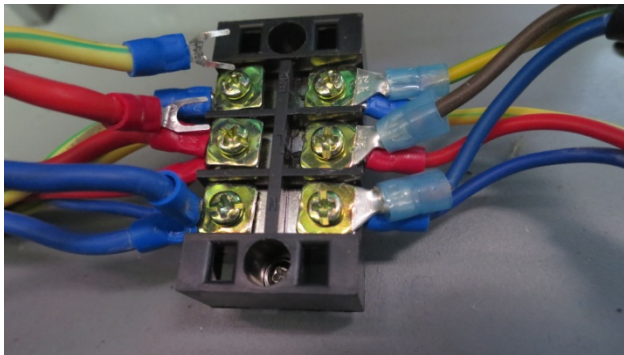






Connect the power cord utilizing the same colors of the cables, in order to respect the phase, line and grounding.

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**NETWORK**:

Connect the network LAN cables to link up the sender and receiving cards inside the Modules.

There is one receiving card in each module, this card is responsible for generating the picture for that module. Miss connecting it and the module will not work properly, probably the whole chain will not show any picture.

There is a sender card inside the IPC in the "control panel module", that generates and sends the main video signal out and that is already cabled from factory.

For the other cables, please follow the above scheme and below pictures to orientate and connect correctly:
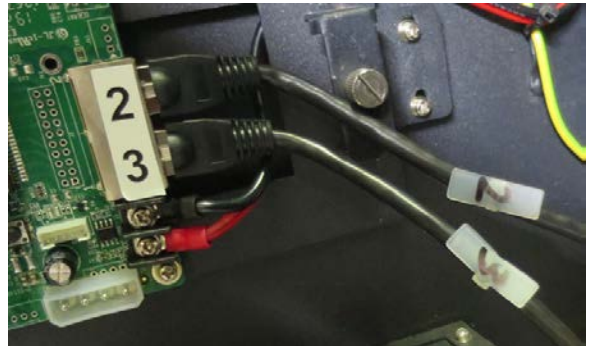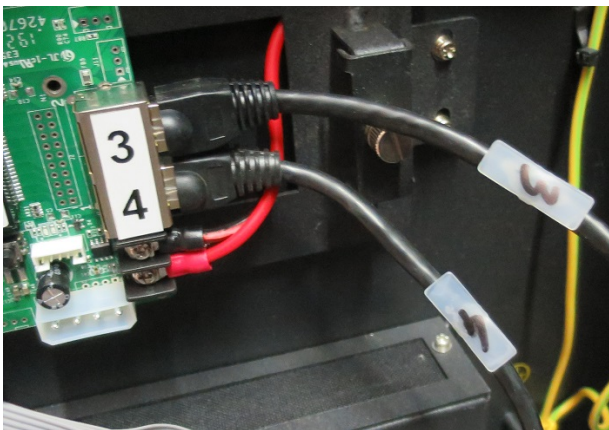(numbered from main command module, till the last one)

Module " A1 " Starting point



Module " A1 " first receiver
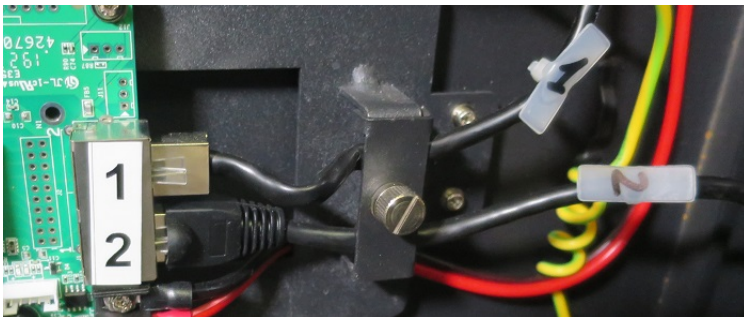


Module " A2 " second receiver



Module " A3 " third receiver



Module " A4 " fourth receiver

## EXTERNAL CONNECTIONS:

The scoreboard has 4 connections to the outside:

The back panel is like this:

- **Main power**:
Use a 3x2.5mm (10 gauge) (at least) power cord for 220 volts, or 3x4mm (6 gauge) for 110volts cable to power up the scoreboard. The maximum consumption 15A at peak when at 220volts.

- **Network connection**: Use a cat5 or 6 (indifferent) wire and connect it to the network to connect it to the multi-pull competition software's computer for the storyboard
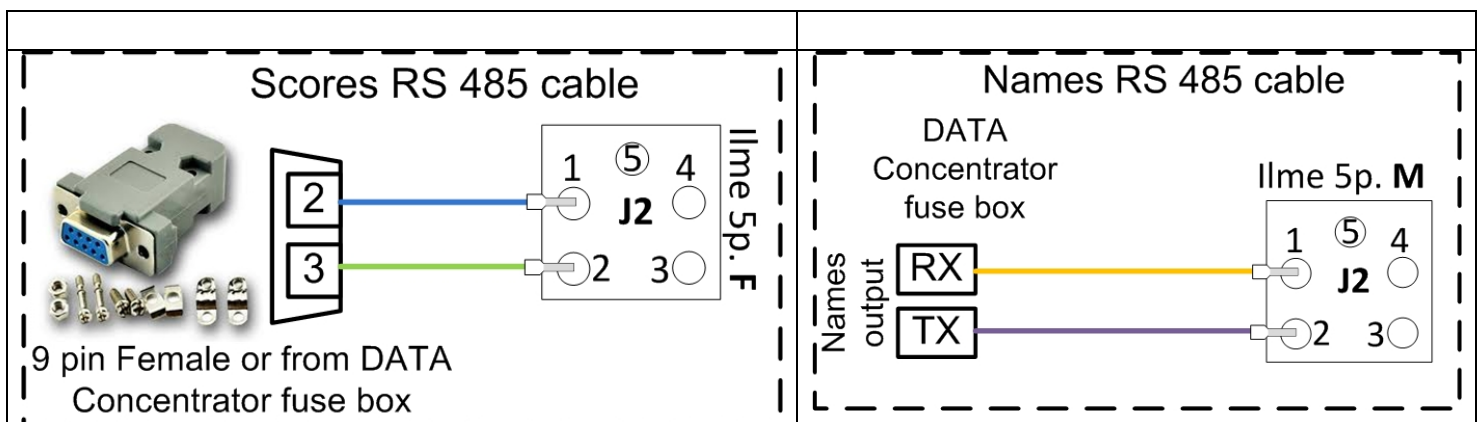
- **Scores input**: use a 2x0,75mm or 1mm cable to connect the data from control unit using a shielded cable

- **Names input**: use a 2x0,75mm or 1mm cable to connect the data from the "Data Concentrator" from office where the multi-pull competition software's computer is located, using a shielded cable.

**Scores and Names connector pin-out**:

The two connector share the same pin-out, it differs from one eachother by the male/female plug to use. Here is a connection scheme:

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# Safety procedure:

**BEFORE SWITCHING ON:**
**Make sure that the power supply are set for your facility power voltage.**
**By default it's set to 220v, to prevent unwanted damage, follow this page carefully**

**Before connecting the power**, make sure of your voltage (220v or 110v).
Inside every module there are two power supplies, that has to operate at the right voltage.
In this picture the power supply:



It has a switch (currently set for 220v operations), that dictate the operational voltage, if missconfigured it can cause malfunctions or even damage to the device. Make sure of your country's voltage.

It is possible to switch to 110v and viceversa, using a screwdriver
And slide the switch to the appropriate voltage (default 220v)



After all switch are set, it is possible to connect the scoreboard to the main power and power it up.

## ON / OFF Switching:

**There are two operating switches. The main power switch, and the system power button.**

By using the main switch on the main module door it is possible to switch on and off the main 220v(or 110v) power, this is a 16Amps breaker, to prevent damage in case of an issue.
Once it has been pressed, the inside I-PC will detect the power and start it self up.

Here is a picture of the control switches panel:



The scoreboard work along with an industrial pc, and it requires to be turned on and off in a proper way (like a normal Windows pc it need a shotdown procedure or damage can be produced to the files).

**TO TURN ON**:
when turning ON the scoreboard, the IPC inside is set to automatically turn ON, so no additional action required. Just set the main power switch to "1".

**TO TURN OFF**:
When turning OFF, **before cutting the main power**, press once the PC on/off switch button and wait that the LED light turn off (the main vents will still be turning).
This will mean that the whole windows shutting down procedure is complete, now we can turn OFF the main switch, setting it to 0.

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