



# QADRA INDOOR

USER MANUAL

# **QADRA INDOOR**

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**The original edition of this document is in English. All other language editions are translations of the original edition.**

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# 1. Start Here

## What is included

- 8 quadra panels each flight case
- signal cables
- power cables
- certifications
- warranty

## *Notes*

After receiving the new SGM Display, please open the packing case to check the goods and all other accessories whether they are consistent with packing list, make sure that the content is not damaged; in case finding something broken, please contact the reseller or distributor to repair or change.  
For other issues such as missing components or parts, damage not related to shipping, or concealed damage, file a claim with SGM Video within 7 days of receiving the merchandise.

## Safety notes

These notes provide important safety information about the installation, usage, and maintenance.

- **WARNING!** Read the safety precautions in this section before unpacking, installing, powering or operating this product.
- This product contains no user-serviceable parts. Any reference to servicing in this User Manual will only apply to properly trained SGM Video certified technicians. Do not open the housing or attempt any repairs.

**Please refer to all applicable local codes and regulations for the proper installation of the product.**



- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Always power off/unplug the fixture before removing any covers.
- Ensure that the power is turned off when connecting the fixture to the AC mains supply.
- Ensure that the fixture is electrically connected to earth (ground).
- Do not apply power if the fixture is in any way damaged.
- Do not immerse the fixture in water or liquid.
- Clean only with dry cloth.
- The connection, installation and operation of the SGM display



should be processed as per instruction by special person.

- Do not open or modify the product.
- Make sure the product is connected to the proper voltage provided in this manual's specifications and/or the specification sticker on the product.
- Never try to repair the product. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact SGM Video Technical Support.
- The LED display should be far from any place of flammability, explode and heating.
- The LED display should be installed in a place with well ventilation.
- The LED display should be installed far from the children's reach.
- Never try to trample and tear the LED display, keep the internal cable connection and electronic in order.
- Keep the product away from hard or sharp object to prevent abrasion or damages.
- Handle with care when install and disassembly the LED display to avoid the damage of the connecting wire and other electronic component.
- Before finishing the installation, please do not connect the power.
- All power must be turned off before replace the power adapter and maintenance.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- DO NOT mount this product outdoors! These panels do not allow wind to flow through them and will act like a sail.
- **Any damages caused by manual modifications are not subject to warranty.**
- **SGM Video will not accept liability for any resulting damages caused by unauthorized modifications or not observing the safety warnings and instructions in the manual.**
- **Please comply with the local relative regulations.**



**CAUTION:**

**Please use the power cord provided with this display. If a power cord is not supplied with this equipment, please contact your supplier. For all other cases, please use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.**

## 2. Introduction

**Product** Qadra Indoor

**Description** A 500 x 500 mm die-cast body frame designed to be compatible with different pixel pitch modules from 2.9 to 5.9 mm. Each model is a video panel consisting of multiple SMD 3in1 LED Lamps. When multiple panels are assembled and connected (signal and power), the entire configuration becomes a modular video wall design.

The aluminum die cast construction makes the **Qadra** reliable and solid, as well as easy to install and dismantle. Multiple panels can be assembled horizontally or vertically, and each model is interchangeable with the others.

This flexibility provides numerous modular design possibilities.

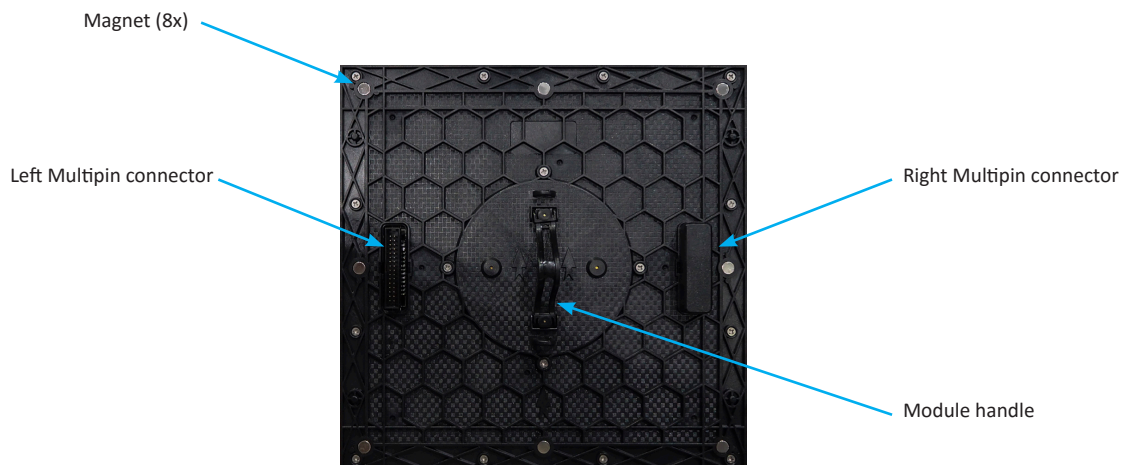
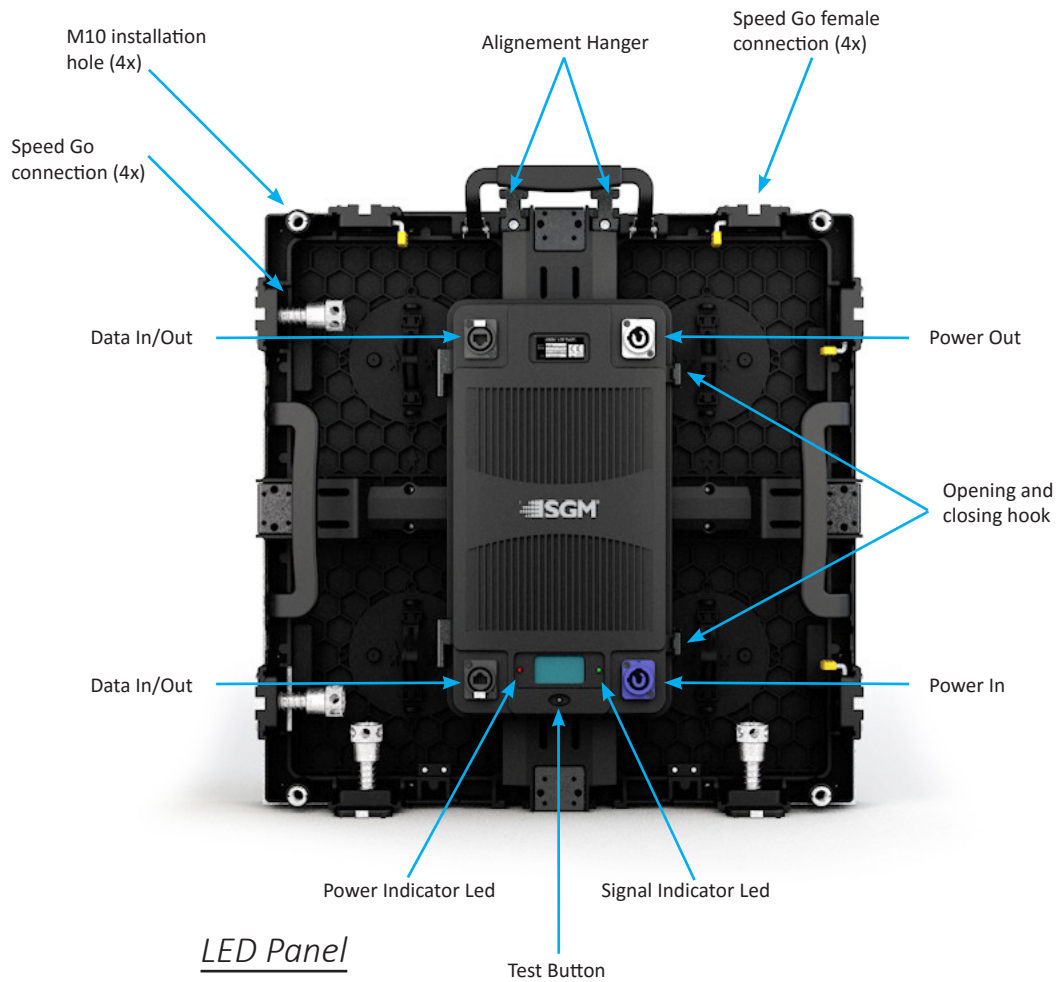
**Features**

- 2.9 / 3.9 / 5.2 / 5.9 mm pixel pitch modular video panel with SMD 2020 LEDs
- Stainless steel hardware is integrated into each panel for secure interlocking between panels.
- Solid aluminum die-cast construction makes these panels durable for the touring/rental market
- Magnetic LED modules make replacing them fast and painless in the field or on the repair bench
- 3in1, full black body black face LED Lamps, provide the highest in class contrast and black levels
- Computer guided CNC cutting provides ultimate precision for seamless modular connection.

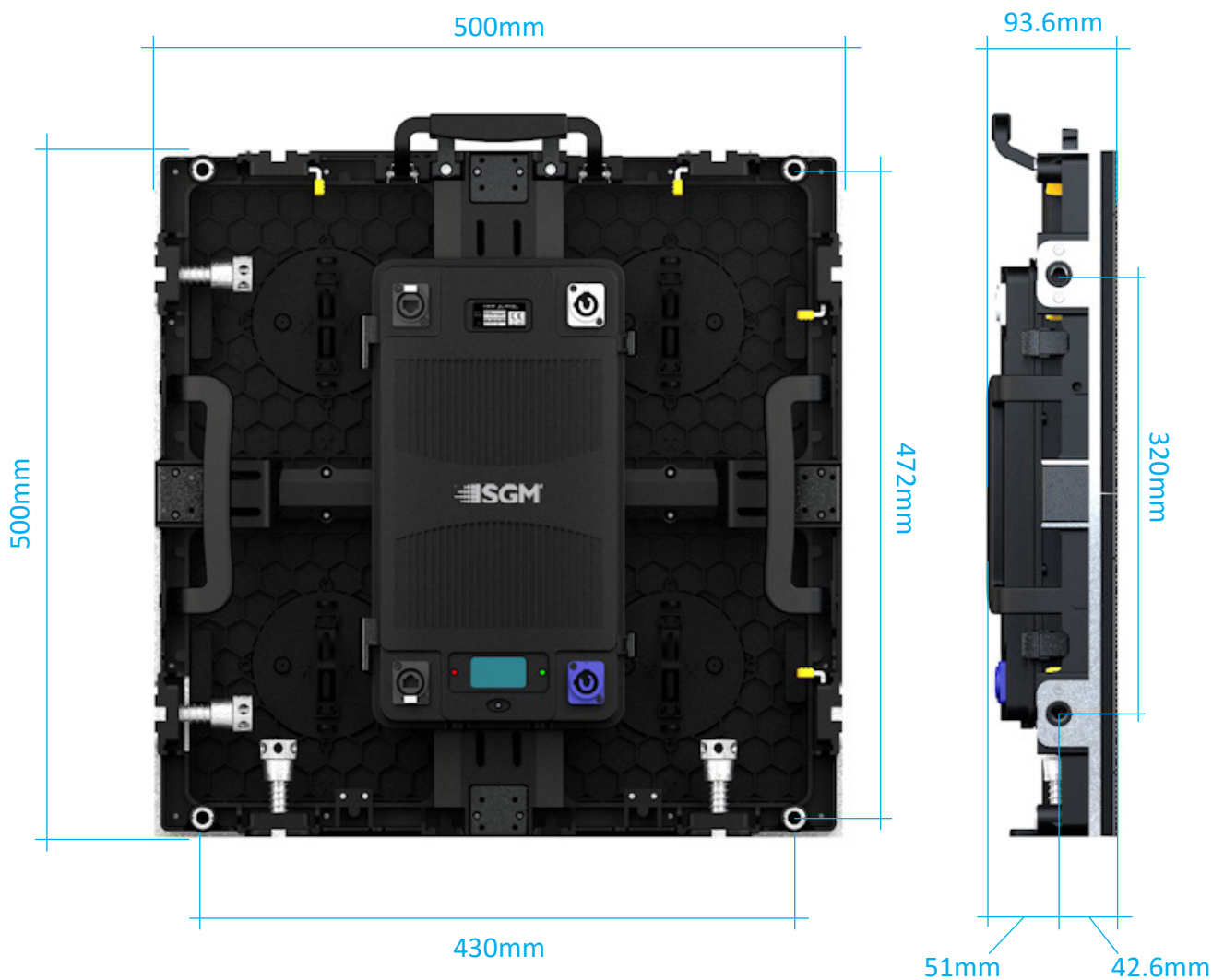
*Additional products* MCTRL300 - MCTRL600 - MCTRL610 NOVA Controller  
VSP-550DS Scaler & Switcher

*Optional Accessories* 0,5m Hanging Bar  
1m Hanging Bar

## Product Overview



## Product Dimensions





### 3. Setup

Each Qadra has an auto-ranging power supply that works with an input voltage range of 100–240 VAC, 50/60 Hz. To determine the power requirements for each Qadra, refer to the label affixed to the product. You can also refer to the Technical Specifications chart in this manual.

- **Always connect this product to a protected circuit with an appropriate electrical ground to avoid the risk of electrocution or fire.**
- **To eliminate unnecessary wear and improve its lifespan, during periods of non use, completely disconnect the product from power with breaker or by unplugging it.**

*Power linking* All panels in the Qadra Series support power linking.

Refer to the following table for specifications on each panel.

	Qadra Series
@ 120 V, 60 Hz	20
@208 V, 60 Hz	35
@230 V, 50 Hz	37

**Please refer to all applicable local codes and regulations for the proper installation of this product.**

## 4. Install

### Orientation

Each Qadra is constructed of aluminum die-cast. This ensures each panel is stable and easy to install. Each panel also has a convenient built-in handle located on the top and two handles in the sides, backside of the panel along with two alignment nipple on the top. This combination enables you to easily pick up and securely hold each panel while mounting and working with it.

The Qadra can be assembled to provide any number of modular horizontal designs, with limitation to 20 vertical hanged panels. The panels on the top can be securely hung from a truss or other stable surface. Always hang in a safe position with adequate space for ventilation, configuration, and maintenance.

SGM Video recommends following the general guidelines below.

- When selecting an installation location, consider ease of access for operation and routine maintenance.
- Make sure to hang away from any flammable material, as indicated in the Safety Notes section.
- Never mount in places where extreme temperature changes, restricted ventilation, or rain may affect it.
- Make sure that the structure to which you are hanging the panels can support the weight. Max 20 vertical panels can be hanged on top of each other

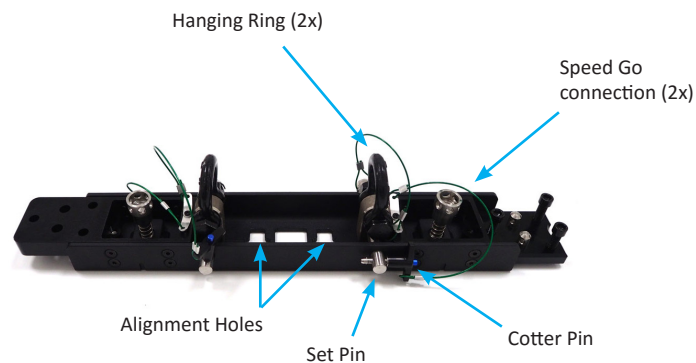
See the Technical Specifications for the weight of each Qadra.

### Mounting Points

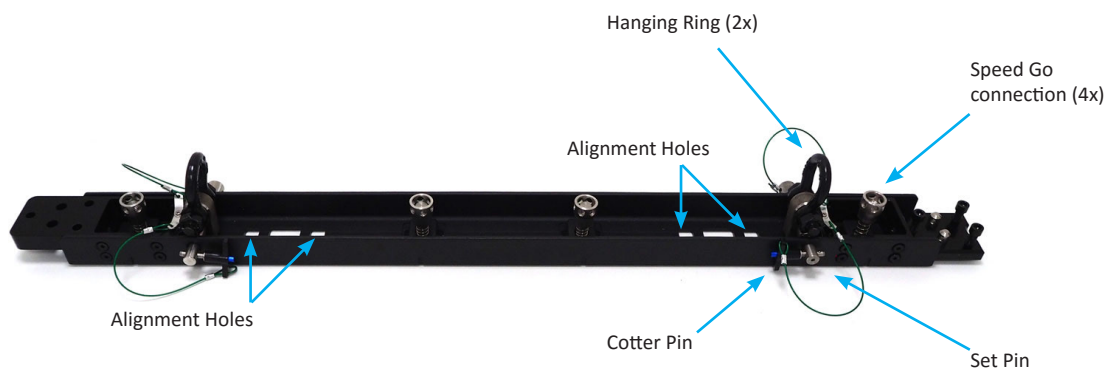
1. Male SpeedGo (4x)
2. Female SpeedGo (4x)
3. M10 Mounting Hole (4x)



## Hanging Bars (sold deparately)



### 0.5 m Hanging Bar



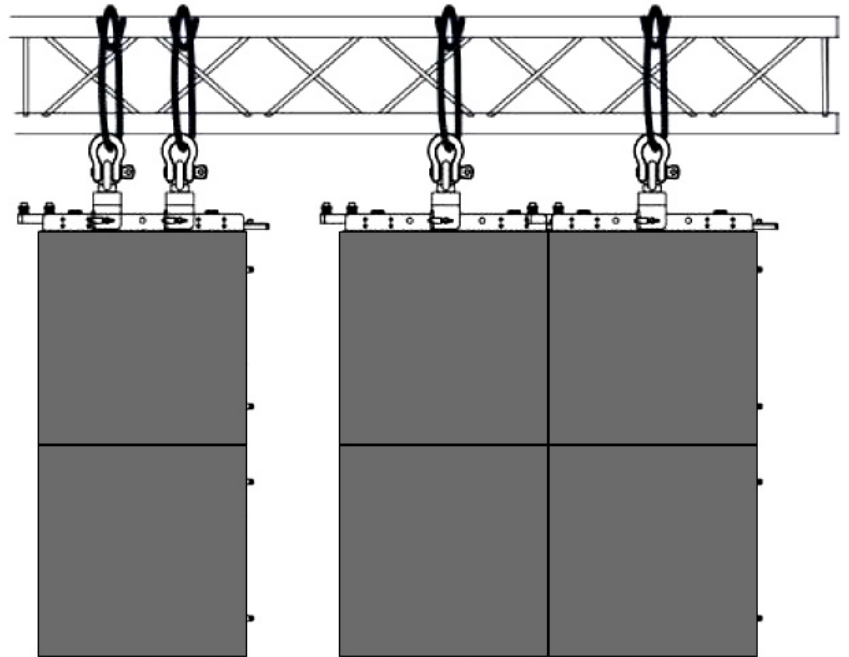
### 1m Hanging Bar

- Kit Assembly*
1. Insert alignment hanger into the alignment hole and push panel forward.
  2. Push both male Speego into female Speego connections and turn clockwise to tighten panel to the rig bar.
  3. Reverse the steps above to remove panel from rig bar. Push the yellow tab on female Speego connection to release male Speego.

**The alignment hanger on the Qadra is designed to temporarily hold the weight of the panel to allow the user to properly align and tighten the panel into place.**

**With the alignment hanger only one person can make the installation of each panel**

*Truss Installation* Refer to the following diagram for truss installation.



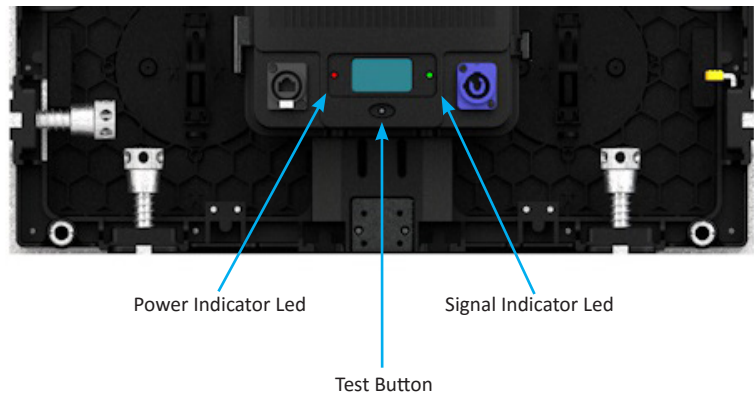
**The illustrations above are examples only.  
Please refer to all applicable local codes and regulations for the proper installation of the product.**

## 5. Connection

### Signal and Power connection Test

Each Qadra has 2 power sockets and 2 signal ports.

- The Power and Signal connections are located on the underside of the service module of each panel.
- The Signal ports may be used interchangeably.
- Each Qadra has LED indicator lights.
- Each panel indicates a successful power connection when the Power indicator light remains red.
- Each panel indicates video signal reception when the Signal LED indicator light blinks green. This light should be blinking fast to indicate good reception



*Test Button* Test button on each panel to perform a self-test. If self-testing, you must perform the test individually for each Qadra. You do not need to connect to a signal or use software.

**When using the Test button, make sure the Qadra is not connected to the MCTRL NOVA Controller.**

To use the Test button, you must connect the power, but do not connect the signal cables.

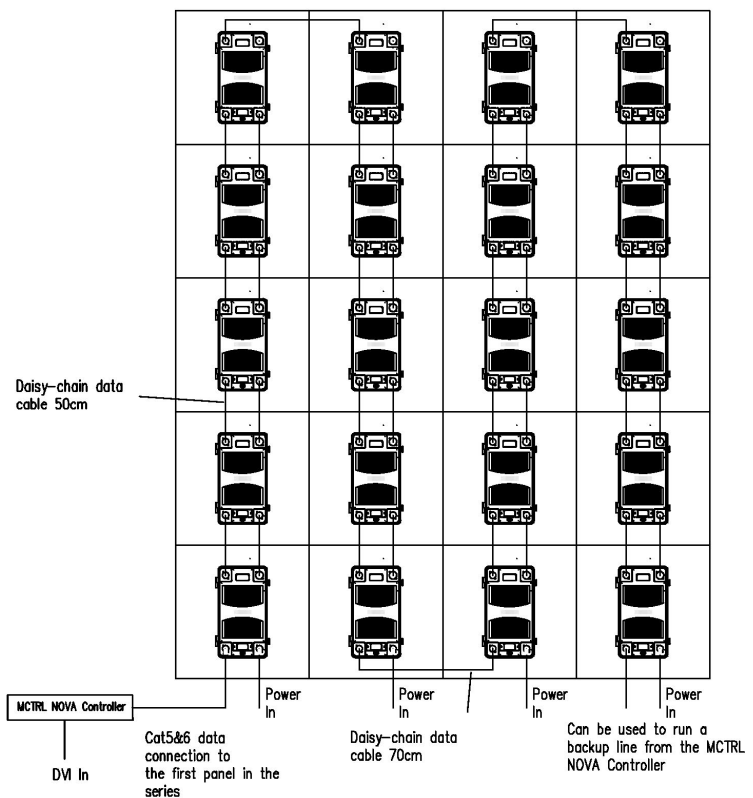
Press the Test button to toggle through various LED light display signal pattern.

## Data & Power cable connection

Follow the next section for the information on how to connect power and data cable between panels. Signal cable panel connections can use several different configurations. The basic configuration to connect the signal from one panel to the next is as follows:

- The source signal is connected to the first panel.
- A signal cable is then connected from the first panel.
- The connections continue to daisy-chain until all panels are connected.
- The route of the cables used to make the signal connections can vary.

The following diagrams are recommended suggestions for signal connections between panels.

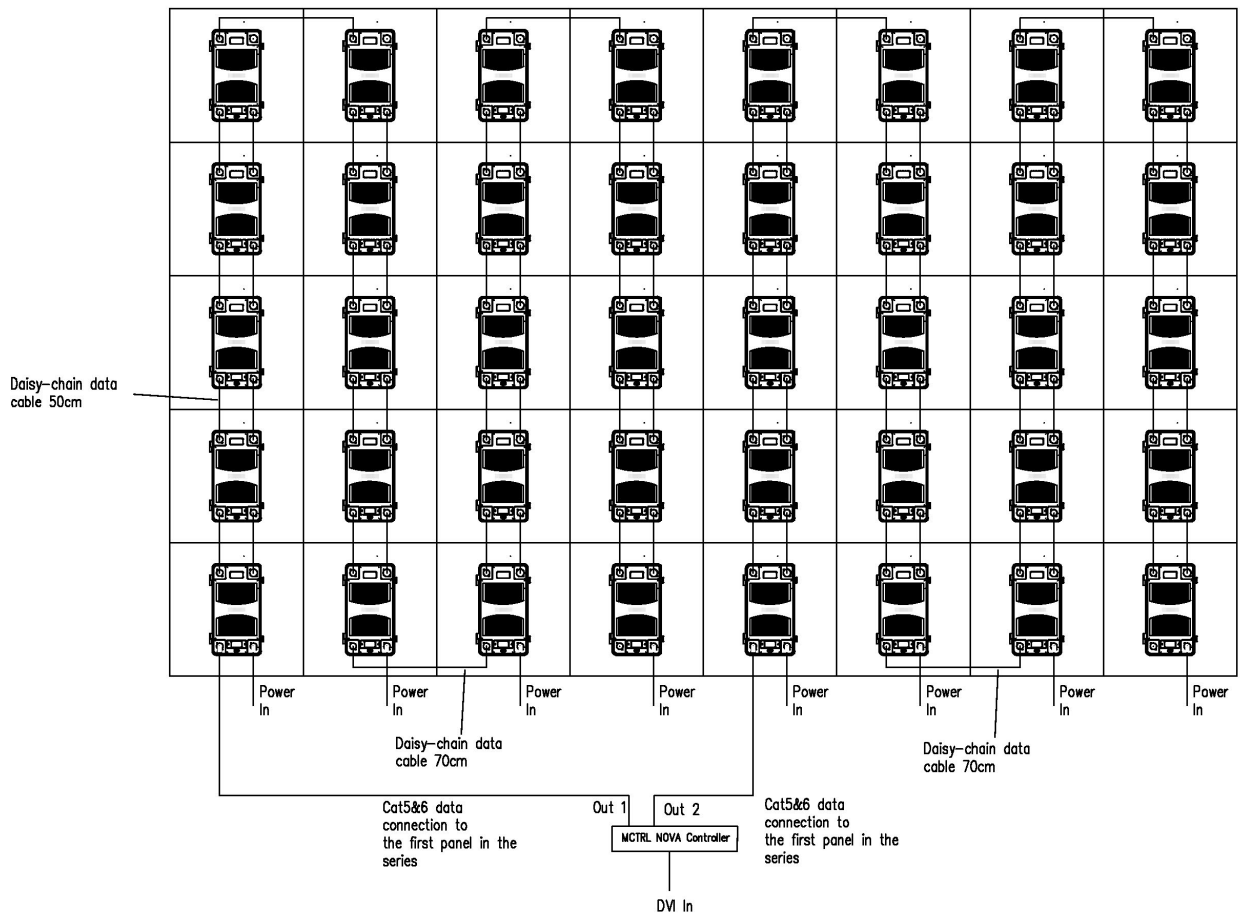


This diagram shows an example of a simple signal connection with backup data line for redundancy option. Connect power between the panels using the same procedure as the signal only using the Power Input and Power Output connectors.

### Large Signal Connection Configuration

The following diagram shows an example of a larger signal connection configuration.

The LED video wall design uses two outputs of a MCTRL NOVA Controller.



This solution is not using the redundancy data cable option. Connect power between the panels using the same procedure as the signal, only using the Power Input and Power Output connectors.

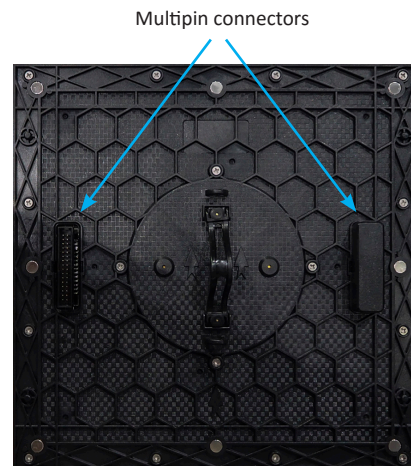
Refer to the Power cabling section for details on the number of panels that can be linked based on voltage from a single power connection.

Power linking more panels than recommended will void your warranty and increase the risk of electrocution or fire!

## 6. Maintenance

### Qadra LED modules

Each Qadra has 4 LED modules connected to the panel frame by magnets. Each module has 2 multipin connectors, which connect to the main processing unit.



### LED modules extractor



This magnet specially designed to carefully remove and replace the Qadra LED module from the front of the panel. Before using this tool, be sure that the magnet is drawn all the way back to the home position by turning the knob clockwise.

**Failure to set the magnet to the home position may result in damage to the module!**



### Module extraction

1. Carefully attach the extractor to the front of the module to be removed
2. Turn the knob counter-clockwise until the module is 1 mm away from the magnet.



3. With steadily increasing force and as straight as possible, pull the extractor back until the module is released from the frame.



4. Release the module by turning the extractor knob clockwise.

## 7. Good Practice

Because a video wall system can include different components to provide a simple to complex modular wall design, use the following steps as a general guide to get started.

1. Open and examine the Qadra road case to make sure you have received all products and accessories and that each one is in good condition.
2. Apply power and run the self-test for each Qadra to ensure all LEDs and inside connections in each panel are working (optional).
3. Create a stable mounting surface (e.g., truss or other stable surface) for Qadra mounting.
4. Mount the first top row of the Qadras. Refer to the Mounting section in this User Manual.
5. Adjust the alignment of the first row using the speego connectors.
6. Connect the signal source to the MCTRL NOVA Controller.
7. Connect either MCTRL NOVA Controller to the Input Signal socket of the first panel in your connection chain.
8. Based on your video wall configuration (design), join each panel, either horizontally or vertically, using the instructions in the section, Joining Each Qadra (Creating a Modular Design).

Refer to the instructions and information in the section of this User Manual, Connecting (Cabling) Each Qadra.

## 8. Technical Specifications

	QI-2.9	QI-3.9	QI-5.2	QI-5.9
Pixel pitch (mm)	2.9mm	3,9mm	5.2mm	5,9mm
LED Type Black SMD 3in1	SMD 2020			
Pixel m2	112.896	65.536	36.894	28.224
Tile Dimension (mm)	500(W) × 500(H) x 75(D)			
Tile Resolution (pixels)	168x168	128x128	96x96	84x84
Manufacturing Material	DIECAST ALUMINUM			
Tile Weight (Kg)	8,5			
Refresh Rate (Hz)	1.200 ~ 3.840			
Signal Processing	14-16 Bit			
Colour Range	281 Trillion Colours			
Luminance uniformity	≥ 97%			
Colour Temperature	3500K - 9500K ±500			
Contrast ratio	2500:1	3000:1	3500:1	4000:1
Horizontal Viewing Angle (Deg)	160			
Vertical Viewing Angle (Deg)	140			
Brightness (cd/ m2)	1200			
Power Cons. (panel) Max	150	140		
Power Cons. (panel) AWG	60	50		
Operating temperature (C°)	-20 to 60			
Ambience humidity	90% at 25C°			
IP Protection	IP32			
Screen flatness	< 0,2mm / sqm			
Max Rigging	20			
Lifetime (60% Brightness)	100.000 h			
MTBF	≥ 10.000 hours			
Data Transfer Method	RJ45 max 70m - Optical Fiber >70m			
Power Supply	AC 220-240 V, 50/60 Hz			
Certifications	CE - LVD - EMC - RoHS			

## 9. Declaration of Conformity

The undersigned hereby declares that the following product is in conformity with the provisions of the following EC directives:

1. Company: **SGM Video Srl**  
**Via del lavoro, nr.9**  
**33080 Roveredo in Piano (PN) Italy**
2. Product: **QADRA INDOOR 2.9mm, 3.9mm,**  
**5.2mm, 5.9mm**
3. EC Directive:

Directive n. / Name	Referenced standards (latest edition including amendments apply)
2004/108/EC: EMC Directive	EN 61000-3-2 (2006) + A1 (2009) + A2 (2009) Limits for Harmonic Current Emission
	EN 61000-3-3 (2008) Limitation of Voltage Changes, Voltage Fluctuations and Flicker in Public Low-Voltage supply systems
	EN 55022 (2011) Information Technology Equipment - Radio Disturbance Characteristics - Limits and methods of measurement
	EN 55024 (2010) Information Technology Equipment - Immunity Characteristics - Limits and methods of measurement
2006/95/EC: Low Voltage Directive	EN 60950-1 (2006) Information Technology Equipment - Safety

4. Original Declaration of Conformity and other relevant documentation is stored at manufacturer's address.

## 10. Contact Us

### SGM Video Adress

HEADQUARTERS  
 Via del Lavoro 9 Roveredo in Piano 33080 (PN) - Italy

### SGM Video Support

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