

LITE

TECHNICAL SPECIFICATIONS

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technical solutions for control room



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1. Introduction



FIGURE 1: SINGLE CONSOLE VIEW SUSPENDED COMPARTMENT

Lite Console is a highly versatile technical furniture concept that can be adapted to any type of simple 24x7 operating room or annex environment. Thanks to its formal simplicity and visual lightness, it fits perfectly in technological environments that require an attractive product capable of optimally managing the necessary equipment for a conventional Workstation.

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Lite console is a novel mobile concept, designed to organise simple operating environments and areas attached to operating environments where a simple formal but equally technical console is required.

Lite console is a top-of-the-range product with first class features, whose main objective is the essential organization of the user's work environment, allowing the correct arrangement of the different ergonomic elements as well as the organization of the existing wiring.

Lite console is designed to organize value-added environments where it is necessary to have innovative, flexible products, with a technological image and high performance from the point of view of connectivity management and equipment location, keeping the workstation perfectly organized and ready for quick and efficient maintenance.

Lite console is a new concept. Aimed at satisfying the needs of that market segment interested in the creation of technological and avant-garde spaces where simple solutions are required at an aesthetic level but that go beyond a simple work table.

Lite console is a competitive console due to the simplicity of the elements that compose it but at the same time it is highly flexible due to the number of equipment management solutions it is able to integrate.

The main element of the Lite console is a rear structure called functional arch, whose purpose is to provide rigidity to the system and to allow the distribution and management of the wiring. To it are added structural sides with a stiffener between them to hold the worktop. Different elements can be combined in different positions of the console to house electronic equipment of different sizes and formats.

MODULARITY: of extreme simplicity of form, Lite console allows the creation of workstations of different lengths, with multiple operators in single or double-sided linear structures.

FLEXIBILITY: seamless integration into both technical environments and administrative annexes thanks to its ability to manage cabling and integrate connectivity and equipment elements.

DESIGN AND QUALITY: Lite console has been developed to provide a technical, simple, attractive and robust solution. Designed to provide the user with an attractive environment with high quality visual elements..

WARRANTY: The manufacturing process of the product, the subsequent distribution from the factory as well as the strict control and selection of processes and suppliers allow us to offer a 10-year warranty.

1.1. General Specifications

The central part of Lite console is the functional arch, an inverted "U" shaped structure composed of two "L" shaped lateral bodies to which is assembled a longitudinal body that provides the maximum dimension of the functional arch. The functional arch is made of high-carbon steel plate and has a constant cross-section along its entire length, which facilitates cable routing inside it. When making multi-operator consoles, "T" shaped pieces will be inserted in the functional arch to create a structure that allows uninterrupted conduction.

Depending on the configuration, Lite console allows the integration of compartments to house electronic equipment. For tower or larger equipment, compartments are available that can be suspended on the lower part of the functional arch or on one of the sides of the console. If the operator's equipment is in horizontal format and smaller in size, there is a complement called RSS that is located horizontally below the functional arch and along its entire length.

From the functional arch come the structural sides which, joined by longitudinal suspenders, support the worktop. These sides can be customized on the outside with a corporate vinyl and perimeter lighting.

Lite Console work surfaces are made of high-pressure phenolic compact resin, bilaminated, 12 mm thick, available in any color from the manufacturer's list of finishes or in any other supplementary material. Phenolic compact resin has excellent physical properties that allow for great flexibility if the



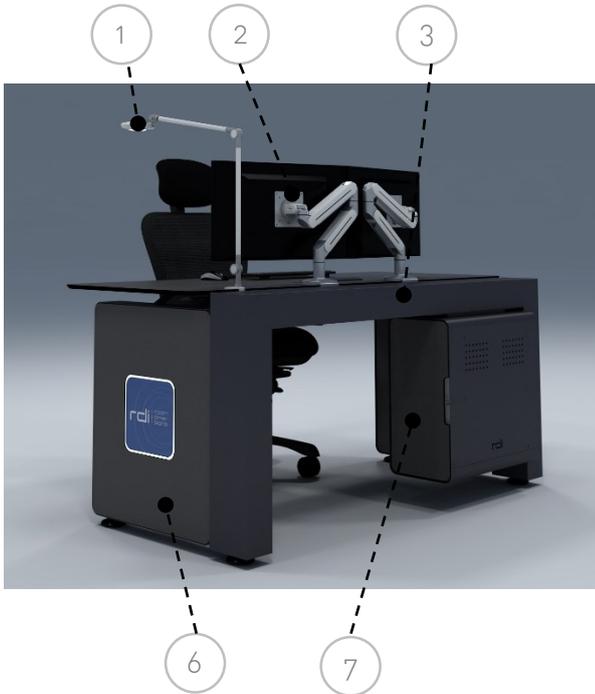
correct fabrication system is used. The working surfaces are what provide the console design with the final finish, integrating the product into the environment.

The work surfaces integrate a connectivity point and a wireless charger as standard for the exclusive use of the operator.

Lite console allows the creation of consoles with multiple workplaces, single or double-sided, interconnecting functional arcs creating consoles with sizes and features adapted to the maximum to the room and to the customer's needs.



2. Technical definitions of the main elements



ITEM	DESCRIPCIÓN
1	Table lamp
2	Monitor support
3	Funtional arch
4	Working table
5	Connectivity point
6	Structural vertical
7	Suspended compartment
8	CXO chair
9	Corporate logo on the side

2.1. Functional Arch

The functional arch is the reference piece of Lite console that allows the support of the whole assembly and the fixation of the console sides. The functional arch is a set of 3 pieces that are assembled together to form a highly resistant arch, a straight central channel and two lateral "L" shaped.



FIGURE 2: FUNCTIONAL ARCH EXPLOTING

The entire arch has a "U" shaped section of 150x100mm and allows the conduction of wiring through its interior to distribute it throughout the console being open on the inside. The length of the horizontal channel is the one that marks the size of the work station and they are available as standard in 900, 1200, 1500 and 1800mm in length.

The vertical part of the sides is open at the bottom to allow the entry of wiring from the raised floor. It has a constant section of 150x100mm, a height of 740mm and a top measurement of 200mm in length in the part where it joins the conduit.

The side has a removable cover on the inside that can be removed to access the cabling leading up to the horizontal area of the functional arch. This cover can be configured to house power and/or data

sockets directly on it which can be very useful for connecting equipment depending on the equipment compartment being used.

The entire functional arch is made of 1.5mm steel plate, high carbon content, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with epoxy powder paint in micro powder, according to USO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270..

2.2. Structural verticals

Starting from the vertical part of the functional arch, Lite console has verticals that help to stabilize the whole console. These side panels are steel frames measuring 655x550mm and 80mm wide with rounded edges. In their lower part they have a leveler in contact with the floor in order to guarantee a total horizontality of the set.



FIGURE 3: STRUCTURAL VERTICAL CONSOLE

Each structural sidewall is made of 1.5mm steel plate, high carbon content, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with micro

powder epoxy powder coating, according to ISO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270.

2.3. Structural vertical coverings

In the extreme structural verticals, coverings are added to close and cover the metal structure to give Lite console a more differentiated aesthetic. These panels are inserted at the bottom into the side itself and fixed by magnets at the top..



FIGURE 4: STRUCTURAL SIDE COVERING EXPLODING

The exterior panels of the verticals can be customized with the company's corporate logo or the control center in a vinyl applied on glass and with perimeter LED lighting.

The panels are made of high pressure laminate (HPL) according to EN 438-4, type CGS, intended for demanding areas of application, classification according to EN 13501-1: Euroclass C / D-s1 / s2, d0 but are also available in other types and classifications on request. Tested according to DIN 53799, DIN 53455, DIN 53479, DIN 4102, DIN 53389 and certified by the most prestigious organizations as

antibacterial material. Thickness of 12mm and available on request in any color from the manufacturer's range of finishes.

2.4. Compartments

The highly flexible structure of Lite console allows the integration of different types of compartments depending on the specific needs of each environment or workstation. These compartments have different characteristics in terms of size or connectivity location and will be used depending on the requirements of the project.

2.4.1. Suspended compartment

Compartment designed to house the operator's computer equipment, which is suspended at the rear of the workstation on one side of the functional arch. Made of sheet steel with rounded edges, the compartment has a hinged front door that allows access to the interior.

At the rear, the compartment is open so that the power and data sockets are accessible to the equipment inside. The upper anchoring of the compartment to the functional arch allows the compartment to be moved so that the management and connection of the cabling can be optimally managed.

The compartment has external dimensions of 250mm width, 538mm height and 530mm depth which allows an internal capacity of 195mm width, 460mm height and 510mm depth.

The compartment structure is made of 1.5 mm high carbon steel plate, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with epoxy powder paint in micro powder, according to USO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270.

The front door is made of high pressure laminate (HPL) according to EN 438-4, type CGS, intended for demanding application areas, classification according to EN 13501-1: Euroclass C / D-s1 / s2, d0 but are

also available in other types and classifications on request. Tested according to DIN 53799, DIN 53455, DIN 53479, DIN 4102, DIN 53389 and certified by the most prestigious organizations as antibacterial material. Thickness of 12mm and available on request in any color from the manufacturer's range of finishes. It has an embedded metallic handle.

2.4.2. Structural compartment

Compartment designed to house the operator's computer equipment, which is located on one side of the workstation, replacing one of the verticals of the console. Made of steel sheet with rounded edges, the compartment has a front door and a rear perforated door, both of which can be folded down to allow access to the interior to manage the equipment and the equipment.

The compartment is transversely divided into two zones: the front one, accessible through the front door, is used to house the operator's electronic equipment and the rear one, accessible through the rear door, is used to manage the cabling. This rear area is the access to the vertical panel that separates the two zones and has standard 19" perforations, a total of 2U, that allow the placement of power and data outlets. In this same rear area, the compartment is perforated at the bottom for the entry of wiring from the raised floor and at the top, the compartment communicates directly with the functional arch to bring the wiring to the monitors or the worktop.

The external dimensions of the compartment are 300mm wide, 570mm high and 650mm deep, which allows for an internal equipment capacity of 240mm wide, 505mm high and 500mm deep.

There are several options of this same compartment that can be substituted or complemented in each workstation: compartments with an external width of 500mm that can accommodate up to two PC towers or compartments with the same dimensions but with two or three drawers for office material.

The compartment structure is made of 1.5 mm high carbon steel plate, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with epoxy powder paint in micro powder, according to USO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270.

Both front and rear doors are made of high pressure laminate (HPL) according to EN 438-4, type CGS, intended for demanding areas of application, classification according to EN 13501-1: Euroclass C / D-s1 / s2, d0 but also available in other types and classifications on request. Tested according to DIN 53799, DIN 53455, DIN 53479, DIN 4102, DIN 53389 and certified by the most prestigious organizations as antibacterial material. Thickness of 12mm and available on request in any color from the manufacturer's range of finishes. They have an embedded metallic handle.

2.4.3. Rear Support System (RSS)

Horizontal compartment located at the bottom of the functional arch to house small electronic equipment not in tower format, such as KVM or Thin Client.

This compartment goes from side to side of the functional arch and has a lower tray to rest the equipment leaving a free height of 150mm and a depth of 280mm. Access to the interior of the compartment is by means of a front and rear hinged lid.

In this case, the sockets that will feed the electronic equipment located inside will be placed in the lower part of the horizontal part of the functional arch so that the wiring will never be visible through its lower area.

The structure and compartment covers are made of 1.5 mm high carbon steel plate, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with epoxy powder paint in micro powder, according to USO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270.

2.5. Braces

The structural verticals of each workstation or, alternatively, the compartments on both sides, are connected with longitudinal suspenders that adapt to the size of the console. These suspenders will have the function of stiffening the assembly and supporting the worktop of the whole configuration.

The tie rods are made of 1.5 mm steel plate, high carbon content, cold rolled according to UNE EN 10130:1999 and inspection certificate 3.1 according to UNE EN 10204_2006. Painted with epoxy powder paint in micro powder, according to USO 1519, ISO 2409, ISO 6272-1, ISO 1520, ISO 7253, ISO 4628 and ISO 6270.

2.6. Working surfaces

Lite console work surfaces are separated from the functional arch structure and are supported by the suspenders and not by the sides or compartments, so that the appearance of the configurations is of total lightness, as if the work surface were floating in relation to the rest of the console elements. All work surfaces are made to order so that they can be customized in design, shape and size to suit the needs of each project and each environment.

The design of Lite console allows to use the space generated between the work surface and the functional arch to anchor the monitor supports of the operators. The entire longitudinal space of the functional arch is free for this purpose, giving the product great flexibility, allowing the supports to be placed in any area of the entire width of the console or allowing the placement of several supports for the same workstation.

The work surfaces are made of 12 mm high pressure laminated board (HPL) according to EN 438-4, type CGS, intended for demanding application areas, classification according to EN 13501-1: Euroclass C/D-s1/s2, d0 but available in other classes and classifications on request. Tested according to DIN 53799, DIN 53455, DIN 53479, DIN 4102, DIN 53389 and certified by the most prestigious organizations as an antibacterial material. Standard in Graphite Gray color, available upon request in any color from the manufacturer's color chart.



3. Connectivity

Lite console is designed for technical environments, so the electronic equipment to be installed and its connection are of vital importance in the product. That is why the design of the console elements that are common to all configurations, as well as all interchangeable elements, are designed with different connectivity zones for a quick and convenient connection of the equipment.

3.1. Lateral connectivity of the functional arc

Depending on the configuration, power and data connectivity can be placed on one or more sides of the functional arch. In this way, the cabling coming from the technical floor can directly feed the sockets located here and will not have to be routed further. This connectivity will be located in a cover that can be easily removed for proper management and quick and easy connection.

The location of the sockets in this way becomes particularly important when the suspended compartment is used in the configuration. Since the suspended compartment can be moved from its position in the functional arch, the connectors will be visible and can be used for the equipment inside.

3.2. Connectivity in the lower part of the functional arch

The bottom of the functional arch is prepared with 19" studs where power strips or patch panels can be located facing the bottom. To bring the wiring to this location, it can be routed through the functional arch. These sockets are the ones that will be used more prominently when the console configuration has RSS. This area of the functional arch is located inside the compartment and the terminal strips are easily accessible and directly connected.

3.3. Connectivity in structural compartment

Each of the structural compartments of the Lite console has its own space for power location. The compartment, whether for PCs or 19" wide, has vertical uprights in the rear area for the placement of sockets with these standards.

3.4. Connectivity in work surface

A mechanism with sockets for the operator's particular use is integrated into the console work surface, facilitating the connectivity of personal accessories such as cell phones, memory sticks, laptops, etc. As standard, this mechanism is equipped with one power, two USB and two rj45 data sockets but in certain cases, it can be configured with other types of connectors such as VGA, HDMI, audio output and/or input, etc..



4. Cable management

Lite console allows to manage the cabling related to the workstation in an effective way by facilitating its concealment from the entry into the configuration to the connectivity points.

The functional arch, as the base of the Lite console structure, allows the conduction of all wiring. Entry to the functional arch is through the bottom of the functional arch verticals which are perforated for this purpose and can be easily managed as the entire inner area of the functional arch is open and easily accessible. Since the cable moves freely, it is easy to reach it when the connectivity is in the vertical part as in the lower part of the arch.

On the other hand, the compartments are connected to the functional arch and also have an entrance in the lower area so that the passage of the wiring from one side to the other is granitized.



5. Ergonomics

Lite console has been designed taking the ergonomic criteria of the Ministry of Employment and Social Security as the basis for its development, and the UNE-EN ISO 11064 Ergonomic Design Standard for control centers, specifically part 4: Distribution and dimensions of the control station.

These guidelines have allowed the development of a product that satisfies to a great extent the needs of the operators in their application environment, 24x7 environments, obtaining an adaptable system with a wide range of accessories and configurations.

From the point of view of product ergonomics, special attention has been paid to everything related to work surfaces and their impact on the control operator's performance.

5.1. Horizontal scopes

The design of the work surfaces ensures a correct arrangement of the elements as well as the operator's reach to the objects located above. To avoid continuous work in awkward postures, the Kompas control console in its various configurations allows objects, devices or tools regularly handled by the operator to be within easy reach.

The following is the area of space that a person can reach by hand on the work surfaces of the different configurations of the Kompas range, normal and maximum, following the criteria established by the Ministry of Employment and Social Security as well as the Spanish international standard UNE-EN ISO 11064: Ergonomic Design for Control Centers. The normal (or optimal) reach area is known as the area that can be comfortably accessed with the arm flexed at a 90° angle; on the other hand, the maximum (or suboptimal) reach area is the area that can be reached with the arm fully extended.

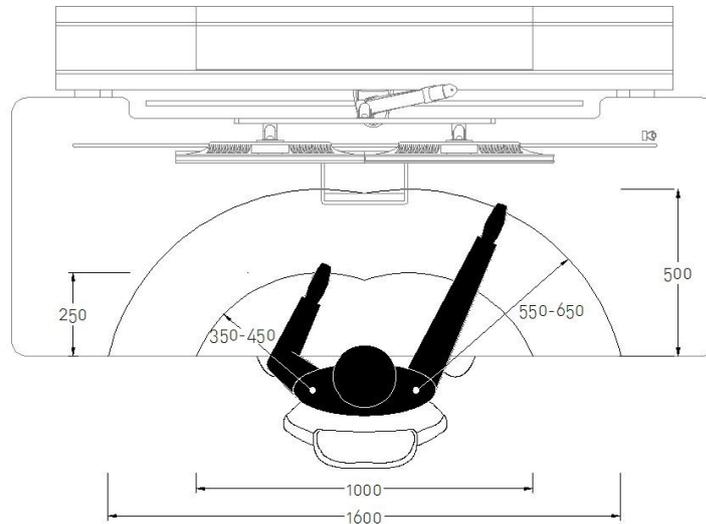


FIGURE 20: HORIZONTAL RANGES ON KOMPAS CONSOLE

In the optimal range zone should be placed the utensils that are most frequently used during the task, such as the operator's keyboard and mouse, as well as a telephone or radio. Other objects such as display screens, connectivity, etc. should be placed in the suboptimal zone. In addition, it is recommended that large and heavy objects be placed as close to the operator as possible if they need to be moved. The main work surfaces and the functional arc of the console are sized to handle all the operator's work items with a minimum dashboard depth of 625 millimeters and a total console depth of 800 millimeters.

5.2. Vertical scopes

The height of the work surface is appropriate to the situation of the worker's hands when performing the task at the level of effort and degree of visual attention required for 24x7 operator positions. The following table from the Ministry of Employment and Social Security shows the recommended heights depending on the type of task, taking as a reference the height of the elbow from the floor with the



arm bent, close to the body and forming a 90° angle, which has been taken into account in the ergonomics study of the Kompas control console and all its accessories:

TYPE OF TASK	HEIGHT
Heavy manual work	10-15 cm below elbow height
Light to moderate manual work	5-10 cm below elbow height
Precision or delicate manual work	5-10 cm above elbow height



FIGURE 21: SCHEME OF WORK – RELATED HEIGHTS

The person's hands should work between shoulder and waist height most of the time. The recommended work zones are as shown in the figure below, taking as a reference the height of the standard work plane (100 centimeters from the floor in standing or sit-to-stand position and 65 centimeters for seated posture).

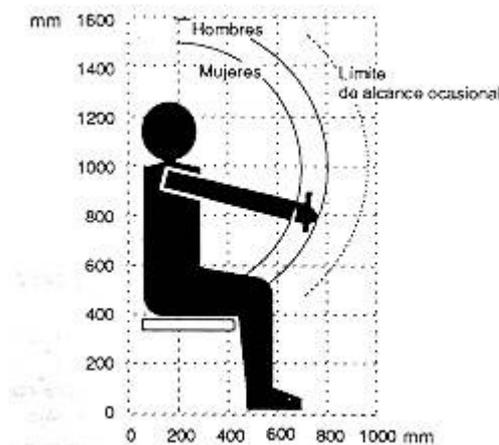


FIGURE 22: VERTICAL SCOPES



The height of both the worktop and the functional arch in the Kompas console is 740 millimeters above the floor, which is in the optimal position for the work typically performed by both male and female control operators.

5.3. Visualisation

The design of the work surface together with the FUNCTIONAL ARCH of the console and the accessories ensure the correct location of the audiovisual systems so that they surround the operator.

The operating or control station is made up of two work planes separated by about 100 millimeters. The main plane, where the worker's hands rest, is intended for the location of all those elements that must be within the operator's reach, i.e., those that are necessary for the development of his daily work. The second plane is the Rail Support System, located 90 millimeters below the main panel. It is intended for the location of the display elements that the operator must manage, CRT, LCD or LED screens, creating the correct viewing angle for the operator to have a perfect view of the monitor interface and minimizing all possible reflections of direct and ambient light.

5.4. Materials used

Lite console work surfaces are manufactured with materials and finishes that do not accentuate the reflections of the surrounding lighting. They are matte finishes so that they diffuse the light falling on them and do not reflect it directly. The colors commonly used are darker to maximize this effect, although lighter colors can be used if the operator's work often includes reading on paper, so as not to create excessive contrast between the work surface and the paper. The edges of all work surfaces are rounded, beveled and polished on the parts in contact with the operator to avoid damage and promote comfort.



All the other structural elements of Lite console are taken care of to the maximum detail for the comfort of the operator's posture, rounding and polishing also edges in the areas where the operator can meet with parts of his body.

5.5. Posture

The space under the console must be adequate so that the person sitting on the console has no interference of any kind between his body and the console structure.

All the elements of the Lite console are designed to allow the user to have a comfortable posture during the working day. The use of the FUNCTIONAL ARCH as a structural element means that all wiring and equipment are as far away from the operator as possible, leaving ample space under the worktop for the operator's limbs.



6. Configurations

- 6.1. Individual Lite console
- 6.2. Multiple Lite console
- 6.3. Lifiable Lite console