- **Concept**

- **The basic idea:** It was to conceive and develop the building on a simple **synthetical clue** that embodies the notion of “perfection” through our cultural heritage. The **Golden Section** has always been, and is still the ratio of predilection for its pure geometrical multiplication. It is also an esthetical reference for proportions.
  The **Golden Section** generates the rectangle which always multiplies equally to itself in a **logarithmic spiral progression** that astonishingly is the basic key of growth in all life form. The human body is based on it, but also plants and shells like the murex that produced the purple that was the most prestigious messenger from Phoenicia to other cultures.
- **The key:** The Golden Section sets the basic grid for the spatial development of the project, not only bi-dimensionally but also tri-dimensionally which represents a *tour de force* that leads to generate complexity out of unity and get **unity out of complexity**.
- **The goal:** Is to get a **strong and unique image** that bears the basic meanings of art and culture like an **ideogram** that has a defined **iconic value.**
- **Integration:**
  . Due to its urban setting, the building has two main facades: one from the upper level on the Fouad Chehab Avenue; the second, opposite to is on the lower level, is Interwoven in the Solidere urban setting.
  . Welcoming public accesses should determine the character of the building on both levels, the upper and the lower one.
  . Necessary **organic continuity** on the lower level, towards Solidere, its landscaped small square and its pedestrian networks.
  . Gets the highest elevation level on the Fouad Chehab side to **mark the presence** of the building and avoid its under scaling due to the proximity of the towers.
  . Then gradually lower the volume of the building and open completely its interior spaces towards the lower level of the land on the Solidere side. Advantages: softer **blending** with the existing Solidere Buildings, **human scaling for pedestrian approaches** and inclusion of the concept of **cultural interface with the urban setting**.
  . Achieve unity and accessibility of the main circulation. Its development through **intermingling spaces**: garden (of the lower level), hall (upper access level), foyer, this allows multiple perspectives and pause stops.

- **Form**

- The **Golden Section** rectangle (regulating geometry) offers the **geometric guidelines of the volumetric form**; also, the proportions between elements, planes and detailing are related by the Golden ratio 1/1.618.
- The skin is of one material that defines the whole project. The other material being transparent glass. The volumetric form, although complex in its formation is guided into unity, giving a **sculptural effect** that marks its presence.
- The volume is inspiring a **huge crystal, cut in a mathematical rhythmic shell**- like form.
- The material is titanium plates, finely textured having a semi gloss reflection effect. However, for budget economy zinc plates with deep amber semi gloss finish could be used.
- The plates are fixed in panels overlapping for a total waterproofing and having the same slight curvatures and width in order to simplify manufacturing procedure, site management, workability and later on, the possible panel replacement due to an exterior cause of damage.

- **Functions**

The performance hall:

- Italian scene type auditorium with large width assuring closeness of the seating rows, even for the furthest which are at less than 15 meters from the stage, providing a sense of envelopment for coziness in space and more intimate relationship with the performers.
- The ceiling of the auditorium is planned at a height of 16 meters to increase the volume of the space in order to obtain a reverberation times close to 2 seconds which is regarded as optimal for symphonic works. The ceiling is reflective, so it extends acoustic intensity to the rear seats while preserving high frequency transmission and presence. It remains under the limit of providing reflected sound within the delay of 1/15 seconds which prevents the perception of echoes. The back wall is absorbent for high frequencies to avoid pushing them to a very high reverberation time which could give too much brilliancy in sound. On the contrary this back wall is reflective for bass frequencies to extend the reverberation time slightly in the bass, which is appreciated by the audiences in the performances of large orchestras mainly.
  The clarity of the sound is increased by lateral reflectors on the side of the stage and lateral walls closed to it, arrangement that provides the most recommended “early

lateral reflections”.

The reverberation time is controlled by two means:

. Possibility of lowering the ceiling, so decreasing the volume of the auditorium space and getting a reverberation time close to 1.5 second recommended for opera. And lower it still further down to get the reverberation time close to 1.2 second recommended for theater and 1 second for conference.

. Rotating panels on ceiling and walls to offer three types of acoustic absorption: The first face is reflective to obtain a long reverberation time; the second face is absorbent for high and slightly for mid frequencies, to make sound more appropriate for theater performance; and the third face will include holes of the Helmholtz type, effective in controlling bass reflection and time of reverberation for theater and conference.

The acoustic transmission is assured for the furthest seats under the balcony by reflection of the balcony. The short cantilevers of the balcony have no hiding effect for acoustical transmissions for these seats.

We avoid installing a reclining sound reflector above the stage for it is not needed due to the acoustical concept of the space and also to avoid getting a harsh sound, principally in the strings as we experienced such a phenomenon in concert halls equipped with such features.

The structural floor, walls and ceiling of the auditorium are a concrete shell of 25 cm thickness that has a high inertia that assures bass insulation from external noise and bass conservation for internal one.

- Capacity of the space:

  The orchestra pit can be lifted to the level of the front seating area to increase seating capacity or to the level of the stage to increase stage capacity for some performances that do not require an orchestra pit.

  The seating capacity, computed on seat dimension of 55cm x100cm allows to accommodate more than 800 places up to 1150 seats, thanks to the deeper recessing balcony and balcony aisles. This extra capacity can be obtained without adding to the main area of the auditorium, it allows to accommodate a larger audience that is needed for a symphonic orchestra performance or an opera

production. If the seating capacity is to be limited to 800 seats, more space could be obtained for the stage.

The main foyer

It seems floating, open to varying perspectives from its four sides, it is a very lit space positioned on the North elevation (orientation that lets to avoid sun overheat from the largely glazed envelope). It allows direct entry to the small experimental theater (black box), but through another flight of stairs, it leads to the main performance hall. This shift in the entrance level of the performance hall positions the foyer as overlooking the main access hall for more interesting transparency and natural lighting extension. The other reason for that shift is that possible noise coming out from the exiting audience of the small theater would not interfere with the quietness inside the large auditorium during performance.

- Adjoining rooms (B6): These rooms are located under the large performance hall; they are accessible from the stage by stairs. They are also accessible from the small theater through a gallery passing under the stage of the performance hall.

- **Structure**

Two types of structure: Reinforced concrete for the body of the building, and steel structure, in high-tech expression, for the glazed area of the circulation slabs space (on the North elevation).

The ceiling of the exhibition space, the flour of the performance hall, the ceiling of the performance hall and the one of the small theater are treated in **post-tensioned reinforced concrete**. Post-tensioning allows to expand the spans of these slabs to 30 meters while keeping slab thickness at 30cm. So the space beneath these large slabs is free of support and obstruction.