

## *Everything it takes for a dream car stereo*

**Morel**

**Integra Ovation XO 6**

The founder and deus ex machina of Morel, Meir Mordechai, maybe one of the most multifaceted and imaginative designers present on the world scene. His Israeli company is a global leader in innovation and all its products are oriented towards this philosophy.



By Giancarlo Valletta

## **GENIUS MORDECHAI**

***Builder***

***Morel – Israel***

***Distributor:***

***Unicars Italia***

***Via delle Industrie, 35***

***20050 Mezzago (MI) tel.***

***039 624 102 28***

***[www.unicars.it](http://www.unicars.it)***

***Price:***

***€ 430.00***

Meir Mordechai is famous by any measure. Fans and installers are familiar with his genius and his extraordinary potential for innovation, potential that was used in the planning of numerous drivers and systems, whether in the home, car, or work environment. A quick glance at an Internet site will help us to understand the many products offered, ranging from home systems and driver units all the way to car systems, where “our” Meir has always invested his greatest efforts, winning unanimous consensus of the public and critics. His only limitations are “grand diameters”; woofer production is actually limited to 25 cm, and in his products it is possible to realize a “grand sub” only at the cost of utilizing a few joint drivers, the selection very much appreciated by Mordechai.

### **Whatever requirement of a super innovator**

In the Car section of the Morel catalogue, it is possible to satisfy any requirement. It is possible to trace both 3-way and 2-way systems, where, for instance, we are literally struck by the Elate line, which is presented and tested in these pages. A solution for any demand can be expressed by a line Point Source Speaker in which diffusers are a constituent part in tests, and which are divided in four different models: Integra Ovation XO, Integra Ovation, Tempo Coax and Pulse Coax. Morel expressed all his potential in the first two high-quality products, while that latter two, even while less expensive and demanding, never lose the typical product quality. In addition, new market demands have prompted the company to produce mostly economical lines that also comply with different requirement from the demands of a typical Morel client. New solutions were born – present also in the 2 and 3-way systems – that never lose Morel's superb quality signature.

A very interesting product, well worth mentioning, is the Accuset Alignment System, applicable to the Elate and Hybrid Ovation systems, whose control board can modify the size and slope of crossover filters. A simple and original idea that enables perfect tuning of a system. We are faced with a designer, Meir Mordechai, primarily enchanted by music, who has made his passion a profession. His innovative and progressive genius is always heading in new and different directions, all aimed at quality reproduction of music.

### **All combined, yet perfectly separated**

Morel's proposal to integrate the system being tested – less expensive than many others – in active multi-amplification dedicating a single stereo final for any loudspeaker, is, to say the least, original. Obviously, the best performance is achieved in this case, but at the not inconsiderable cost of using the final form for any speaker. Let us take a detailed look at this Integra Ovation XO system, which has adopted a 16 cm woofer with a coaxial tweeter of 2.8 cm with silk vault. Designed for 'tough' installations, as Morel puts it, Integra ovation XO is capable of absolute audiophile performance in the space of a preset. Available also in 13 and 10 cm diameters, Ovation XO can be installed in almost any context, thanks to having only a very modest impediment, and thanks to a special magnet motor with adopted technology. Meir Mordechai, in fact, has always favoured using neodymium as magnetic material for the woofer, or at least a combined iron/neodymium technology. In this case, only the latter is adopted, allowing



***Woofer and tweeter outputs are of different types to avoid errors. Connection system quality yields great consistency.***



***Upon removal of transparent protective cover, a jumper is reached that allows regulation of tweeter level.***

only modest impedance thanks to its excellent consistency. Let's look at this woofer in more detail. It has an utterly non-conventional form, with a grand spike in the upper part, and with the lower part of the structure containing the magnetic complex, which includes the main pipe where the tweeter voice coil operates. A magnet is assigned to each loudspeaker, with visible primary external air-gap where mobile a bobbin operates from the woofer and another internal coaxial for the tweeter. This minimizes interference between the two drivers, which should be placed mainly in the woofer to the detriment of the tweeter, in case of long excursions and/or massive overheating. Regarding the voice coil, if we refer to the old-fashioned one, aluminium wire is used for the woofer in Hexatech technique; Morel developed a special form and winding to dissipate most of the heat. The upper part of the chassis has a very large open hole span and the sound wave form of the back avoids reflection phenomena. The lower part of the component contains a sponge plug that absorbs posterior tweeter emissions. The chassis flange is perforated in compliance with DIN norms, so it can be adapted to any preset. In this case it is not possible to apply elegant protective grids that once again reveal the "instinctive" Morel quality. They are, in fact, perforated in a very broad pattern to avoid any interference with the emission from the loudspeakers. Output connecting tags are separated for the woofer and the tweeter - which we have also anticipated beforehand - to allow an active multi-amplification or application of crossover unit. Compact crossover form is placed in a very robust container to make possible also easy perpendicular installation. The cut is set at 3200 Hz with 6 dB slope and it's possible to act a tuneable reduction between 0, -3 dB and + 3 dB. The provided terminal board is of good quality and it's possible to tighten cables also in a big diameter. There is one critic we want to address to Morel Kit regarding absence of linking cables between the components and the crossover. These must be obtained separately. This is certainly no great disadvantage: taking the economic side of the system into consideration, it is correct to dedicate no-compromise cable to these extraordinary components.



***The tweeter with silk dome of high performance is able to produce excellent audio performance.***



***Observe the gold-plated screw type connectors reaching also to discrete sections. The crossover is of a very good performance and can be placed also inside of the door side. The jumper for tweeter reduction regulation is from -3dB, 0 dB, +3dB. It is very easy to set the right component level in the final phase.***

## **SEPARATE BUT MANAGEABLE TO PERFECTION**

*If the system is structured as a unique coaxial component with inseparable woofer and tweeter, we have analysed it in the measurement section as a 2-way system with all the effects, given that stated elements are electrically separated and led to the external crossover. If we observe the reaction in non-filtered tweeter axis, we notice irregularities: however, the fault is not in the components themselves, but of the peripherals. Actually, separate tweeters are measured upon a panel that constitutes a prolonged frontal flange to which they are usually attached, thus avoiding classic interruptions of the load plane that prompt considerable irregularities in reactions due to edge diffractions. In this way, all analysed tweeters are, if not anything else, comparable on the level of conditions. In reality of different installation positions, the reaction could therefore be rather different from the one we have obtained. The tweeter from this Morel system therefore represents a particular case, due to its isolated reaction, which is designed for operation in a system-integrated mode. Actually, the one required is a total answer, as you can see in the last column of the measurements page. In any case, as you can see in filtered component graph, the crossover is very well designed to reduce the zone of supposed irregularities, but is not limited to that: as is actually the case in best separate component systems, it also allows three regulation positions at the tweeter level. We can observe the results in graphics attached here, demonstrating three resultant curves.*

*Paolo Bocache*

**Picture (page 62):**

**Reactions in the axis of filtered tweeter correspondent to three positions of level regulations: -3 dB, 0 dB, +3 dB.**



**The tweeter with silk dome of high performance is able to produce excellent audio performance.**



**Pictures (page 63):**

**Observe the puncturing in the mode that allows coaxial installation in any preset. Also note the absorbing cap required to annul posterior tweeter emission; easily visible tweeter linking cable. Metal housing has a truly non-conventional form. Very broad spans securely alleviate the phenomenon of close reflections.**

## Conclusions

The system in question, Ovation X06, is a truly excellent system, capable of meeting the requirements of the passionate music lover combined with quality that will not disrupt the

**CHARACTERISTICS  
DECLARED BY THE  
CONSTRUCTOR:**

*Impedance:*

**4 ohm**

*Power handling*

*rms/pico:*

**100W/400W**

*Sensitivity:*

**90 dB**

*Frequency response:*

**45 Hz-25 kHz**

*Crossover point:*

**3200 Hz**

*Woofers:*

**from 16 cm**

*Dome tweeter:*

**from 2,8 cm**

engine itself by installation of separate components. A truly congenial coaxial, that are in no way inferior to the conventional coaxial cables we are used to seeing in store corners, represents a technological epitome in the grand Morel tradition. Furthermore, as far as Morel is concerned, the provision of consistent results by the Ovation X06 is confirmation that Meir Mordechai hasn't got it wrong! Although the selling price is quite high, it is perfectly in line with the class of this highly recommended product.

### **HEARING PROBE: EXQUISITE**

*We are looking at a particular system and we do not have to think of it as a "simple" coaxial one, but it needs source shoulders and amplification of a special kind. This also not to vanish part of the incurred costs – it is a truly and utterly expensive coaxial – and also for the incredible quality of the music. The right approach to this solution is of the following type: "I want the maximum, however I want it to remain inside the preset". Obtaining all that is obviously much more difficult. If you decide to install a conventional system with a separate tweeter, the best performances are obtained more easily. Morel's*

*objective was on the contrary to provide "audiophiles" with a simple preset, arduous and it must be admitted, loveable.*

*But Ovation X0 6 has succeeded in its intention of capturing most of the details, the precision, and the scenic reconstruction. You obtain immediate sensation of listening at a grand level, truly "audiophile", and those who love music with all the details will be really impressed. We confirm that the OvationX06 demands an excellent system at least with dedicated finals, however once performed, what is heard is excellent, persuasive, rhythmic, and sturdy. We shouldn't expect very deep basses, the 6" mid-woofer doesn't manage to descend with much authority, but until it can, until its physical limits can tolerate, it manages to be extremely realistic and beautiful. If loaded by a rather small cabinet, what we hear is truly lovely and real. The perspective aims for high quality, not quantity, in contrast to other systems and components selected from the Israeli builder. People who spend such a large amount of money for a coaxial are demanding users who want to achieve different results from the start. This diversity with*



*respect to heavy competition, although often not very refined, is expressed exactly with maximum quality, probably the best we have ever had the chance to hear from a coaxial.*

## **MIDWOOFER**

Brand: **MOREL**

Type: **Integra Ovation XO 6**

**A SENSITIVITY (2,83V/1m, average between 80 and 6300 Hz):**

**91,1 dB**

**B1 FREQUENCY RESPONSE ON THE AXIS:**

**B2 FREQUENCY RESPONSE 30°:**

**B3 FREQUENCY RESPONSE 45° AND 60°:**

**C DISTORSION (AT 100 Hz/100 dB):**

**D1 IMPEDANCE MODULE:**

**D2 IMPEDANCE ARGUMENT:**

**E PARAMETERS:**

D: **123** (mm) Qms: **2,28** Mms: **6,19** (g) BxI: **4,86** (N/A)

Re: **3,49** (Ohm) Qes: **0,39** Cms: **0,91** (mm/N) L1K: **0,31** (mH)

Fs: **67,0** (Hz) Qts: **0,33** Vas: **18,0** (l) L10K kHz: **0,15** (mH)



COMMENTS ON MEASUREMENTS\_\_\_\_\_

### **SENSIBILITY**

Superior media performance for this component type.

### **REACTION**

Optimum regularity is obtained beyond axis with slight differences between different angles in question; therefore, a very favourable situation to obtain the best reaction in the most exploited positions within the installation.

### **IMPEDANCE AND PARAMETERS**

Force factor slightly better than the average, which together with an interesting value of mobile masses, less than half (!) of the usual, provides the high sensitivity that we noticed.

### **DISTORSION FROM 100 dB**

Not considerably reduced rate but constituted a low harmonica, which does strongly affect the listener.

## TWEETER

Brand: **MOREL**

Type: **Integra Ovation XO 6**

**A SENSITIVITY** (2,83V/1m, average between 4kHz and 20kHz Hz):

**89,0 dB**

**B1 FREQUENCY RESPONSE ON THE AXIS:**

**B2 FREQUENCY RESPONSE 30°:**

**B3 FREQUENCY RESPONSE 45°:**

**B4 FREQUENCY RESPONSE 60°:**

**C DISTORSION** (AT 3.500 Hz/100 dB):

**D IMPEDANCE** (Module and Argument):

**E PARAMETERS:**

D: ----- (mm) Qms: **2,02** Mms: ----- (g) BxI: ----- (N/A)

Re: **3,54** (Ohm) Qes: **2,82** Cms: ----- (mm/N) L1K: **0,20** (mH)

Fs: **1315 (Hz)** Qts: **1,18** Vas: ----- (l) **L10K: 0,04 (mH)**



COMMENTS ON MEASUREMENTS \_\_\_\_\_

### SENSIBILITY

Properly calibrated value for the system equilibrium.

### REACTION

In view of the fact that in typical installation positions the sound is heard out of axis, in the case of the tweeter as well, this is the situation that yields the best result in terms of regularity. However, there is a falling trend towards the highest frequencies.

### IMPEDANCE AND PARAMETERS

The module value is maintained within 4 ohms, with an average frequency of resonation, but with a practically insubstantial peak; in this way the filter net design is quite simplified.

### DISTORSION AT 100 dB

The rate of 3500 Hz is mostly contained, presenting only the second harmonica characterized by small amplitude.

## THE SYSTEM

Brand: **MOREL**

Type: **Integra Ovation XO 6**

**A SENSITIVITY** (2,83V/1m, average between 80 and 10000 Hz):

**90,0 dB**

**B FREQUENCY RESPONSE** (axis 30° and 45°):

**C COMPONENTS REACTION** under the filter:

**D IMPEDANCE** (Module and Argument):

COMMENTS ON MEASUREMENTS\_\_\_\_\_

### **SENSIBILITY**

System resulting value is above average.

### **REACTION**

The crossover acts on the mid-woofer in a well-calibrated way, making the most of the high part of its usage gamma; in this way, the tweeter, set to above 5 kHz, enhances its dynamic potentials and can work within its most regular zone of reaction.

### **IMPEDANCE (module and argument):**

The curve is always maintained above 4 ohm, with normal variations to woofer resonance and at the junction.