



**A Super-Dreadnought Class System from a New and
Powerful Manufacturer**

**A Masterpiece Incorporating State-of-the-Art
Technologies**

物理的思想をベースにしたリアル&クールな設計

2004年にイスラエルに誕生したYGアコースティクス社。研究開発と本社は現地であり、生産はアメリカで手作りされる。スピーカーシステム専門メーカーだ。「YG」は創業者ヨアヴ・ゴットワロアスキーのイニシャル。イスラエル軍の開発研究部門にも属した経歴を持った技術者だ。なぜスピーカーを設計したか不明だが、多分、オーディオが好きで、自分の信念、理想をスピーカーシステムに求めた、というのがきっかけではないかと勝手に想像する。

資料によれば、ゴットワロアスキーは音響は持っていないようだ。彼の経験からとらえてみると思うのだが、「音を出すのではない。電気信号に変換する」ということ、音圧を伴う音波に変換するだけだ、という、電気、物理的思想が根拠に流れている。スピーカーシステムを必要と感入る音源とはまったく相反し、

リアル&クールな設計思想というべきである。この意味で本誌はAnat Reference「アナット・リファレンス」は音響愛好家を求める人のためのスピーカーシステムといえよう。

それではどうして設計思想をこのように形で見現化しているかを見てみることにしよう。

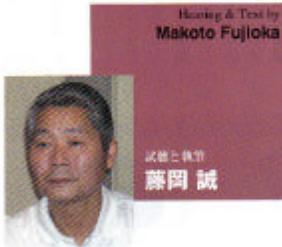
基本思想を知る

アルミ製キャビネットの精確さに驚嘆する

アナット・リファレンスは、2ウェイ3スピーカーのメインモジュールとアクティブサブウーファーの2ピース構成。サブウーファーの規模によって「スタジオ」「エンターテインメント」「パーティ」があり、ここでは前者を紹介する。そして両仕様において内容が共通するメインモジュールについて触れることにしよう。

指すべきはキャビネットだ。パツパツ面は19層アルミニウム。その他の面は19層アルミニウムで、いずれも

航空機用。さらには即座ステンレスも使用され、全てスイスでCNC機械加工、レーザーカット加工されている。木質系素材では到達し得ない均質性と全体剛性が確保されている。事実、かつてなかった精密さに驚嘆するしかないのだ。これまで、いくつかの全金属製キャビネットはダイキャストを含めていくつか見てきたが、本機ほどの高純素材と精密さを持つタイプはひとつとしてなかった。寸法は90W×48H×88Dで、重



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Anat Reference

YG ACOUSTICS / スピーカーシステム

¥5,775,000 (ペア/税込)

PROFILE

2004年のインターナショナルオーディオショーで発表され、話題を集めたスピーカーシステム。2ウェイ3スピーカーのメインモジュールとアクティブサブウーファーとの2ピースで構成され、キャビネットにはスイスでレーザーカットされたアルミを採用。1台の総重量140kgという超級モデルである。ちなみに、モデル名は開発者の愛称の名から取られている。

Bottom Section of Page

Anat Reference

YG ACOUSTICS / Loudspeaker System

¥5,775,000 (per pair, tax included)

PROFILE

The YG Acoustics Anat Reference Studio was first exhibited at the 2004

International Audio Show, and immediately became a topic of conversation. It is a double-cabinet design which includes two-way three-driver main modules and active subwoofers. The cabinets are made of aluminum and laser-cut in Switzerland. It is definitely a dreadnought-class model with a total weight of 140kg.

By the way, the model's designation was adopted from the name of the beloved wife of the designer.

Tested, listened to and written by **Makoto Fujioka**

Main Section of Page

A Behind-the-Scenes Look at the Development Process

A Realistic and Cool Design Based on a Physical Concept

YG Acoustics Ltd. is a company specializing in the manufacture of loudspeaker systems. Established in 2002, its headquarters and R&D facilities are located internationally, while manufacturing is done in the U.S. (handcrafted). YG stands for Yoav Gonczarowski, the founder of the company. He is a technical expert who once served in the R&D section of the military. It is unknown why he founded a loudspeaker manufacturing company. My personal guess is that his love for audio went as far as seeking belief in the possibility of an ideal loudspeaker system.

According to data I gathered, Mr. Gonczarowski's design concept seems to be far from emotional. In light of his career path, it is understandable that his system is based upon an electrical/physical concept. In his own words: "(my system) does not "sound" at all; it merely transforms the electrical input signal into sound pressure waves". This is a realistic and cool design concept, which does not define a loudspeaker system as a musical instrument. In this sense, Anat Reference is the loudspeaker system for those who pursue pureness in sound. Let us now see how such a design concept has been embodied.

General Description of the System

Stunning Accuracy of the Aluminum Cabinets

Anat Reference was designed as a two-piece system, consisting of two way, three-driver main modules and active subwoofers. It comes in two models: "Studio" and "Professional", with different subwoofer sizes. In this article, the

former will be discussed. I would like to start with the main module, which is common to both models.

A special note should be given to the cabinet, which includes a 19mm-thick baffle and 19~20mm thickness in other parts, all of which are made of aircraft aluminum. 5mm-thick stainless steel is also used. All parts are CNC-machined and laser-cut in Switzerland, which ensures the system's homogeneity and an overall rigidity impossible to achieve with wooden models. Indeed, I could do nothing but be amazed by its unprecedented accuracy. I had seen some all-metallic cabinets including die-cast ones; none of them used more advanced materials or were more accurate than this system. The dimensions are 90W¹ x 480H x 494D (in mm). The weight is *continued on next page...*

¹ Correction during translation – width is 190 mm.

cutoff slope is extremely sharp, and the level of accuracy in stereo pair matching and phase tolerance is peerless. Needless to say, each unit is coupled to its own chamber. The two woofers placed top and bottom have spider grilles installed for directional dispersion adjustment rather than protection of the diaphragm, which is not significant. The output sound pressure level is 87dB. The impedance is 40 nominal and 2.70 minimum. The input method is dual with four-terminals, in which a uniquely shaped shorting bar is used. I experimented a little and found out that this shorting bar was quite reliable, with distortion successfully inhibited by dispersion. This is a shorting bar that gets the job done.

The frequency response of the main module alone is 40Hz ~ 40kHz. With these figures, the provided data is stunning: Less than ± 0.7 dB in the audible band; less than ± 0.2 dB between the left and right channels. Although such figures as these were not easy for me to believe at first, flat measured data of each unit are published along with phase characteristics. These are amazing characteristics, or data, indeed.

Well, I decided to start listening to the main module only. In short, my attention was drawn to the accuracy and the wide-band performance. What impressed me most, however, was the low-frequency response. Generally speaking, a main module of this size, with two small-diameter woofers and fully sealed cabinets, fails to perform as specified in the manual, with poor low frequency response and low sound pressure levels. This is not the case with this main module. Tympanis, gran cassas and giant Japanese drums were all reproduced with full sound pressure, good response and a low center of gravity. I could not help but wonder how this was possible. Moreover, mid and high ranges are flat and naturally balanced. At this moment, I was reminded of Mr. Gonczarowski's above-mentioned ideal of a loudspeaker system as a transducer: "(my system) does not "sound" at all. It merely transforms the electrical input signal into sound pressure waves." Despite this somewhat dry expression, the sound quality and tones do have emotionality. Female vocals sound sexy and instruments in a string ensemble play tenderly. A brilliant piece played by a large orchestra is naturally colorful. This model is capable of reproducing any type of music, as it should be.

Bottom Section of Page

Pictures

Top: Main module and active subwoofer separated from each other. The former weighs 60kg, the latter 80kg.

Bottom left: Rear view of Anat Reference. Main module is connected to power amplifier, active subwoofer to preamplifier.

Bottom center: Main module bi-wiring terminals.

Bottom right: Control section of active subwoofer for adjusting volume, bass boost, etc.

It will undoubtedly be a world-class two way compact system. A pair is tentatively priced at about ¥2,300,000 excluding the stands.

The role of the active subwoofer is, in combination with the main module, to assist it in bass response as well as the sound pressure level. Its cabinet is fully sealed. The materials and the manufacturing are exactly the same as those used in the main module. Spider grilles are installed on the Scan-Speak 20cm unit². The front baffle is tilted in order to adjust the center of the sound source in relation to the main module. The trapezoid shape contributes to preventing formation of internal standing waves by reducing interaction between opposing planes.

The built-in power amplifier is produced by Hypex in the Netherlands. It employs Class A/B operation method and generates 200W. By the way, the “Professional” model, which uses a 25cm-diameter driver³, generates 790W. The frequency range is 20 ~ 50Hz and is continuously variable. Needless to add, it performs all the functions expected from an active subwoofer, including level adjustment and phase switch.

Experiencing the Sound of the System

Perfectly Flat Response

This active subwoofer combined with the main module creates Anat Reference, which offers a subsonic-bass range that sounds like tangible waves in motion, and a perfectly flat response in mid to high range. I was simply hearing unmatched accurate sound. Extremely delicate but not nervous, proof that it has low distortion and superior integrity. And, the quality of its soundstage imaging was just superb...

As for positioning, considering the system’s flat response even at the deepest bass range, a way to control acoustical coupling with floor reflections is needed. It is advisable to lower the level of the subwoofer in comparison with that of the main module; it should be remembered that the role of the active subwoofer is, in combination with the main module, to assist it in bass response as well as the sound pressure level.

Anyway, I am glad that the emergence of this system added depth to the real high-end speaker market. The price is such that only special people can afford it,

² Correction during translation – woofer diameter is 25 cm.

³ Correction during translation – the Professional Sub uses twin 25cm woofers.

yet I strongly recommend the reader to give a listen at any opportunity, such as a specialty audio shop or various events. It is definitely worth it, and the experience might change your future course of your audio life.

Technical Specifications

? Frequency response: 20Hz ~ 40kHz (Less than ± 0.7 dB in the audible band. Less than ± 0.2 dB between the left and right channels ? Crossover: acoustic 4th –order Linkwitz-Riley ? Crossover frequency: 1.75kHz ? Impedance: 4 Ω nominal, 2.7 Ω minimum ? Cabinet materials: Baffle - 19mm aluminum/titanium, Enclosure – 19 ~ 20mm aircraft aluminum / 5mm stainless steel ? Amplifier: Class A/B operation, with circuit protection mechanisms, output 200W ? Dimensions (in mm): 330W x 1212H x 594D ? Weight: 140kg ? Distributor: Acca inc.

Pictures

Left. The author impressed by the solid enclosure

Right. Listening tests were carried out in our auditioning room. Equipment used in the test was Acuphase DP-85, Acuphase C-2800 and Exclusive M8 x 2.