

Grand Theatre



In terms of design the 'Grand Theatre' set of Berlin-based manufacturer ADAM probably wins no price – but for sure it thrills with its neutral and dynamic sound.



Known from the professional league is the ADAM sub: In addition to the usual RCA connectors it also comes with symmetrical XLR connectors.

ADAM GTC-SET

- + very balanced, nuanced sound
- + precise, three-dimensional spatial imaging
- + clean, dynamic and deep reaching bass
- height of front speakers too low for floor installation

Founded in 1999, the loudspeaker manufacturer ADAM has quickly gained reputation in the Professional Audio market. The studio monitors from Berlin are not only found in recording studios, though. For several years ADAM also produces loudspeakers for Home Audio and the HomeTheater market. According to the company this is done with the same standards as for the Professional Audio market. For theaters at home the Berlin-based manufacturer offers only one series at the moment called 'GrandTheatre'. The series' design is rather functional, not to say plain. In consequence, a 5.1 surround set of these put in a normal living room will rarely find the tolerance of the better half. Although the black vinyl finished speaker (the baffles are painted matt black) is made very well indeed, as likely as not only absolute tech-nerds will get excited about their looks.

Technology

On ADAM's product pages the Grand Theatre Series are filed under the 'installation' section. In addition, the GTC77 when used as front or center speaker and also the GTC55 in a surround setup, do not match the common form factors of speakers. Therefore the GTC77 must be placed on a higher level, so that the tweeter can reach the ear level of the audience. Room integration is the much better choice for these speakers, for instance

behind acoustically transparent projection screens and flush mounted to the rear wall.

Talking of tweeter: ADAM is one of a few manufacturers that make use of the so-called Air Motion Transformer, a clever but complex solution (see box on right-hand page). Also the woofers (and the midrange at the GTC77) offer a rather exotic design. The woofers share the same cone-shaped construction as it can be found on many other speaker cones, but the used material, a woven structure of carbon and glass fibre, backed on the rear with a layer of light and stiff 'Rohacell' foam, is real high-tech.

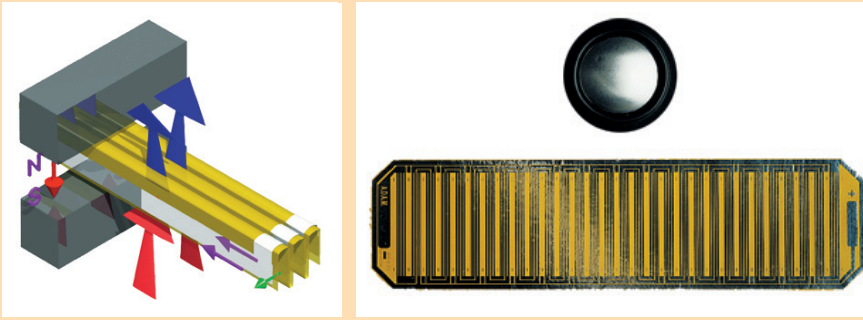
As large as the GTC77 is, it can be operated in vertical or horizontal position. For that purpose the manufacturer mounted the midrange/tweeter unit and the upper one of the two woofers each on an equally large, wooden square plate that can be lifted out of the cabinet by only removing four screws. For horizontal operation the woofer migrates to the outside and the midrange/tweeter unit – by rotating it through 90 degrees so that the tweeter points upwards – goes into the middle slot. The GTC77 is a little too large to place it on or beneath a regular TV set, it can be well fitted below a projection screen without problems, though.

By the look at the connectors of the subwoofer GTC Sub their studio origins become obvious: In addition to RCA connectors there are balanced XLR connectors available, namely stereo inputs and satellite outs that can be used together with a highpass filter. The 12 inch woofer that is located together with a large bass port at the front of the subwoofer is supplied by a 200 Watts digital amplifier.

With their simple vinyl finish and function-oriented shape these ADAM boxes are made for use as fixed installation speakers. These are excellently built speakers though.



X-ART TECHNOLOGY



On the left: The accordion-like pleated foil membrane of the X-ART tweeter effectively draws air in and squeezes it out of its folds. Slight foil motions can be translated into vast air motions that way. The picture on the right shows how much larger the area of an unfolded X-ART diaphragm is compared to a 1" dome tweeter.

ADAM makes use of the 'Air Motion Transformer' design in all of their tweeter drivers. This concept was originally developed and patented in 1969 by German physicist Oskar Heil. It is based on an accordion-like pleated foil that incorporates conducting paths along with the folds. A strong magnetic field is produced by magnets arranged in front of the foil and behind. When alternating current is applied to the conductor paths, the diaphragm folds move to the rhythm of the signal. Sound generation of this type of loudspeaker is based on air, produced by the movement between the folds. This is done effectively, a slight motion of the folds generates a vast air motion. ADAM's X-ART tweeter translates with a ratio of 4:1.

As simple this concept seems to be, as complex it is to make a good speaker out of it. Regarding the characteristics many crucial factors have to be considered, as there are properties of the foil, size and shape of the folds and strength of the magnets. Once these factors are under control, this type of tweeter is superior to conventional designs. The acoustically active area is larger compared to that of dome tweeters. At ADAM's X-ART driver it is 2.5 times larger, therefore higher maximum levels can be expected. The sound outlet is comparable to that of a normal dome tweeter, which also means comparable omnidirectional sound characteristics. In addition to that, the folding splits up the diaphragm area into smaller parts, which makes partial vibration almost impossible.

Surround sound quality

In view of frequency responses we were surprised to see the bass range below 250 Hz descending. This is done deliberately, because when the loudspeakers are getting used as intended, meaning installation close to the rear wall or in-wall, the resulting ascent of the bass range caused by the wall gets compensated by the descent. Otherwise the frequency response curves are flat. The Sub integrates seamlessly into the positive image with its cutoff frequency of 29 Hz and a maximum peak level of 108 dB.

The first impression at moderate levels in the listening room is: unobtrusive. There is nothing that would draw attention to the playing devices. You can hear singers sing and musicians play but not the loudspeakers for the main part. The GTC setup is able to reproduce particularly impressively the sound of natural Instruments, as to be heard in the San Francisco Symphony's recording of Aaron Copland's 'Appalachian Spring'. The GTC set delivers this recording accurately, naturally and dynamically into the room.

If more modern electric stuff is played like 'Away from The Sun' by cult rockers 3 Doors Down the GTCs reveal their potential to drive full throttle. The ADAM-set creates a wonderful live concert atmosphere that aims for the pit of the stomach like good rock music should do. The band around singer Brad Arnold sounds so rough and ready as it was intended by the recording engineer. Equally impressive is how seamless the subwoofer integra-

tes into the sound image. Even more amazing is the fact that the GTC set is capable of playing at enormous sound pressure levels without showing signs of compression or distortion. This is true for movies as well, because this setup is able to perform at real cinema level. At those levels the sub can show its full potential: The wobbly sub bass in the fourth Terminator movie when the drone flies over the truck waiting on the bridge makes the abdominal wall flutter. The dialogs are not affected by this kind of rumpus and are always easy to understand. It is also impressive to hear how the GTCs draw the relaxed atmosphere of Gandalf entering the Shire at the beginning of the first instalment of 'Lord of the Rings' into the room.

Stereo sound quality

Listening to music in stereo is great fun on the ADAMs, too. Inga Rumpf's jazz classic 'You go to my head' is played in a discreet, dynamic manner and great self-evidence. Singer and orchestra are precisely and stably placed on the sound stage. Once again, the music comes to the fore with the loudspeakers not taking themselves too seriously.

He who integrates the ADAM GTC set in his home theatre professionally, is going to be rewarded with an absolute stunning sound quality that heaves the set into our reference class. On the other hand, visually and soundwise the 5.1 combo does not feel too comfortable in ordinary living room environments.

ADAM GTC-SET

Features

Price (SRP)	5.500 Euro
Finish	black vinyl finish, baffles matt black
Dimensions / weight Front	81 x 26 x 31,7 cm / 20,6 kg
Dimensions / weight Center	26 x 81 x 31,7 cm / 20,6 kg
Dimensions / weight Surround	50,5 x 20,6 x 31,6 cm / 11,2 kg
Dimensions / weight Surround-Back	—
Dimensions / weight Subwoofer	56 x 48 x 47,1 cm / 25,8 kg
Sub / Sat-Set	yes
Number of speakers	5.1

Techn. specifications Front / Center / Surround

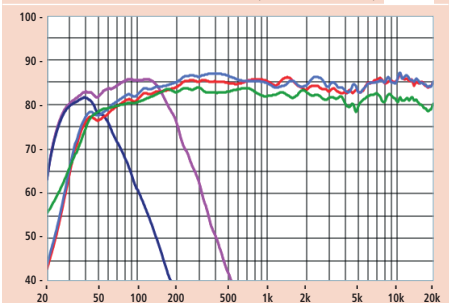
Number of ways	3 / 3 / 2
Minimum Impedance	4,1 / 4,1 / 4,8 ohm
Sensitivity	84,6 / 85,1 / 82,2 dB SPL
Bi-Wiring	no / no / no

Techn. specifications Subwoofer

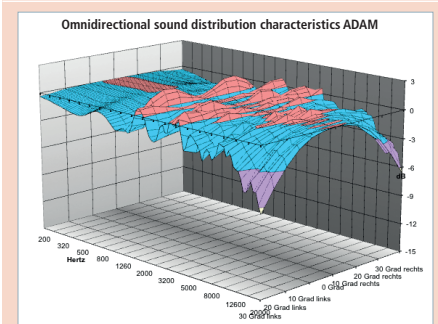
Design	Bass-reflex
Remote control	no
Amp power (as specified)	200 Watt
Basket diameter	31 cm (12 inch)
Phase control	yes / switchable
Highpass filter	85 Hz
Lowpass filter	50 bis 150 Hz

RATING

SOUND QUALITY 5.1 SURROUND	very good	56 / 60
Neutrality		11 / 12
Dynamic response		11 / 12
Speech intelligibility		11 / 12
Resolution		12 / 12
Sub-bass characteristics		4 / 4
Lower cutoff frequency Front	28 Hz (w/ Sub)	3 / 4
Max. SPL Bass	108 dB SPL (Pink Noise 40-80Hz)	4 / 4



Front Center Surround Sub max. crossover frequency
Sub min. crossover frequency
The slight bass descent below 250 Hz makes absolute sense when GTCs are installed close to the wall.



The ADAM center speaker radiates very consistently into the room. Listeners far off the central listening position can enjoy full sound quality as well.

SOUND QUALITY STEREO	very good	22 / 25
Neutrality		5 / 5
Dynamic response		4 / 5
Speech intelligibility		4 / 5
Resolution		4 / 5
Sub-bass characteristics		5 / 5

MATERIAL & WORKMANSHIP	very good	9 / 10
FEATURES	very good	5 / 5

rating very good **92** / 100
REFERENCE CLASS