

EAR IN

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# For the best music on the go Headphones to Go!

- Music in Metropolis – mobile HiFi
- Which headphone for what purpose?
- Which headphones are suitable while travelling?
- Action-Vacation – the right gear!
- When is active noise reduction worth it?
- High End on the go?

## Travel-Combos

- Small and smart:  
Cayin-Player and In-Ear of AAW
- High End mobile:  
Planar magnetic headphones and DAP  
of Acoustic Research Pg.58

## Phones and Phono

- High-End headphone system for Vinyl-fans
- Top sound with tube technology Pg.66



## System comparison: passive vs. active

- 3 x Teufel Real: passive, Bluetooth  
and with noise-cancelling
- 3 x Beyerdynamic Byron: passive,  
Bluetooth and DSP-optimized  
Pg.10/30



## Top Sound from the pit lane

- MTX iX3 – Headphones from Car-HiFi-Experts
- Stylish and ultra-robust Pg.49



### Testing:

#### 26 Headphones

- 12 wireless Bluetooth-headphones
- 6 Headphones with active  
noise reduction

## New Reference- In-Ear from USA

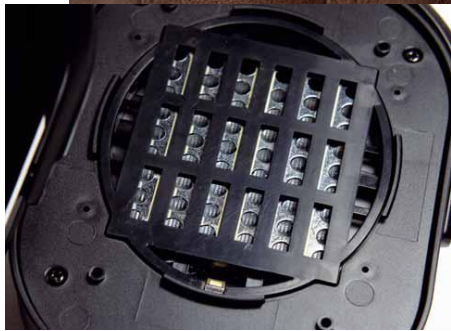
- Westone W80
- With 8 drivers  
at the top Pg.8



## Ultimate Sports headphones

- Cutting-edge technology:  
Jabra True Wireless

- Perfect in details: Plantronics BackBeat Pg.22/24



You can count on the highest sound quality even on the go. If you also want to enjoy mobile music just like at home in your living room, Acoustic Research will provide you with a mobile high-end combination: the planar magnetic AR-H1 headphone and the AR-M1 digital audio player.

#### AR-H1

Let's start with the headphones. It deals with a really big Over-Ear headphone equipped with planar magnetic transducers. In magnetostats, a membrane provided with a conducting track is suspended between two sound-transmitting magnetic structures. In contrast to conventional dynamic transducers, the electrodynamic force acts on the entire membrane, while the force in a conventional chassis is generated by a voice coil and then transmitted to the diaphragm. Since planar magnetic transducers can only make a small stroke, they can only generate greater volume over a large area. Hence, the housing is comparatively large. Like most magnetostats, the AR-H1 is built open, which emits a relatively large amount of sound to the surroundings, and vice versa, it also leaves external noise quite uninsulated to the hearing of the wearer. The AR-H1 is more suitable for enjoying music sitting alone in the hotel room or on the terrace of a holiday home. With an impedance of 33 Ohms and an efficiency of 100 dB, the large headphone does not consume high power and can be easily controlled by mobile devices.

• The planar magnetic drivers become visible behind the removable ear cushions. You can also easily see the magnetic structure and the membrane

Acoustic Research - again a famous old name in Hi-Fi history. Because it's so good: Acoustic Research, based in Cambridge, Massachusetts, USA, was founded in 1952 and is regarded as the company that invented the modern Hi-Fi speaker, although the term Hi-Fi was not common at the time. (The German "HiFi DIN" 45500 dates back to the 1960s.) The speakers from Acoustic Research set standards worldwide in the 1950s and 1960s and served many companies as models for the development of similar loudspeakers, including German companies like Braun or Klein + Hummel. It follows the usual story with many sales of the company, sometimes to the one, then with its strongest competitors. Audio Research is currently owned by Vox International Corporation. There you obviously appreciate the value of the brand and offer high-quality consumer electronics under the name Acoustic Research, AR for short.

The connection cable is replaceable, so that a longer connection cable will certainly be useful for use with a large headphone amplifier.

Due to the extensive magnet structures, magnetostats are usually comparatively heavy, and the AR-H1 is no exception with 420 g. However, the wide headband distributes the weight over a large area, so that the large AR sits comfortably on the head. The ear pads are also optimally matched to absorb the contact pressure softly, so that the headphone is very comfortable overall. There is plenty of space under the cushions, the adjustment range of the headband is large, and the hinges allow enough room, so that the headphones really fit every head. It is pleasing that AR is also very quiet mechanically. Overall, the AR-H1 makes a very good impression.

## AR-M2

The digital audio player AR-M2 comes in the size of a full-fledged smartphone and offers a 5-inch touch display for operation. On the right side are four mechanical buttons for switching on/off as well as for switching titles and play/pause as well as a slot for a SDXC card with up to 200 GB. A mechanical volume control sits on top of the housing, the headphone jack and a line out can be found below, right and left of a micro-USB port, both outputs in the form of a 3.5-mm plug. The built-in technology need not hide away from a "big" DAC. A Burr-Brown PCM1794A is used as a D/A converter, which is already very high in the ranks of the top DACs. It gets its clock frequencies from two temperature-stabilized clocks. High-quality operational amplifiers from Burr-Brown and Texas Instruments are used in the amplification stages. Qualcomm's 4-core processor controls everything. The AR-M2 processes music data up to 24-bit / 192 kHz PCM as well as DSD. For data, the AK-DAP provides 64 GB internal memory, which can be expanded by up to 200 GB using a MicroSD card. What's more, the AR-M2 has Wi-Fi.

AR in AR-M2 counts on Android 4.3 as the operating system. Accordingly, a wide variety of apps - players, streaming services, DLNA clients, etc. - can be installed, so that you can use the device in many ways. The AR Music Player app is installed by default, which has many options for sound effects.

## Sound

With so much technology you may almost forget the purpose behind it - listening to music. But it is the other way round: as soon as you hear music, you forget all about the technology. The combination immediately opens up such a wide, vivid soundscape that it immediately puts you right in the midst of music so that environment and technology don't really matter.

This is really like being at the big movies. And that's the

real High-End. Questions about tonality, resolution, dynamics, timing can be long forgotten. Those are out of question for this combo. Here, Acoustic Research has achieved something very big, which more than lives up to the conventional name.

Martin Mertens.



- In addition to the touch screen, the basic functions can also be controlled via buttons. The slot for the microSD card is elegantly concealed behind a cover

## Acoustic Research AR-H1

•Price:	700 Euro
•Distribution:	Voxx German Holdings, Pulheim
•Website:	www.voxxintl.de
•Connection:	3.5-mm-Stereo jack
•Frequency response:	10 – 70,000 Hz
•Impedance:	33 Ohm
•Efficiency:	100 dB
•Design:	Over-Ear, open, planar magnetic driver
•Weight:	420 g
•Cable:	1.5 m, replacable
•Cable routing:	Double-sided
•Suitable for:	mobile HiFi, mobile High End, HiFi, High End
•Equipment:	6.3-mm-Adapter, Transport bag

•Assessment:	<b>Sound</b>	50%	<b>1.1</b>
	<b>Fit</b>	20%	<b>1.2</b>
	<b>Equipment</b>	20%	<b>1.8</b>
	<b>Design</b>	10%	<b>1.5</b>

*With the AR-H1, Acoustic Research has achieved a magnetostat of the reference class practically from scratch. Respect.*

<b>EAR IN</b> Das Kopfhörermagazin	Reference class	<b>1.3</b> 1/2018
Price/ Performance		<b>Very good</b>

## Acoustic Research AR-M2

•Price:	1,300 Euro
•Distribution:	Voxx German Holdings, Pulheim
•Website:	www.voxxintl.de
•Dimensions (B x H x T):	70x 136 x 15 mm
•Weight:	235 g
•Designs:	Black/Silver
•Suitable for:	mobile HiFi, HiFi, mobile High End, High End
•Connections:	
Inputs:	USB Type-C
Outputs:	Headphone output 3.5-mm-Stereo jack plug; Line-out 3.5-mm-Stereoklinkenbuchse, other connections: WLAN

•Assessment:	<b>Sound</b>	70%	<b>1+</b>
	<b>Equipment</b>	15%	<b>1.8</b>
	<b>Operation</b>	15%	<b>1.5</b>

*Fine components, sophisticated design, Acoustic Research AR-M2 is an exceptional DAP, which sets sonic standards.*

<b>EAR IN</b> Das Kopfhörermagazin	Reference class	<b>1.0</b> 1/2018
Price/ Performance		<b>Very good</b>