



## Telecom HEADlines

### Communication Measurement Technology News

- HEAD acoustics Telecom Newsletter, Issue Spring 2006 -

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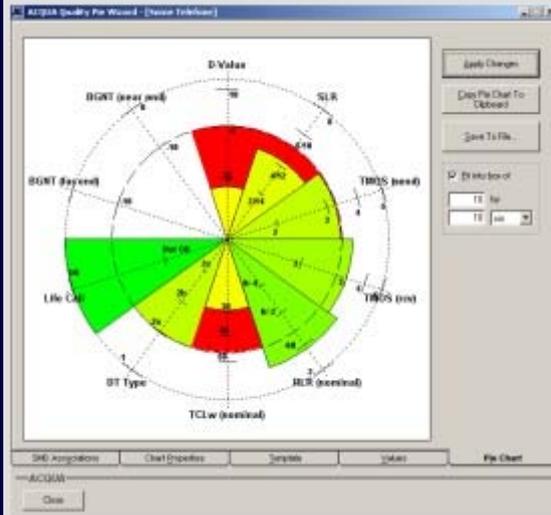
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#### ACQUA 2.2 Beta Test

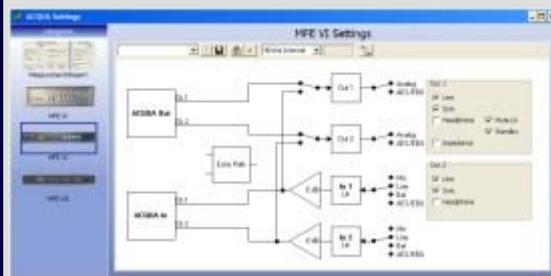
The next version of the communication analysis system ACQUA has just reached the beta test phase. It will offer the user further improvements with regard to measurement speed, program ergonomics and functionality.

Highlights of the new version are the support of the new measurement front end [MFE VI.1](#) (cf. below) and the new **"Settings Viewer"**, which allows to select all Measurement, Report and Frontend Settings via a single window. As another useful tool the **"Database Viewer"** has been added, which generates an HTML snapshot of an ACQUA database and thus allows a quick browser view of the structure as well as the existing measurement descriptors, results and reports. Moreover, the new **"Quality Pie Wizard"** is now available as a license option. With this tool the representation of result in the form of pie diagrams becomes quick and easy (cf. ["Short Tests" Taiwan](#)).

ACQUA Release 2.2 is planned to be ready for production in March 2006 and will be automatically delivered to all customers with a maintenance contract.



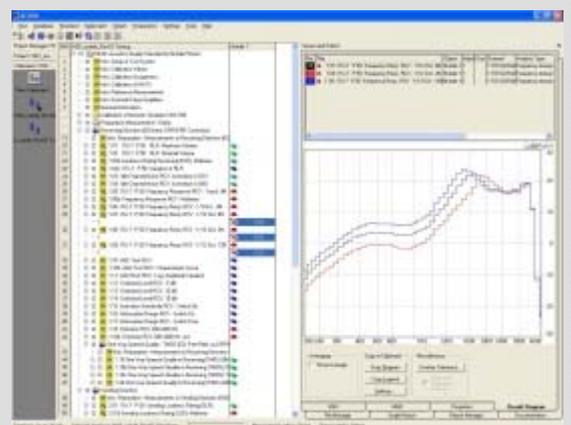
ACQUA 2.2 "Quality Pie Wizard"



ACQUA 2.2 "Settings Viewer"

#### New ACQUA Measurement Standards

For nearly 20 years HEAD acoustics has made important contributions to the development of new telecommunication standards by closely cooperating with standardization institutes (3GPP, ITU-T, ETSI, TIA etc.). The relevant standards are implemented into measurement standards for use with the communication analysis system ACQUA to allow automated



measurements according to standard specifications or advanced analyses based on the comprehensive experience of HEAD acoustics.

In our last newsletter issue we already informed you about new developments regarding standards. However, since then a lot has happened again with regard to standardization. **HQS-mobile**, for example, which was developed by HEAD acoustics for speech quality analysis of mobile phones, was recently updated. The Standards **GSM 11.10**, **TBR 8**, **TBR 10**, **TIA 920** and **VDA-HFT** are now also available in revised editions as databases for ACQUA. An up-to-date overview of the standards available for ACQUA as well as the corresponding datasheets can be found on our website via the following links:

- [Overview available standards for ACQUA](#)
- [Download area Telecom](#)

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Front view MFE VI.1

### Measurement Front End MFE VI.1

MFE VI.1 is the successor model of the compact front end MFE VI.

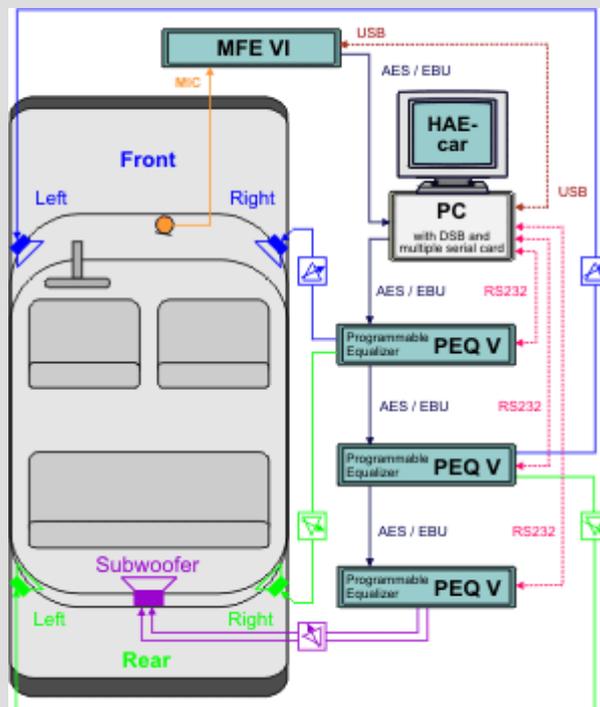
The main difference to its predecessor is the **integrated mouth amplifier**. Measurement setups which require the use of the artificial mouth of the HATS HMS II.3 thus become much simpler. In addition, HLC I (HEAD Level Converter) which used to be required for certain measurement setups, is no longer necessary with MFE VI.1, because the **level adjustment** of externally connected devices with lower input/output sensitivity can now be set by the front end control software.

Moreover, the front end can be extended (like the predecessor MFE VI) to a **Binaural Equalizer** by software option. Considerable improvements have also been achieved regarding its **technical data** (see data sheet). MFE VI.1 therefore is a particularly versatile and yet compact measurement front end, which allows a much easier measurement setup and simultaneously covers a wide area of applications in telecommunication measurement technology.

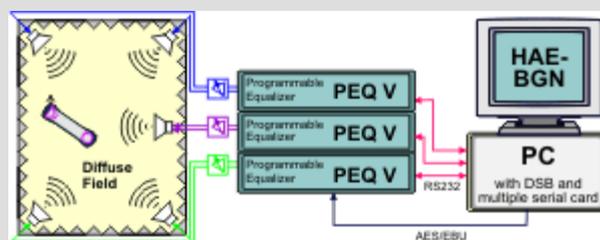
- [Preliminary Data Sheet MFE VI.1 \(PDF\)](#)

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### Automatically Equalized Driving/Background Noise Simulation with HAE-car and HAE-BGN



Block diagram HAE-car



Block diagram HAE-BGN

- [Data Sheet HAE-car \(PDF\)](#)

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**HAE-car** allows the equalization of car cabins by means of automatically generated filters and simultaneous playback of previously recorded driving noise. One application area, for example, is the investigation of speech quality of car hands-free terminals according to the **VDA specification** (VDA = Association of German Automotive Industry).

**HAE-BGN** is the equivalent to HAE-car when the test scenario is located in a room. HAE-BGN allows the **background noise simulation according to ETSI Standard EG 202 396-1** and is delivered including a noise database as specified by the standard. This database is already adapted for use with ACQUA and requires no additional calibration by the user.

HAE-car and HAE-BGN are stand-alone software packages for Windows 2000/XP, which work interactively with the Programmable Equalizers PEQ V and the front end MFE VI (or VI.1). After automatic recognition of the connected hardware all parameters are set via software. The settings and the generated filters can be stored for later use. Via the interfaces USB (MFE VI control), RS232 (PEQ control) and AES/EBU (sound data) all settings and filters are transferred to the equalizers and to the front end.

## HHP II.1 and Upgrades for 3.3 Pinna

The handset positioning mechanism HHP II.1 is the successor model of the well-known HHP II. The redesign was required because more and more smartphones, UMTS devices and PDAs with telephony features appear on the market, which cannot be mounted to HHP II due to their width. HHP II.1 now supports handsets with a **width of up to 93 mm**.

Owners of the predecessor HHP II can easily upgrade to the functionality of HHP II.1 by purchasing the corresponding **upgrade kit** (UG HHP II, Code 1379). In addition, two other



HHP II.1 Handset Holder

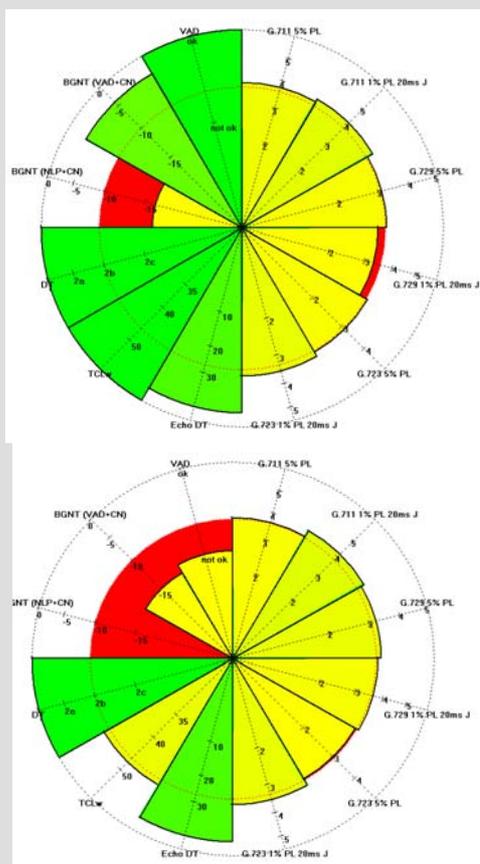
upgrade kits are available both for HHP II (UG HHP II-33, Code 1383) and for HHP II.1 (UG HHP II.1-33, Code 1380) which allow measurements with the **anatomically shaped Pinna Type 3.3** according to ITU-T Rec. P.64. The new soft 3.3 ear (35 shore OO) is included in the delivery of these two upgrades. Last but not least the new carrying case delivered with HHP II.1 is available as additional option for UG HHP II under the name HHC-HHP (Code 1362).

- [Data Sheet HHP II.1 \(PDF\)](#)

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HHP II with Upgrade UG HHP II-33 for Use with Pinna Type 3.3



Examples of VoIP test results as "Quality Pie" (click on image to enlarge)

### ETSI STQ Conference and VoIP "Short Tests" in Taiwan

Similar and yet different to the last three VoIP SQTEs (Speech Quality Test Events) HEAD acoustics and **ETSI Plugtests™** Service (European Telecommunications Standards Institute) again co-operate to improve world-wide speech quality of Voice-over-IP. While the former events took place in France, Germany and USA, a **"short" version** of the event is now brought to **Asia** for the first time, namely from 14 -17 February 2006 at the Industrial Technology Research Institute ITRI in Taiwan. Prior to the **"Short Tests" program** a conference of the **ETSI Working Group STQ** (Speech Transmission Quality) will be held on 13 February.

Despite the limitation to the most essential parameters the test program, which has been considerably compressed compared to the "long" SQTEs, will nevertheless provide the participants (Asian manufacturers of VoIP equipment) with useful hints for the optimization of speech quality and allow an anonymous benchmark comparison of the products under test.

More detailed information can be found on the corresponding web pages of ETSI and HEAD acoustics:

- [HEAD acoustics Info STQ Conference & "Short Tests" Program](#)
- [ETSI Info STQ Conference & "Short Tests" Program](#)

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### ACQUA Plays Important Role on Chinese Telecom Market

**"China Telecommunication Technology Labs"** (CTTL) is the biggest Telecommunication Laboratory in the People's Republic of China. It is

authorized by the Ministry of Information Industry (MII) and the State General Administration for Quality Supervision, Inspection and Quarantine (AQSIQ). CTTL provides comprehensive **services and support to governmental departments, network operators and manufacturers**. The accredited scope of the laboratories covers various telecommunication products including all kinds of telecommunication terminals, accessing equipment, exchange, IP network equipment, multi-media equipment, cable, power supply equipment as well as reliability, electrical safety and EMC performance.

"We have used the analysis system ACQUA as well as the HEAD and Torso Simulator HMS II.3 for several years," states Denian Shi, director of CTTL. "Both play an **important role in speech performance research**, such as in IP terminals and mobile stations." In addition, ACQUA is also used by CTTL for conformity assessment of fixed terminals according to the European standards, e.g. **TBR 21, TBR 37 and TBR 38**.



CTTL engineers analyzing speech performance with ACQUA

- [CTTL Website \(English\)](#)

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## VoIP Germany & VON Europe: Two Events of Importance

In 2005 HEAD acoustics participated in two important VoIP events: on the one hand again **VON Europe** (Voice-on-the-Net) in Stockholm, where the international Who-is-who of VoIP meets annually and which has developed from an insider meeting to the biggest event of its kind over the years; on the other hand **VoIP Germany** in Frankfurt, which took place for the first time and has set itself the ambitious goal of becoming the leading VoIP event on the German market.

While the focus of VON Europe lay on the presentation of new products and the initiation and cultivation of international contacts, VoIP Germany for the first time aimed at the target group of big German companies which are planning a **migration to VoIP telephony** and are looking for consulting and support with regard to speech quality. For the participants of VoIP Germany HEAD acoustics carried out in-situ **"Live-Tests"** in the name of the organizers ("TeleTalk" magazine and Deutscher Verband für Post und Telekommunikation DVPT) vor Ort durch. According to given specifications short speech quality tests were conducted with the analysis system ACQUA and the results contributed to the jury assessment for the new **"VoIP Award"** handed out to the winners. After the event the participants received an analysis report including "Quality Pies" (cf. [ACQUA 2.2](#)),



Speech Quality "Live Tests" during VoIP Germany 2005



allowing them to identify the quality of their products in an anonymous comparison with all participants as well as valuable hints on how to optimize speech quality.

Crowded HEAD acoustics exhibition stand during opening reception of VON Europe 2005

In 2006 HEAD acoustics plans to participate again in both events. For VON Europe, again taking place from 15 - 18 May in Stockholm, a conference paper on VoIP speech quality is planned in addition to the exhibition. VoIP Germany 2006 will presumably again take place end of November in Frankfurt.

- [Website VON Europe](#)
- [Website VoIP Germany](#)

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