

ATLAS[™] VoiceField

Features

- EQ** – Equalises the headset frequency response to enhance sound quality in both directions
- AGC/AVC** – Automatically adjusts the volume for the headset user in response to changes in the environment to optimise speech intelligibility
- Receive NR** – Reduces noise sent through the telephone network before it reaches the headset user
- Transmit NR** – Reduces noise picked up by the microphone of the headset before the signal is sent to the remote listener
- VoiceField** – Two microphone option to capture speech of the headset user before it is mixed with surrounding noise
- BreezeGuard** – Reduces the level of wind noise
- AES** – Reduces echo sensation from the user's voice and enables reduced headset size
- Side-Tone** – Produces more natural sound quality and indicates the presence of wind noise to the headset user

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Dynamic Hearing develops digital signal processing (DSP) software designed to enhance communication for users of entertainment and personal communication devices like Bluetooth headsets, headset amplifiers and hearing aids.

Our team of engineers and audiologists have detailed knowledge of telecommunications standards, signal processing, speech science, psychoacoustics and human hearing factors.

Customer support and seamless integration is a top priority for Dynamic Hearing. Close partnerships with our customers have resulted in optimised hardware and software combinations in products using BlueCore-3 and BlueCore-5.

At Dynamic Hearing, Our World is Sound.

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ATLAS, VoiceField and BreezeGuard are trade marks of Dynamic Hearing Pty Ltd.
BlueCore is a trade mark of CSR plc.



ATLAS[™] VoiceField

Enhance your future Bluetooth headsets using the ATLAS[™] with VoiceField[™] software library from Dynamic Hearing.

ATLAS with VoiceField is designed for use with CSR's BlueCore[™]-3 and BlueCore-5 Multimedia chipsets. Hearing is enhanced by using two microphones and incorporates BreezeGuard[™] to reduce the level of wind noise.

ATLAS with VoiceField provides exceptional sound quality and automatically adjusts to provide high speech intelligibility in any noise environment for Bluetooth headset users.

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Benefits for Manufacturers

- CSR Headset Version 5 compatible
- CSR audio plug-in architecture
- Wireless headset tuning enabled
- Customisable options

Benefits for Users

- High sound quality in any environment
- Optimised speech intelligibility in noise
- Maximised talk time

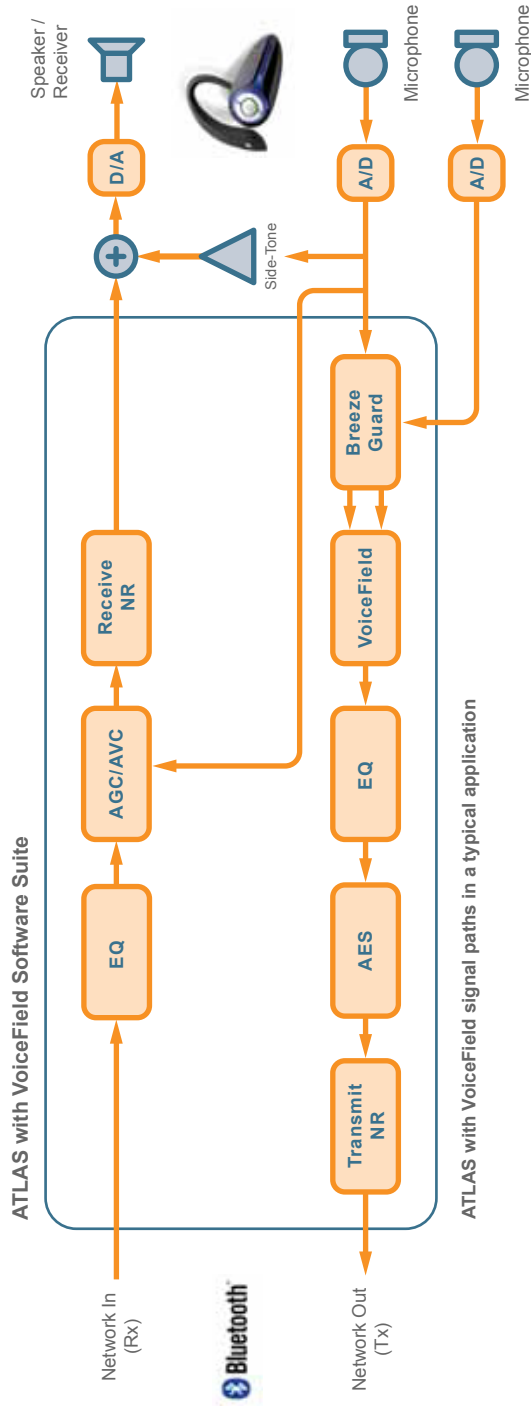
Tx Signal to Noise Ratio Improvement*:

ATLAS with VoiceField	30 dB
ATLAS	12 dB
Headset (reference)	0 dB

*Measured as relative direct-to-diffuse sensitivity ratio with 65 dBA Hoth noise.

Performance

Functional Block Diagram:



Configuration and Deployment

ATLAS with VoiceField can be programmed wirelessly or via SPI using ATLAS_{Tool} Dynamic Hearing's proprietary tuning software. ATLAS_{Tool} enables manufacturers to tune headsets faster and in realistic settings.

Dynamic Hearing provides comprehensive product support and can supply further customisation and configuration services if required.

System Requirements:

Instruction Cycles	7.00 MIPS*
Program Memory	< 4.0 kWords
Data Memory	< 6.7 kWords

*Typical for a mobile phone Bluetooth headset application using the BlueCore-5 Multimedia.

Algorithm Specifications:

Sample Rate	8 kHz
No. of Bands	33
Rx Latency	< 10 ms**
Tx Latency	< 13 ms**
Side-Tone Latency	< 5 ms**

**Includes typical BlueCore-5 Multimedia XAP ↔ Kalimba & audio codec (ADC/DAC) interface delays.



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