

**SOUNDabout**  
Complete Bluetooth<sup>®</sup> wireless audio solution

MUSIC  
MODULE  
SA9952

pre-qualified  
subassembly  
for stereo  
headphones,  
with elegant  
mobile phone  
integration



- "Best in class" audio quality
- Receive/make calls while listening
- Stereo audio + microphone inputs
- Headphone amp output
- Bluetooth v1.2
- Class 2 device w/antenna
- Pre-qualified by the BQB
- Low power consumption

## The fastest way to bring quality wireless audio to the mobile market.

**Low cost. Customizable.  
Available today. Ready to  
install in your product. And  
it's already been qualified  
as fully Bluetooth compliant!**

The SOUNDabout<sup>®</sup> SA9952 music module from Open Interface North America delivers the shortest time-to-market for new wireless audio applications.

The module contains pre-qualified Bluetooth radio circuitry and an antenna, intelligent "best in class" audio processing, and a configurable user interface for adding the bells and whistles that enhance your brand.

Open Interface North America has created the world's first enhanced SBC audio codec, the SOUNDabout eSBC codec. This

codec delivers vastly-improved audio quality compared to the standard Bluetooth SBC codec, while maintaining full compatibility with SBC devices. Advanced audio compression techniques – such as variable bit rate (VBR) coding and dynamic bit-pool management – give SOUNDabout music products the best audio performance in the industry.

The SOUNDabout SA9952 module contains a complete Bluetooth RF path, including an integrated bandpass filter, antenna, and RF noise-reduction circuitry. The onboard stereo amplifier is optimized for driving headphone transducers or small audio speakers. An audio input path accepts a voice microphone for transmission to a Bluetooth mobile phone, as well as a stereo line level input for wired connections to music players.

Open Interface North America's BLUEmagic<sup>®</sup> software stack powers the SOUNDabout SA9952 module, providing

instant compatibility with millions of Bluetooth phones and portable music players already in the hands of today's music loving, mobile phone users.

Best of all, the SOUNDabout SA9952 module is inexpensive (call us for a quote), efficient and compact (approximately one square inch), and consumes very little battery power, even while the music is playing!

set the music free  
**2006**

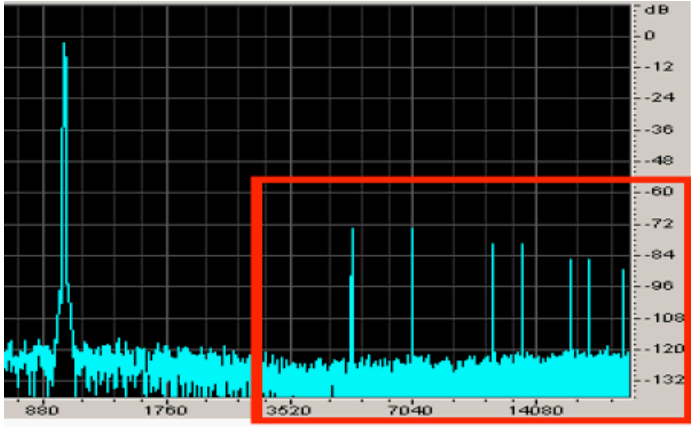
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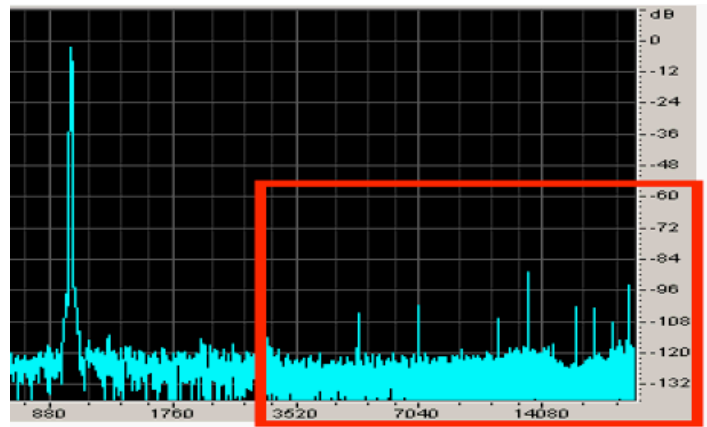


specs	audio	electrical	physical
<p>The SOUNDabout SA9952 module provides the best technical performance among competitive Bluetooth audio solutions. But don't take our word for it; ask for a sample today, and you can run your own tests.</p>	<p><b>0.01%</b> worst case THD</p>	<p><b>3.3 V</b> power supply required</p>	<p><b>29x24x3 mm</b> module size</p>
	<p><b>512 kbit/sec</b> data rate</p>	<p><b>53 mA</b> typical current, with audio</p>	<p><b>0.8 mm</b> module PCB thickness</p>
	<p><b>-86 dBm</b> worst case SiNAD</p>	<p><b>4 mA</b> typical current, no link</p>	<p><b>-40/+85°C</b> operating temperature range</p>
	<p><b>25-20000 Hz</b> frequency response</p>	<p><b>10 hours</b> typical battery life</p>	<p><b>-55/150°C</b> storage temperature range</p>

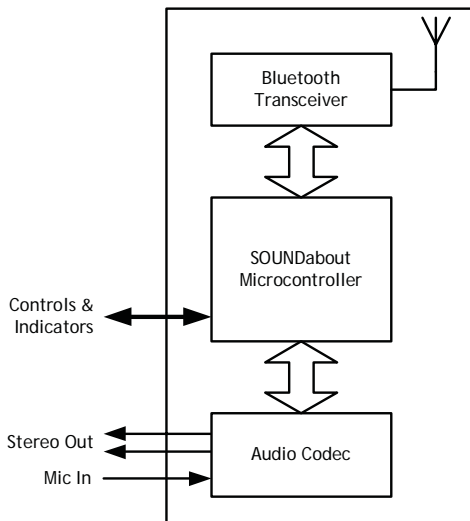
### Standard SBC codec



### SOUNDabout enhanced SBC codec



### SOUNDabout SA9952 block diagram



### "Best in class" audio performance

The SOUNDabout enhanced SBC codec provides significantly higher-quality audio than the standard Bluetooth SBC codec.

The graphs above show the response to a sine wave at 997Hz. As you can see, the reference standard SBC codec is limited to a best-case noise floor of -72dB due to filter bank aliasing.

The SOUNDabout enhanced codec provides a much-improved -86dB level, while maintaining compatibility with SBC devices.

### Mobile phone integration

- One touch switching between phone calls and music
- Software-configurable user interface
- Incoming calls can automatically pause music playback
- Low power consumption for longest battery life