

# Sakrament TTS for embedded solutions

Sakrament sounds good

Sakrament embedded text-to-speech (TTS) engine provides high quality TTS output. With minimal memory requirements, Sakrament TTS is ideal for a wide range of electronic devices from automotive to hand-held computers and consumer electronics.

## Product features:

**Speech synthesis:** Sakrament TTS Engine builds speech by using advanced technology to convert a text into speech, providing natural-sounding TTS voice output.

Given TTS Engine is highly intelligible, even in noisy environments and uses small footprint, for a full featured TTS engine. It is designed to support a wide range of operating systems and platforms of any TTS. In addition, it has 5 voices for each of 3 supported languages.

**Design:** Sakrament TTS can be easily ported to microprocessor platforms and required operating systems. Its efficient tools and code allow the client to run the application on a single chip.

**APIs support:** Sakrament TTS simplifies development as it is fully compliant with Microsoft SAPI 5.x.

## Embedded TTS Application

- Automotive industry: in-vehicle control, e-mail and SMS reading, navigation systems and on board diagnostic systems;
- Mobile Devices: PDAs, smart phones, cell phones, notebooks and organizers;
- Industrial and home electronic devices: complete systems for home, office and factory automation;
- Education: reading machines for blind people, applications for people with disabilities, electronic dictionaries and translators;
- Defense: warnings/emergency messaging systems, military equipment/ vehicles, control systems.

Sakrament TTS is designed for embedded systems in resource constrained environments. The benefits of Sakrament TTS are:

- e-mail, SMS and fax reading;
- advertising materials, news feeds and real-time traffic information reading;
- Onboard Diagnostic, voice control, onboard alert and navigation aid information – verbal presentation of digital information.

For more information about Sakrament embedded speech solutions or for information on our customized voice products, give us a call at +375 (17) 284-0650. Please visit Sakrament Speech Technologies web site at <http://www.sakrament-speech.com>

## **Sakrament embedded TTS for automotive, industrial and home electronic devices**

The system combines advanced linguistic processing with actual voice samples to produce synthesized speech that has highly accurate human emphasis, pronunciation, and intonation.

### **Technical overview**

- Platform supported: Sakrament SpeechBOX.  
TTS porting to any platform by customer request;
- Microprocessor supported: Toshiba TMPR 3912, TMS 320vc5402  
TTS porting to any microprocessor by customer request;
- Supported operation systems: functioning independent of any operation system.  
Platform integration with any required operation system by customer request;
- Languages: Russian, Belarusian, UK English, multilingual support;
- Voices: male and female, multi-voice support;
- Data installation: ROM, flash memory;
- Data compression: can be compressed in 4 and 8 times by real-time ADCPM algorithms;
- Data size: the executive module – 20 KB; acoustic database for each supported language 980 KB;
- Personalization: control of voice, intonation; pitch, speed and volume changing, pauses;
- Native sound format: PCM/Wav, 8 kHz, 16 bits;
- Sakrament TTS input: Unlimited vocabulary and text size, raw text input;
- Text normalization: date, time, numbers, addresses, currencies, phones, units, abbreviations and exceptions;
- Output stream: multimedia device, file, memory buffer;
- Development languages: ANSI C, C++;
- Extensive SDK documentation.

**For more information on Sakrament SpeechBOX see detailed technical specification**

### **Sakrament services**

To help you integrate TTS/ASR technology with your specific applications and enhance them by multilingual speech synthesis and recognition, Sakrament offers development solutions adapted to all your particular needs and to your specific platforms.

Sakrament's experience in porting solutions to a wide range of microprocessor platforms and chips as well as in designing state-of-the-art technological speech solutions ensures TTS/ASR perfect adaptation to your applications.

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## Sakrament embedded TTS for mobile devices

Mobile applications need multiple modes of input and output to ensure optimized ease-of-use. Text-To-Speech technology enables information to be listened to and viewed in the visual interface.

- Languages in set: Russian, Belarusian, Ukrainian, UK English, multilingual support;
- Voices in set: 3 male and 2 female, multi-voice support;
- Interface: Microsoft SAPI 5.x;
- Modular component structure: enables easy integration;
- Personalization: control of voice, intonation; pitch, speed and volume changing, pauses
- Sakrament TTS input: Unlimited vocabulary and text size, raw text, phonetic and prosodic input;
- Text normalization: date, time, numbers, addresses, currencies, phones, units, abbreviations and exceptions;
- Output stream: multimedia device, file, memory buffer;
- Native sound format: PCM/ Wav, 22 kHz, 16 bit, automatic wave format conversion;
- Development languages: ANSI C, C++, VB, Delphi, Java;
- Supported platform: TTS porting to any required platform or chip by customer request;
- Supported operation systems: Windows 98, 2000, XP for evaluation purposes. TTS adaptation to Win CE 3.0, Pocket PC 2002 or any other required operation system by customer request.

## About Sakrament

Sakrament Company, one of the leading software developers in the sphere of speech recognition and text-to-speech (TTS) technologies for the Russian language. Sakrament products, including Sakrament Text-to-Speech Engine (TTS) and Sakrament Speech Recognition Engine (ASR) provide the most natural communication solutions available for the Russian language. Sakrament technology allows integrating speech solutions into existing voice processing platforms and developing a various types of speech enabled applications.



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