

## **ASR Embedded Development Systems: The best way for developers to add speech recognition to automotive, mobile and PC applications**



The ScanSoft® ASR Embedded Development System is a complete rapid programming and scalable deployment solution for adding speech recognition to hardware and software applications. Ideal for automotive, mobile and PC implementations, its suite of developer tools lets all developers create highly accurate and effective speech recognition applications, whether they are expert at automatic speech recognition (ASR) or new to the technology. Included in the system is the ASR-3200 speech recognition engine, which builds upon the popular ScanSoft ASR-1600, the reference speech SDK on Microsoft® Windows® CE

for Automotive. The ASR-3200 delivers speaker-independent and continuous speech capabilities within an architecture that can scale to meet specific grammar and deployment platform requirements. Better still, its noise management and acoustical capabilities allow you to deliver speech recognition where and when you need it.

The ASR Embedded Development System is a member of ScanSoft's family of speech solutions, which meet the demanding requirements of customers throughout the world — including Clarion, Microsoft, and Pioneer.

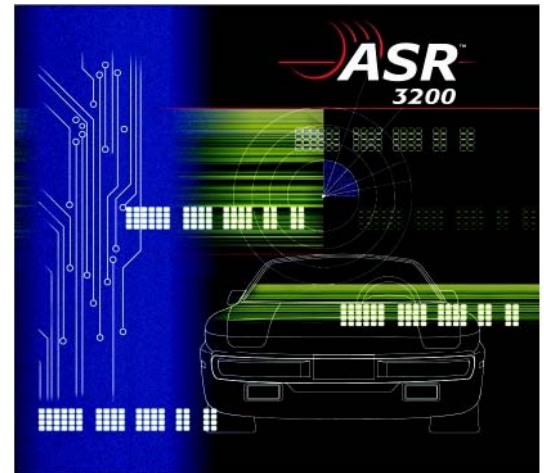
### **Benefits**

- Reduce programmer training requirements by using a rapid development interface within a familiar Microsoft Windows environment
- Add speech recognition to more applications and support a range of noise environments, operating systems and platforms using the highly accurate ScanSoft ASR-3200 speech recognition engine
- Leverage high-level tools that require less time to create speech recognition interfaces and gain more time to spend on application features and capabilities
- Target a global market opportunity through built-in support for accents and languages
- Improve customer satisfaction through the consistent creation of highly accurate and effective speech recognition applications
- Create standardized code that reduces overall engineering costs and simplifies code maintenance tasks
- Benefit from a scalable speech recognition environment that enables the re-use of code, giving you the ability to leverage development investments across multiple projects

### **Applications**

The flexibility of the ScanSoft ASR Embedded Development System allows developers to integrate a range of speech recognition engines into multiple applications where speech recognition is a viable method of input. Areas of specialization include:

**Automotive Applications** – The automobile mandates a hands-free, eyes-free environment. Speech technologies enable hands-free

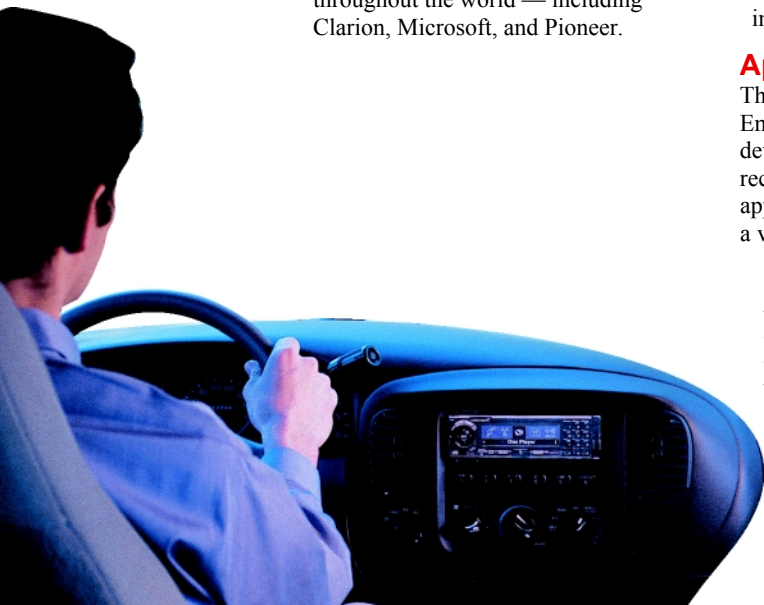


(keyboard replaced by speech recognition) and eyes-free (screen complemented by speech output) operations. Users can access information even while driving, leaving their hands on the wheel and eyes on the road. By adding speech recognition to navigation systems, mobile phones, telematic services and command and control of in-vehicle applications, drivers are able to remain connected and productive on the road while keeping their hands on the wheel.



**Mobile Applications** – For the mobile professional, accessing information while away from the office is more critical than ever. Today's mobile applications offer users timely access to crucial business

information such as business appointments, e-mails, customer records in the company database, and stock quotes. Automatic speech recognition (ASR) and text-to-speech (TTS) technologies can run on today's mobile devices such as PDA's, exploiting their power and connectivity.



## Industrial Applications

ASR technology can integrate seamlessly and comfortably into industrial applications where the use of hands is limited. Traditional industrial situations and processes in environments such as warehouse order picking, machine repair reference lookup or diagnostic machine hands-free interface can yield unparalleled benefits, improving workflow and significantly enhancing productivity.

**PC and Tablet PC Applications -** Speaker-independent speech recognition is becoming an important requirement for PC applications,

especially those targeting Tablet PC and Pocket PC devices. ASR delivers seamless interaction between the user and application, especially for launching and closing applications, navigating operating system and application interfaces, using multi-

page electronic forms and documents, and enhancing the gaming experience.

## Rapid Development System

The ScanSoft ASR Embedded Development System provides programmers with a set of visual and command-line tools that allow them to quickly add speech recognition to hardware and software applications.

**Grammar Development Suite -** Enables the rapid development of application-



specific grammars and word pronunciation, removing the need for the developer to have a profound understanding of recognition characteristics and parameters. It also removes the need to have large collections of recorded data samples. The suite includes a Grammar Editor, Grammar Creator Tool, Grammar Compiler Tool, Vocabulary Verifier Tool, Context Verifier Tool,

Confusability Tool, Recognition Test Tool, User Dictionary Editor (for Exception Dictionaries).

## Recognition Analysis Suite -

Accelerates the optimization of speech recognition for specific applications and environments. It provides tools that identify and remove causes of possible recognition errors, such as bad signal quality. Robust data analysis reports provide developers with detailed information on performance characteristics and how to improve them. Included in the suite is an Audio Data Collector, Speech Verifier, Batch Recognition Tool, Scoring Tool, Sound Tool, Logging Importer Tool, Logging Extractor Tool, Test CD creator tool.

## SpeechPearl ASR-3200 Engine -

Supports the cross-platform ScanSoft SpeechAPI, a standardized programming interface that is API compatible with the RealSpeak™ Text-to-Speech SDK family.

## Scalable Deployment Engine

The ASR Embedded Development System supports the integration of the ASR-3200 speech recognition engine into various developer applications.

## SpeechPearl ASR-3200 Engine

The new ScanSoft ASR-3200 speech recognition engine is a significant technological advancement for embedded speech applications. It extends the success of the ASR-1600, significantly enhancing accuracy and for the first time supporting a scalable grammar and deployment capability, a prerequisite for applications targeting automobiles. The ASR-3200 has sophisticated noise-management capabilities, making it an ideal solution for all in-vehicle applications, when still and at high speed. Most impressive are its broad speaker-independent language support and continuous speech capabilities, both critical for developing applications for a global marketplace.

## Capabilities

**Superior Accuracy and Noise Management** combine to support the deployment of applications to a range of user, microphone and vehicle speed environments

**Scalable Grammar and Deployment** capability, which is a prerequisite for applications targeting automobiles and embedded devices

**Speaker-Independence and Speaker Adaptation** features enhance the user experience through accuracy and the elimination of voice training

**Advanced Phoneme-Based Recognition** increases accuracy and supports more granular voice commands

**Continuous-Speech** capabilities enhance user satisfaction by allowing a more natural user interface

**Language Support** includes American English, German, and French, with additional languages under development

For more information, visit our website at [www.ScanSoft.com/Automotive](http://www.ScanSoft.com/Automotive)

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