

## Voice-Enabled Applications

Speech interfaces are the most natural way to control and navigate mobile devices in environments where “hands-free, eyes-free” operation of devices or equipment is necessary and/or convenient. DECTalk text-to-speech (TTS) technology is ideal for the consumer electronics markets, assistive technologies, and various instrumentation systems and allows developers to create products that enhance safety and convenience. DECTalk high intelligibility makes it the TTS “Voice of Choice” in the speech industry.

## DECTalk

DECTalk provides the ideal TTS solution for embedded applications. DECTalk’s small footprint and extensive OS and CPU support allows developers to add speech output to many devices with small CPU capacity or minimal memory. This update also incorporates improvements in US English, French, German, Italian, Latin American Spanish, and Castilian Spanish. Prosody enhancements have been made for inflections, intonations, pauses, and changes in pitch, speed and emphasis. This improved prosody creates more natural speech that is easier to listen to and understand. Even with these improvements, DECTalk retains its low memory footprint.

## An efficient, scalable, low-cost solution

With DECTalk, the software components and architecture are designed to operate directly on the main processor, eliminating the need for an additional CPU or DSP. The flexible, self-contained modules allow developers to design systems to operate within memory and MIPS constraints, and to be highly portable across many processor and operating system platforms. The TTS engine operates across a full array of hardware and software combinations, making time-to-market shorter with less expense. DECTalk continues to be the smallest footprint, full-featured, multi-language TTS engine on the market. No other single TTS SDK solution can provide the same flexibility, feature set, and voice quality. DECTalk is the best TTS solution for limited-memory devices and applications, and makes the user’s experience more functional, convenient and enjoyable.

## Features and Benefits

### New DECTalk Product Features

- Improved naturalness and intelligibility for US English, French, German, Italian, Latin American and Castilian Spanish
- Extensive OS support
- Multi-lingual engine (Seven languages in less than 2 MB memory)
- Unified phoneme set across language

### Classic DECTalk TTS Product Features

- Highly intelligible voices
- Efficient use of MIPS and memory
- Widest Array of OS/Hardware Platforms in industry (see chart)
- User-programmable pronunciation dictionaries on most platforms
- Flexible voice parameter controls (custom voice capability)
- Pauses, inflections, and emphasis
- Male and female voice support
- High quality proper name and location pronunciation
- Email Reading
- Singing capability
- SAPI 4 support

## Available Languages

- US English • European French • German • Italian • Latin American Spanish • Castilian Spanish • UK English

## Voices (18)

- 4 male, 4 female, 1 child (classic DECTalk)
- 4 male, 4 female, 1 child (can be provided with HLSyn)

## Memory Usage & Deployment Environment

- RAM: Less than 128 KB
- Base engine: 1012 KB ROM
- Languages can be deployed singly or in any combination

Additional ROM usage - approximate (KB)

Supported Languages	Linguistic Components	Dictionary			
		Large		Small	
		Size (KB)	Words	Size (KB)	Words
English - UK	574	441	15766	103	3907
English - US	470	356	13863	238	9651
French - European	164	34	1300	-	-
German	564	-	9	1	-
Italian	427	0	0	-	-
Spanish - Castilian	109	18	704	18	-
Spanish - Latin	109	17	671	17	-
All languages total	2417 KB	866 KB	32313	377 KB	13558

Dictionary sizes can be adjusted as needed.

ROM calculation: ROM = base engine + linguistic component + dictionary for each language

US and UK English small dictionary example: 440 + (120 + 140) + (100 + 120) = 920 KB ROM

	Win32	Qnx	Windows CE	Linux
C/C++	•	*	•	•
Java	•	*	•	•
C#.NET	•		•	
VB.NET	•		•	

\* Contact sales: sales@speechfxinc.com

## Mips

- 5 – 20 MIPS (MIPS dependent on CPU architecture. Numbers are general case estimates.)

## Audio Requirements

- 8 KHz (8 bit µlaw or 16 bit PCM)
- 11 KHz (16 bit PCM)

## Platform Support Packages

Hardware Platform	Win32	Windows Mobile	Linux 2.2/2.4/2.65	Solaris 8+	MAC OS 10+ (OS X)	QNX 6.3	No OS** Native
Analog Device							
Blackfin 533/535							•
Apple							
MAC					•		
ARM							
ARM 7		•					*
Arm 9		•	•				*
Epson							
S1C33 Family, GNU33							•
Freescale (Motorola)							
i.MXL		•	•				
PowerPC 5100/5200					*		
Intel							
SA-1110		•	•				
XScale		•	•				
X86	•	•	•	•			*
MIPS							
R4xxx		•					
NeoMagic							
MiMagic 3		•					*
MiMagic 5		•	•				*
Renesas (Hitachi)							
SH3		•					
SH4		•					* *
Samsung							
S3C ARM Family		•	•				*
Texas Instruments							
OMAP 710 / 720		•					*
OMAP 5910		•	•				*
Sun							
Sparc				•			

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\*\* Supports Simple API – includes partial inline command functionality



For more information, go to [www.speechfxinc.com](http://www.speechfxinc.com) or call SFX at 801.382.7997