

# TTS EM/EM-LP

## High definition, world-language, best-in-class Text to Speech module

Human sounding speech synthesis in with a serial interface. Seamless integration, simple operation.

Real-time voice announcements generated directly to speakers from text in RS-232 serial data

- Complete industrial interface produces realistic voices directly from ASCII text.
- Integrated single endpoint speaker amplifier • Line out for external audio systems.
- Over 20 international languages and voices supported.
- TTS-EM @ 5 Volt Operation • TTS-EM-LP @ 3.3 volt, Low Power with Sleep

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The TTS-EM offers a complete Text to Speech platform with a integrated speaker amplifier. Typical deployments include signage to speech conversion, paging support and OEM industrial products. RS-232 connectivity offers simple setup, management and control using TX/RX serial streams. Text to Speech generation includes support for dictionary management, in-line control codes and dynamic language and voice switching

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- Text to Speech supports up to 9 concurrent TTS languages or gender voices. Choose from 26 voices.
- Integrated amplifier supports single speakers and direct drive for paging system amplifiers
- Highly integrated OS provides superior flexibility and support remote for upgrade capability
- Supports seamless switching from TTS to/from user stored pre-recorded audio files
- Integrated command and control language, provides complete user control from remote locations
- Power management includes low power standby and sleep modes of 15mw @ 3.3v with TTS-EM-LP version
- Optional external microphone sensing for ambient noise detection and automatic volume adjustment
- Flash based audio file transfer and dictionary management for phonetic adjustments
- Integrated commands support inline control of volume and multi-lingual language selection, on-the-fly
- Simple integration into EXISTING products. No special programming required

Arabic Chinese Czech Danish Dutch English (UK) English (US) Finnish French (F) (B) (C) German Greek Japanese Korean Italian Norwegian Polish Turkish Portuguese Russian Spanish (NA) (C) Swedish ...more

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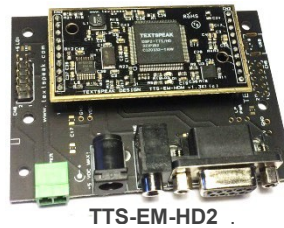
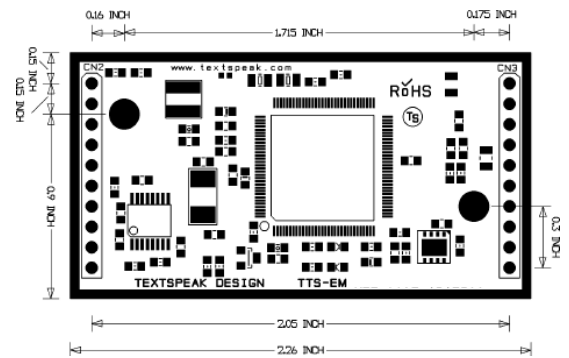
- Alarm & Security • Health Care • Signage to Audio • Machine Interfaces • Mass Notification • Industrial Status
- Transit Systems • Assistive Speech • ADA Compliance

# TextSpeak

## SPECIFICATIONS

**Core Technology** earBridge® and TextSpeak 3<sup>rd</sup> Generation TTS  
**High Definition Languages supported:** Arabic Chinese Czech Danish Dutch English (UK) English (US) Finnish French (F) (B) (C) German Greek Japanese Korean Italian Norwegian Polish Turkish Portuguese Russian Spanish (NA) (C) Swedish  
*(Contact us for latest list)*  
**Control Interface** Serial RS-232 & Non-Inverting TTL UART  
**Serial Baud rates** 115.2K – 9600 bps  
**TTL UART Serial Interface** 3.3v non-inverting for uP connections  
**Prerecorded file support Protocol** 16bit PCM/uLaw  
**Speaker Out** .2 watt /8ohm @5v or +4dbm 600ohm floated/balanced  
**Line Out** –10dbm Typical 1v p/p  
**Manual Volume Adjustment** 10 steps 4db/step  
**Power Nominal (No Speaker load)** 5V @ 350mw idle  
**Power Suspend (Mode EM-LP version)** 15mw @ 3,3 v  
**Power ( 8 ohm speaker at max volume)** 2 watts  
**Remote Diagnostics** Reporting via Serial  
**Remote Programming** Flash programmable RS-232  
**Fault Management** Short circuit speaker recovery fault detection  
**Connector I/O** Qty 2 - 1x10 Pin .100" connector pins  
**Temperature** -30~70 C (Operating), -40 C~85 C (Storage)  
**Size** (Module only) 57 mm x30mm x 14mm **Weight** 15 g (.5 oz)

## DIMENSIONS



## ORDER INFORMATION

**TTS-EM** 5.0v Version  
**TTS-EP-LP** 3.3v Low Power  
 Also Available:  
**TTS-EM-HD2** EM module with carrier board with serial and audio I/O connections

## Command and Control

### Operation and Sample Control Code

**Basic TTS generation is SIMPLE ....Just send ASCII data and terminate with ENTER <CR> to generate speech.** Additional inline control codes manage advanced operation (such as mixing TTS with pre-recorded wav or mp3) as well as buffer management. For basic operation, send text and add "Enter" <CR> to talk.

**Hello I can talk! <CR> and change volume, and languages on the fly! <CR>**

This sample text demonstrates both spoken and non-spoken data with pre-recorded audio files. (tone1.wav and tone2.wav are factory recorded files).

**ESC p**"tone1.wav" Express 32, arriving in 2 minutes on track 12, for all points South. **DLE EM** This text is in-line data that is not spoken by the TTS processor **DLE RS** Please expect delays **ESC p**"tone2.wav". End of test. **CR**

Refer to the ENC1 User Guide for a comprehensive list of inline codes to switch voices dynamically, control modes and modify dictionary for pronunciation changes.

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24 Voices available Select a voice  
 Currently Selected: "Antoine" French

HELP:

A	Adaptive Level Set	Adaptive Level Control (ALC),
B	Boot TTS	Enter the text to be spoken at power-up
D	Display Files	Show listing of files and memory in folder
E	ignore ESC	Ignore ESC commands in the TTS stream
F	Flash Drive	Enable USB access to manage Flash memory
I	Information	Get current settings information
P#	Play Audio	Generate test tones (1=1khz,2=sweep,3=noise)
Q#	Quiet Mode	'Q?' for options
S	Change Serial	115200,n,8,1
T	TTS Mode	Go from CMD mode to TTS mode
U	Update	Update Firmware
V#	Select Voice	Select a voice (24 available)
?	Review	Review current settings and information

## TEXTSPEAK EULA Text to Speech End User License Restrictions

The end user is licensed to use the TTS-EM for speech generation for real-time Text to Speech conversation and playback in a public place. The end user may not use the TTS-EM to record and/or save audio in stored files to be used to playback or broadcast in any public place.

## TEXTSPEAK PRODUCT FAMILY

### Ethernet, WiFi, Cellular, Serial



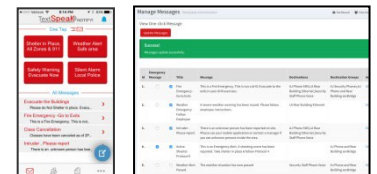
### Modules for OEM



### Flexible Add-Ins



### Mobile and Cloud Applications



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