TTS-EM

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

Human sounding speech synthesis in a modular, scalable interface. Seamless integration, simple operation.

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

- Convert existing deployments of dynamic visual display data directly to voice.
- Ready to interface to single endpoint speaker or large paging systems.
- Over 20 international languages and voices supported.

The TTS-EM offers a complete Text to Speech platform with an 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.

- Text to Speech supports up to 9 concurrent TTS languages or gender voices. Choose from 24 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 deep sleep modes
- Optional module breakaway connector board simplifies OEM deployment and interfacing.
- Flash based audio file transfer and dictionary management
- Integrated commands support inline control of volume and language selection, on-the-fly
- Simple integration into EXISTING products. No special programming required

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

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

TextSpeak Design
Speech Generating Products
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.

### SPECIFICATIONS

**Core Technology** TTS-EM  
**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 UART RS-232 & Non-Inverting TTL  
**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** .8 watt /8ohm  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 @ 100mw idle , 350mw during speech  
**Power (Suspend Mode)** n/a (refer to TTS-EM-LP)  
**Power ( 8ohm speaker at max volume)** 2.5 watts  
**Contact us for latest list**

### DIMENSIONS

**Core Technology TTS-EM**

**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 UART RS-232 & Non-Inverting TTL

**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** .8 watt /8ohm  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 @ 100mw idle , 350mw during speech

**Power (Suspend Mode)** n/a (refer to TTS-EM-LP)

**Power ( 8ohm speaker at max volume)** 2.5 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** 28 g (1 oz)

---

**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. PA

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.

---

**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**

**Industrial Audio**

**Modules for OEM**

**Commercial Add-Ins**

**Application Support**

---

This document may contain advance information. Contact TextSpeak factory for technical specification before product design and/or use. Design and specifications are subject to change without notice. Digital Acoustics’ product designs are packaged by leading manufacturers around the world. Digital Acoustics® is a registered trademark. © 2014 Digital Acoustics Corporation TextSpeak Design Group (EM-DS-1.2)