

Speech Playback PICtail™ Plus Daughter Board

Overview

The Speech Playback PICtail™ Plus Daughter Board is a demonstration board for evaluating speech playback algorithms that operate on Microchip's PIC® microcontrollers or dsPIC® Digital Signal Controllers. It is an expansion board that is compatible with many of the PIC16 and PIC18 development boards employing a PICtail connector and with the Explorer 16 Development Board using the PICtail Plus connector.

Features

- 3V or 5V operation
- Potentiometer for volume control
- 4th order Low Pass Filter
- Mono output via on-board speaker or stereo output via headphone connector
- Shutdown control of power amplifier
- On-board 256 Kbit SPI Serial EEPROM for voice storage

Getting Started

To get started, an HPC Explorer Board with a PIC18F87J10 or PIC18F8722 microcontroller, or an Explorer 16 Development Board with a PIC24F microcontroller is needed. The headers on the Speech Playback PICtail Plus Daughter Board allow insertion in the development boards in only one orientation. Projects for both PIC18 and PIC24F devices can be downloaded from the Microchip web site (www.microchip.com).

The demonstration software implements a talking thermometer using the TC74 temperature sensor on the HPC Explorer Board or the TC1047A temperature sensor on the Explorer 16 Development Board.

See Figure 1 on the back of this page to view the Speech Playback PICtail Plus Daughter Board schematic.

Signals and Connections

The following signals are used to control the Speech Playback PICtail Plus Daughter Board. Pins are noted for both PIC18 and PIC24F devices.

Function	I/O	PIC18 Pin	PIC24F Pin	Description
PWM	I	RC2/CCP1	RD0/OC1	PWM Voice Input
PA Enable	I	RA4	RD8	Power Amplifier Enable Input
CS	I	RE0	RB2	SPI Chip Select Input
SCK	I	RC3/SCK	RF6/SCK1	SPI Clock Input
SO	O	RC4/SDI	RF7/SDI1	SPI Data Out from EEPROM
SI	I	RC5/SDO	RF8/SDO1	SPI Data In to EEPROM

Americas

Atlanta - 678-957-9614
Boston - 774-760-0087
Chicago - 630-285-0071
Dallas - 972-818-7423
Detroit - 248-538-2250
Kokomo - 765-864-8360
Los Angeles - 949-462-9523
Phoenix - 480-792-7200
Santa Clara - 408-961-6444
Toronto - 905-673-0699

Asia/Pacific

Australia - Sydney - 61-2-9868-6733
China - Beijing - 86-10-8528-2100
China - Chengdu - 86-28-8665-5511
China - Fuzhou - 86-591-8750-3506
China - Hong Kong - 852-2401-1200
China - Qingdao - 86-532-8502-7355
China - Shanghai - 86-21-5407-5533
China - Shenyang - 86-24-2334-2829
China - Shenzhen - 86-755-8203-2660
China - Shunde - 86-757-2839-5507
China - Wuhan - 86-27-5980-5300
China - Xian - 86-29-8833-7250
India - Bangalore - 91-80-4182-8400
India - New Delhi - 91-11-4160-8631
India - Pune - 91-20-2566-1512
Japan - Yokohama - 81-45-471-6166
Korea - Gumi - 82-54-473-4301
Korea - Seoul - 82-2-554-7200
Malaysia - Penang - 60-4-646-8870
Philippines - Manila - 63-2-634-9065
Singapore - 65-6334-8870
Taiwan - Hsin Chu - 886-3-572-9526
Taiwan - Kaohsiung - 886-7-536-4818
Taiwan - Taipei - 886-2-2500-6610
Thailand - Bangkok - 66-2-694-1351

Europe

Austria - Weis - 43-7242-2244-39
Denmark - Copenhagen - 45-4450-2828
France - Paris - 33-1-69-53-63-20
Germany - Munich - 49-89-627-144-0
Italy - Milan - 39-0331-742611
Netherlands - Drunen - 31-416-690399
Spain - Madrid - 34-91-708-08-90
UK - Wokingham - 44-118-921-5869

12/08/06



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Figure 1: Speech Playback PICtail™ Plus Daughter Board Schematic

