

## DSPE-256

### 16 x 16 Audio System

### Overview

DSPECIALISTS audio system DSPE-256 is a compact DSP module based on Analog Devices ADSP21369. It allows processing of up to 16 digital input and 16 digital output channels as TDM or I<sup>2</sup>S.

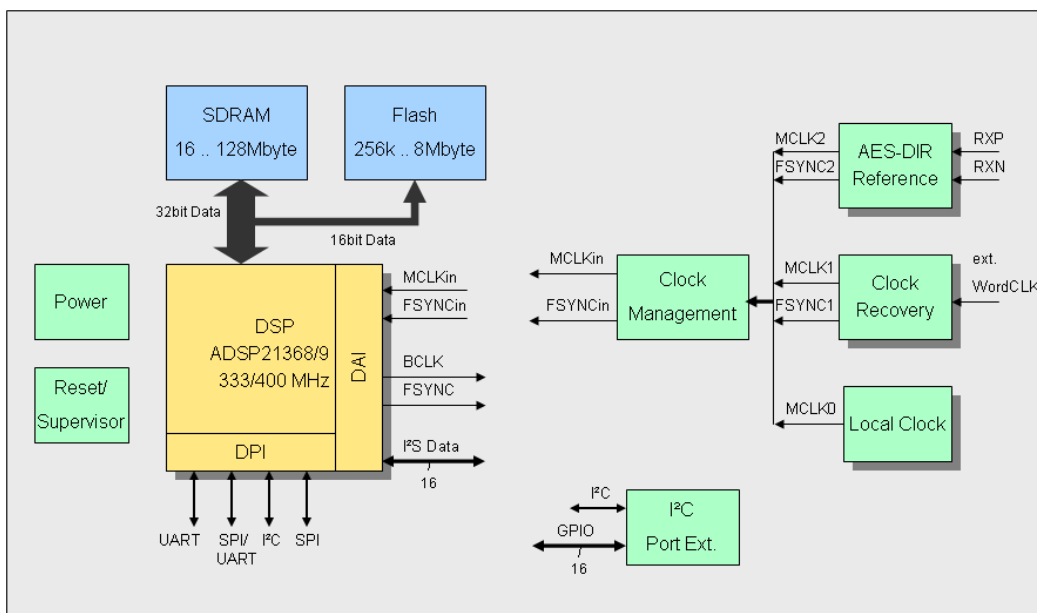
Due to its on-board flash memory DSPE-256 is capable to run as a stand-alone system. It can be easily embedded into any customer-specific environment.

DSPE-256 is able to work with 3 different clock sources, which makes it to the perfect embedded component for professional audio devices.

DSPE-256 covers a wide range of embedded multi-channel signal processing tasks like audio matrix, filtering, signal analysis, correlation, feature extraction and measurement.

The board is accompanied with hardware drivers and a software framework. For audio applications there is a wide range of approved standard library functions and a graphical user interface (GUI) available.

### Block Diagram



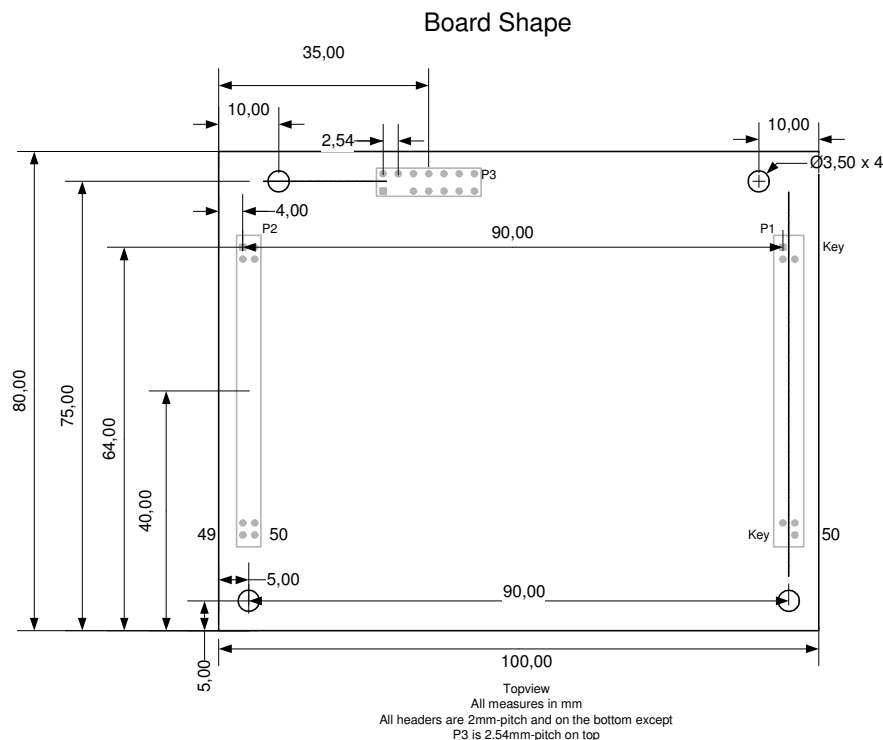
### Key Features

- Stand-alone 32-bit DSP system
- Digital inputs and outputs as TDM or I<sup>2</sup>S
- Adaptable to customer-specific hardware
- Library for standard audio processing
- Three different clock sources selectable: Word clock, AES/EBU reference, local clock
- Software framework for customer-specific algorithms
- Parameter input via PC user interface
- Up to 16 software setups stored in Flash

## Technical Specification

- Processor ADSP21369 / 333 MHz / 32 bit floating point or fixed point, 2 GFLOPs
- Memory 2 Mbit internal SRAM at core speed  
up to 128 MByte SDRAM, 32 bit interface, 133 MHz clock frequency  
up to 8 MByte Flash, 8 bit interface, speed 70 ns
- Audio channels 16 x I<sup>2</sup>S data lines (32 channels), alternatively TDM  
up to 192 kHz sample rate  
SPDIF transceiver
- Clock management On-board master clock  
External clock via master clock, word clock or AES11
- Serial interface UART, I2C, 2 x SPI, 6 x GPIO, LEDs and switches  
JTAG connector
- Power supply 3.3 V (typ. 600mA, max. 2A)
- Outline 100 mm x 80 mm  
All signals at 2 base-board connectors (2 mm pitch, dual row, 50 pins)

## Outline



**mass customization • state-of-the-art DSP technology • OEM delivery**

CONTACT US FORE MORE  
INFORMATION AT:

### DSPECIALISTS

Digitale Audio- und Messsysteme GmbH  
Kaiserin-Augusta-Allee 10-11  
10553 Berlin  
Germany

### ABOUT US

The products of DSPECIALISTS are distinguishable by the use of proven standard components. All products can be adapted to our clients' individual wishes. DSPECIALISTS offers anything from the development of customer-specific modules to complete systems. Aside from DSPs, we also make use of PC's, micro controllers and programmable logic.

Tel: +49 30 467805-0  
Fax: +49 30 467805-99  
E-mail: sales@dspecialists.de

VISIT OUR WEBSITE:  
www.dspecialists.de

# DSPECIALISTS

Digitale Audio- und Messsysteme GmbH