

## FEATURES

Complete Single Chip Programmable Digital Baseband Processor divided into three main subsystems:

**Control Processor Subsystem including:**

32-bit MCU ARM7TDMI® Control Processor  
On-chip Zero-wait-state System SRAM

**DSP Subsystem including**

16-bit Fixed Point DSP Processor  
Data and Program SRAM  
Program Instruction Cache  
Full Rate, Enhanced Full Rate and Half Rate  
Speech Encoding/Decoding

**Peripheral Subsystem including**

Shared Peripheral Bus and Interface  
Peripherals

**Peripheral Functions**

Parallel and Serial Display Interface

Keypad Interface

FLASH Memory Interface

1.8V and 3.0V, 64 kbps SIM Interface

Universal System Connector Interface

Baseband Converter Interface

Data Services Interface

**Control of Radio Subsystem**

Three independent programmable backlight outputs

Real Time Clock with Alarm

Programmable Power Management and Clock  
Management

Supports 13 MHz and 26 MHz Input Clocks

Slow Clocking Scheme for Low Idle Mode Current

Power Down modes

On-chip support for GSM Data Services up to  
14.4 kbits/sec, Class 12 GPRS, HSCSD

JTAG Interface for Test and In-Circuit Emulation

1.8V Typical Operating Voltage

Operating Voltage Range 1.7V - 1.9V

Independent I/O and Memory Voltages

160-Ball LFBGA (mini-BGA) package

## APPLICATIONS

**GSM850/900/DCS1800/PCS1900 Wireless Terminals**

**GSM Phase 2 & GPRS Compliant**

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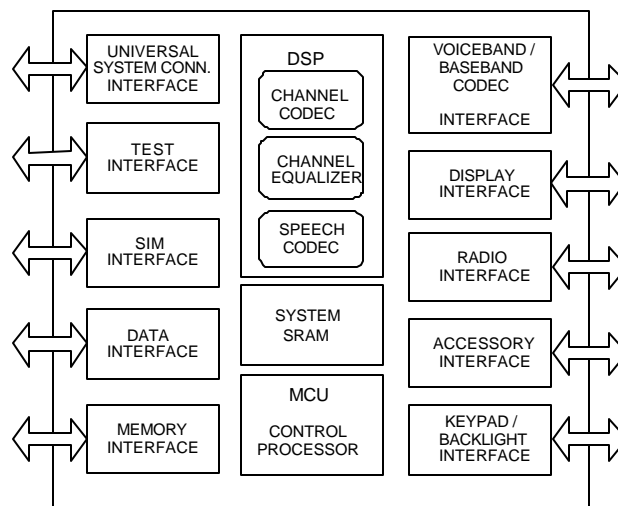


FIGURE 1. AD6526 FUNCTIONAL BLOCK DIAGRAM

## GENERAL DESCRIPTION

The AD6526 is the second device, after the AD6522, of the Analog Devices AD20msp430 series of SoftFone® GSM Baseband Processors. The AD6526 provides a competitive solution for GSM/GPRS terminal designs. It is designed to be fully integrated, easy to use, and compatible with GSM900, DCS1800 and PCS1900 handsets as well as direct PC data interface. No external SRAM is needed in most applications.

The AD6526 integrates full rate, enhanced full rate and half rate speech codecs as well as a full range of data services including circuit-switched 14.4 kb/s, GPRS to Class 12, and HSCSD. In addition, it supports both A5/1 and A5/2 encryption algorithms as well as operation in non-encrypted mode.

The highly programmable architecture and sophisticated internal communication channels of the AD6526 offer maximum flexibility to system designers. It can adapt to tighter requirements led by changes in standards and end-market feature set requirements.

A complete data sheet is available under Non-Disclosure Agreement to pre-qualified developers of GSM/GPRS terminal equipment. Contact your local Analog Devices Sales Office.

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