

# SJA1000

## Versatile stand-alone CAN controller IC

Extending the versatility of its CAN portfolio, Philips' SJA1000 protocol controller provides a stand-alone CAN controller with extended PeliCAN functionality. In combination with Philips range of CAN transceivers this enables flexible implementation of the CAN bus in both industrial and automotive applications.

Semiconductors



### Key features

- Pin and electrical compatibility with PCA82C200 stand-alone CAN controller
- BasicCAN (default - PCA82C200) and PeliCAN modes
- Extended receive buffer (64-byte FIFO)
- CAN 2.0B protocol compatibility (extended frame passive in PCA82C200 compatibility mode)
- Supports 11-bit and 29-bit identifiers
- Bit rates up to 1 Mbits/s
- 24 MHz clock frequency
- Interfaces to a variety of microprocessors
- Programmable CAN output driver configuration
- Extended ambient temperature range (-40 to +125 °C)
- Fully automotive qualified

CAN (Controller Area Network) was originally developed for the automotive market, but its performance attributes also make it an ideal solution for industrial environments. The SJA1000 is a stand-alone controller for the CAN bus. As the successor to Philips' PCA82C200 controller (BasicCAN), the SJA1000 offers even greater performance and versatility for all CAN applications.

The SJA1000 includes the enhanced PeliCAN mode of operation, which supports the CAN 2.0B protocol specification and several new features. Offering extended frame messages (29-bits, compared to the 11-bits of the 2.0A protocol), the CAN 2.0B protocol provides over 536 million unique identifiers.

### PeliCAN mode extensions

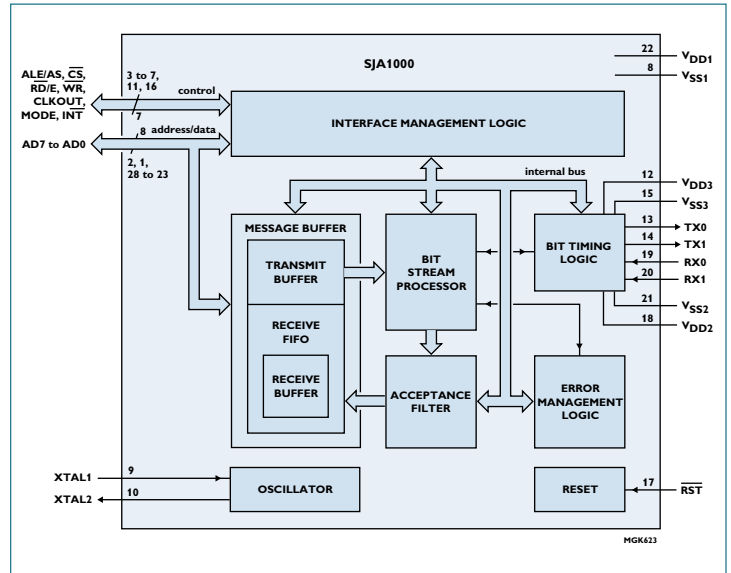
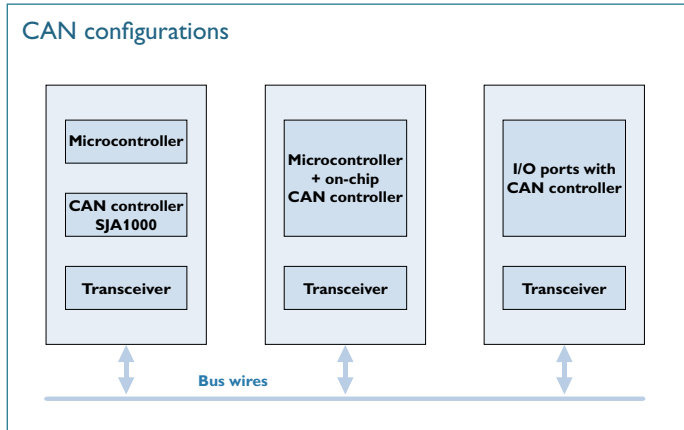
- Error counters with read/write access
- Programmable error warning limit
- Last error code register
- Error interrupt for each CAN-bus error
- Arbitration lost interrupt with detailed bit position
- Single-shot transmission (no re-transmission)
- Listen only mode (no acknowledge, no active error flags)
- Hot plugging support (software driven bit rate detection)
- Acceptance filter extension (4-byte code, 4-byte mask)
- Reception of 'own' messages (self reception request)

An extensive range of Philips microcontrollers and transceivers complement the SJA1000, ensuring designers can find the best solution for their needs.

# PHILIPS

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SJA1000 block diagram

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Date of release: April 2005  
Document order number: 9397 750 14889

Published in The Netherlands