



# Parallel Bus to Three-Channel Fm+ I<sup>2</sup>C-Bus Controller

## PCA9663B

### Archived

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The PCA9663 is an advanced single leader mode I<sup>2</sup>C-bus controller. It is a fourth generation bus controller designed for data intensive I<sup>2</sup>C-bus data transfers. It has three independent I<sup>2</sup>C-bus channels with data rates up to 1 Mbits/s using the Fast-mode Plus (Fm+) open-drain topology. Each channel has a generous 4352 byte data buffer which makes the PCA9663 the ideal companion to any CPU that needs to transmit and receive large amounts of serial data.

The PCA9663 is a 8-bit parallel-bus to I<sup>2</sup>C-bus protocol converter. Each channel can be configured to communicate with up to 64 followers in one serial sequence with no intervention from the CPU. The controller also has a sequence loop control feature that allows it to automatically retransmit a stored sequence.

Its onboard oscillator and PLL allow the controller to generate the clocks for the I<sup>2</sup>C-bus and for the interval timer used in sequence looping. This feature greatly reduces CPU overhead when data refresh is required in fault tolerant applications.

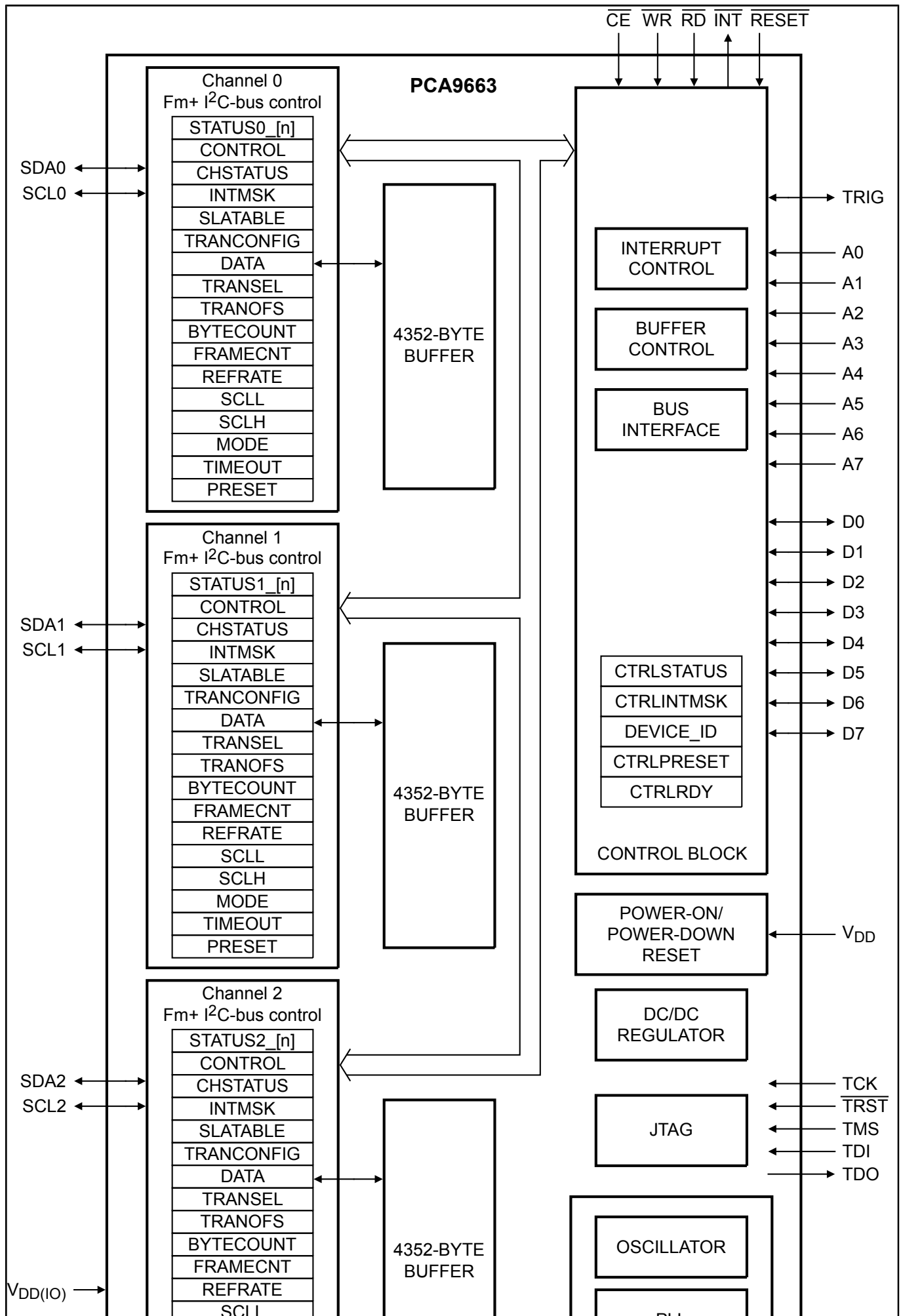
An external trigger input allows data synchronization with external events. The trigger signal controls the rate at which a stored sequence is re-transmitted over the I<sup>2</sup>C-bus.

Error reporting is handled at the transaction level, channel level and controller level with a simple interrupt tree and interrupt masks allow further customization of interrupt management.

The controller and parallel bus interfaces run at 3.3 V and the I<sup>2</sup>C-bus I/Os are 5 V tolerant with logic levels referenced to a dedicated VDD(IO) input pin with a range of 3.0 V to 5.5 V.

### PCA9663 BLOCK DIAGRAM Block Diagram





View additional information for [Parallel Bus to Three-Channel Fm+ I<sup>2</sup>C-Bus Controller](#).

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