

CONTINUOUS READ (CONTINUOUS CONVERSION) MODE

When the Cont RD bit in the mode register is set, the first write of 0x48 to the communications register starts the continuous read mode. As shown in Figure 22, subsequent accesses to the part sequentially read the channel status and data registers of the last completed conversion without any further configuration of the communications register being required.

Note that the continuous conversion bit in the mode register should be set when entering the continuous read mode.

Note that the continuous read mode is a dump mode reading of the channel status and data registers regardless of the dump bit value. Use the channel bits in the channel status register to check/recognize which channel data is actually being shifted out.

Note that the last completed conversion result is being read. Therefore, the RDYFN bit in the I/O port register should be 0, and reading the result should always start before the next conversion is completed.

The AD7739 will stay in continuous read mode as long as the DIN pin is low while the CS pin is low; therefore, write 0 to the AD7739 while reading in continuous read mode. To exit continuous read mode, take the DIN pin high for at least 100 ns after a read is complete. (Write 0x80 to the AD7739 to exit continuous reading.)

Taking the DIN pin high does not change the Cont RD bit in the mode register. Therefore, the next write of 0x48 starts the continuous read mode again. To completely stop the continuous read mode, write to the mode register to clear the Cont RD bit.

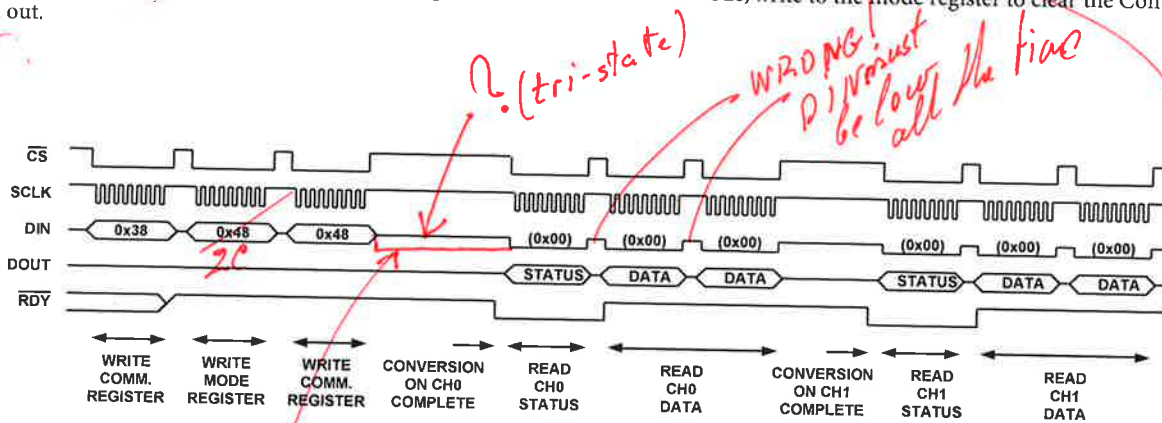


Figure 22. Continuous Conversion, CH0 and CH1, Continuous Read

DIN must be low

This figure is WRONG!