Singing Very High Speed Integrated Circuit Hardware Description Language Board (S76D)

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August 1, 2012

Abstract

This is time for all good men to come to the aid of their party! . . .

Contents

Pin. No.	Name	Description	Note for our implementation
1	DAT3	MMC: Chip select	Chip IO Pin, mmc_cs, D7
2	CMD	Command	Chip IO Pin, mmc_mosi, D8, (MOSI – master out, slave in)
3	GND	Ground	Board ground
4	VDD	Voltage	Supply Voltage (+3.3 V)
5	CLK	Clock	Chip IO Pin, mmc_clock, D10
6	GND	Ground	Board ground
7	DAT0	Data	Chip IO, mmc_miso, B4
8	DAT1	Data	Pull up (Voltage via resistor)
9	DAT2	Data	Pull up (Voltage via resistor)

Figure 1: MMC Interface
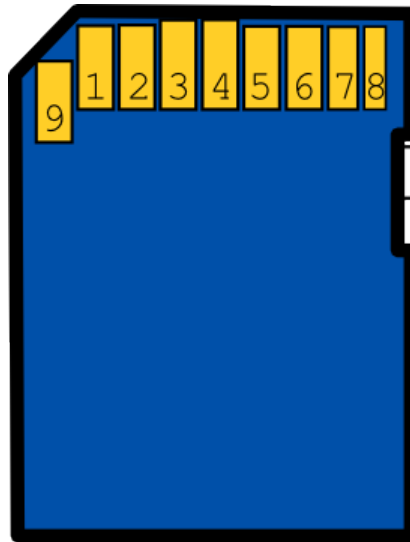

RT=Response Token
SB=Start Byte
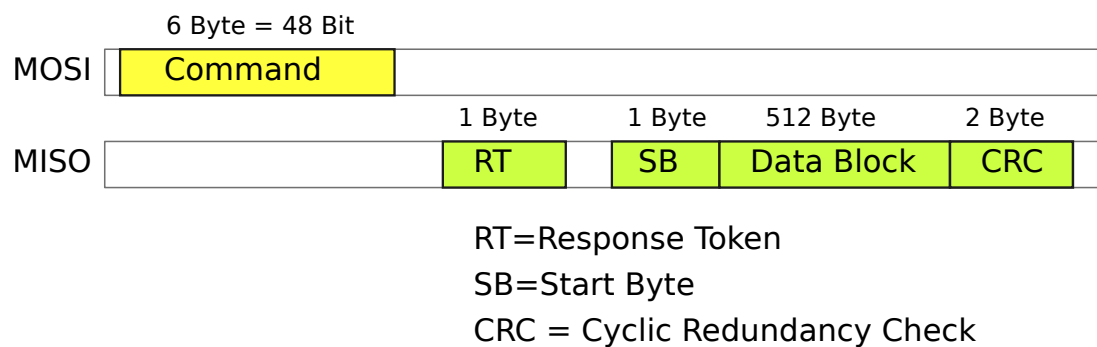CRC = Cyclic Redundancy Check

Figure 2: Sending a command to the MMC

1 Introduction

2 Multimedia Card

2.1 Interface description

2.2 SPI Interface

The start byte (SB) consists of 8 times HI (1). Before that, the card only sends 0s. The response token (RT) consists of 8 bits. Each bit indicates a certain error or a successful command. In case the command finished successfully, the card returns 0000 0001

2.2.1 Initializing the card

2.2.2 Reading data

2.3 Implementation of Communication
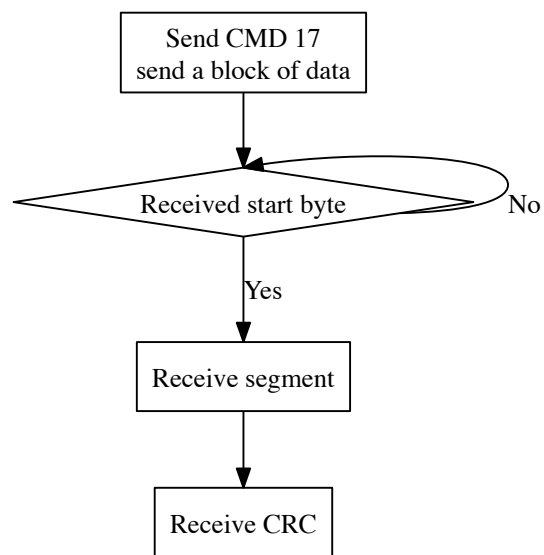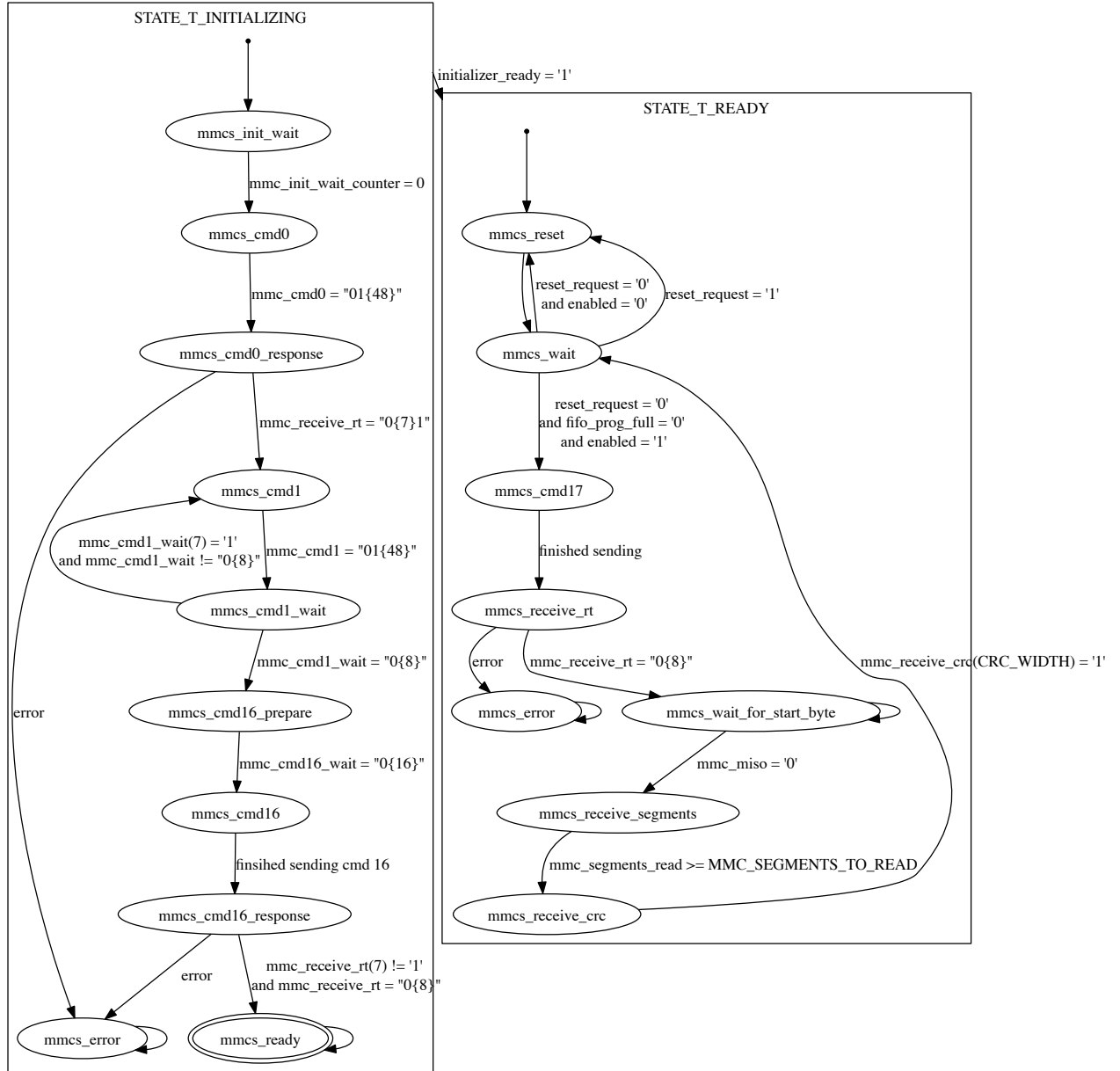
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Figure 3: Flow for initializing

Figure 4: Flow for reading

Figure 5: Controller VHDL FSM